TIP The Industrial-Organizational Psychologist
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IN THIS ISSUE:

Serious Games

Connections

Conference Preview

And much more...

TIP The Industrial-Organizational Psychologist
A publication of the Society for Industrial and Organizational Psychology, Inc.

Welcome to the online version of
The Industrial-Organizational Psychologist.

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TABLE OF CONTENTS

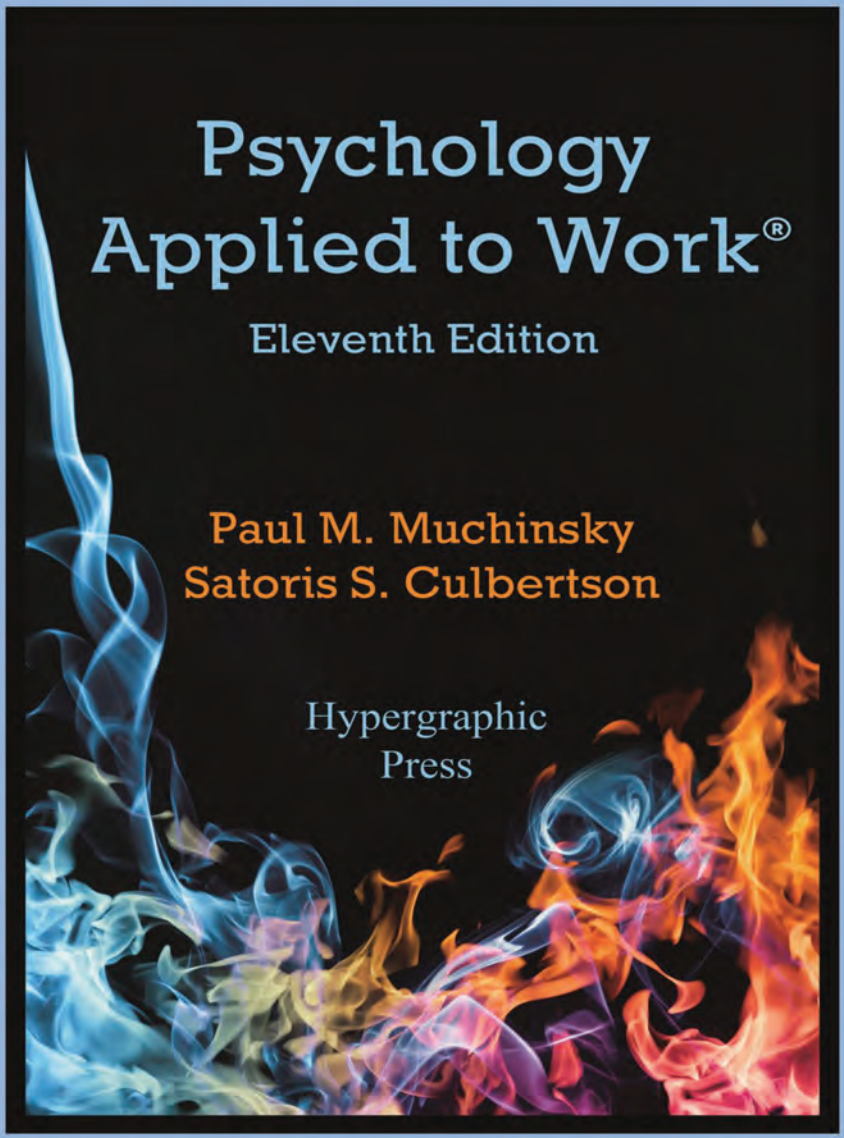
Editorial Columns

Feature Articles

Reports

The photo for this month's *TIP* was taken by **Jessie Lynn Olien**, a fourth-year doctoral student in UNC Charlotte's Organizational Science program. The photo was taken snowshoeing on the Pacific Crest Trail, coming up the southern slope of Mount Hood, Oregon.

Available in April, 2015



A Message From Your President

Jose Cortina
George Mason University

Although I write this just after Thanksgiving, you are reading it after New Year's. Let me make sure that I get the tenses right. I hope you had a wonderful Thanksgiving and are successfully clawing your way back from the throes of the tryptophan blues, which would be a good name for a band. I also hope that you, uh, will have had a lovely [insert favorite religion here or leave blank] holiday and a Happy New Year. Now then. I have a few things to share with you. I have announcements. I have updates about advocacy. I have updates about my mission.

Announcements

First, I just learned that Past President "Tamtastic" **Tammy Allen** was elected to the APA Board of Scientific Affairs. The poor devil. Second, APA Council Representative **Lori Foster Thompson** recently began a stint at the White House. Looks like my write-in campaign was more successful than I had imagined. Take that, Nate Silver!

Third, if you have been to the SIOP website recently, you may have noticed that three bylaws changes will be up for a vote by the membership in February. The third is important, but administrative in nature, that is, it doesn't necessarily have anything to do with our core values. The other two do. First, it is proposed that we eliminate the SIOP membership requirement that a person first be a member of an umbrella organization (e.g., APA, APS). The reason for this proposal was essentially that it seemed unfair to force prospective SIOP members to be members of other organizations. Everyone is, of course, free to belong to any such organization to which one wishes to be connected (I am still a member of APA, EAWOP, IAAP, etc.). If this bylaws change passes, then it will no longer be the case that one *must* be a member of some such organization in order to join SIOP.

Second, it is proposed that a path to membership be created for Associate members with master's degrees. **Eric Heggestad** devoted approximately 3.2 gazillion hours to this over the past couple of years. I was skeptical at first but was persuaded by his arguments. In particular, I was asked to

consider what I want, ideally, from a SIOP member. I want someone who remains engaged with SIOP after they graduate. I want someone who maintains a visible professional persona. I want someone who engages in quality I-O psychology and does so in a way that makes the broader I-O community aware of the fact. Having a PhD doesn't actually make the list. Consider Eric, for example. He has presented dozens and dozens of papers at the conference, he has served on/chaired various SIOP committees, and he has done a wonderful job as Membership Services Officer. Does he deserve to be a SIOP member? Of course. Would that change if he didn't have a PhD? Of course not. Now, I know what you are thinking. Someone gave Heggestad a PhD?? Apparently. Minnesota hands them out like Halloween candy. Whatever. The point is that he does more for the organization and the profession than most, and that is all that matters. I ask all of you to consider the issue carefully and to vote in February. More information can be found at SIOP.org.

Advocacy

A subset of the EB plus **Seth Kaplan**, chair of the GREAT committee (it stands for something like Government Relations and External Attribution Theory, or maybe not. Anyway, it would NOT make a good name for a band) met with our friends at Lewis-Burke (the firm that we have contracted to help us with advocacy) in September. We had a very productive meeting in which we revisited our original goals, did some tweaking (twerking was voted down. Unanimously.), and also set some new goals for the coming year. One of our tasks is to devise a single-page description of areas of expertise (e.g., performance management) cross listed with areas in which the government would have an interest (e.g., cybersecurity). This grid could then be populated with a few specifics (e.g., How do you find and retain people with hacking skills who aren't going to use them against you?). The grid won't cover everything and isn't designed to do so. It is a tool for communicating quickly to non-I-O people why they should care about us. More on that next time.

We also met with representatives from NSF, the Congressional Management Foundation, and The White House Council of Economic Advisors. We had very productive meetings and made plans to follow up with more details, which we have been doing. In sum, we seem to be on the way toward making our field and those in it better known to the outside world.

The Mission

I'm sure you all have my Presidential Mission memorized, embroidered on your children's pajamas, and so on, but for the few stragglers: I want to overhaul the way that we conduct and evaluate research. I've had some terrific discussions with various present and former members of AOM leadership [names withheld to protect the innocent], as well as past editor of *JAP* and President-Elect **Steve Kozlowski** [name included to indict the guilty], and several others. It is safe to say that they agree with me on some points

regarding the nature and magnitude of problems, and disagree on others. For now, I'll float two ideas of many ideas. First, what if we just dumped overall model fit indices altogether? NFI? Gone. CFI? Out. GFI, IFI, GTK, LOL, all gone. What we would lose are the indices that tell us whether we were correct to omit the paths that we omitted, for this is what these indices tell us. This does matter because omitting paths changes the coefficients associated with the paths that we *did* include. But what would we gain? We would gain an end to the rhetorical and mathematical knots into which authors tie themselves in order to get fit indices up to conventional cutoffs. No more error terms that ostensibly are allowed to correlate for some theoretical or measurement-related reason but are actually allowed to correlate because that is the only way to get CFI > .90. No more direct paths that are ostensibly included because [insert painfully obviously post hoc rationalization here] but in reality are included in order to get RMSEA into single digits. Instead, we could simply see whether the a priori paths were supported in the data. If we force authors to present fit indices that meet conventional cutoffs, then they will. But wouldn't we rather just force authors to tell us how the data compare to their expectations?

Second, what if we didn't require authors to predict the future, at least not every time? In other words, what if we allowed inductive research. The next issue of *TIP* will contain an article, which you must read, by **Ed Locke, Kevin Williams**, and **Aline Masuda** in which they explain their nearly endless efforts to get a paper published. The paper seeks to answer a question about goal setting. It didn't have hypotheses because Ed didn't know what the answer was. Forgive me, but if Ed Locke doesn't know what the effect of a goal manipulation will be, nobody does. But half a dozen journals said, essentially, that he couldn't ask the question because he didn't know in advance what the answer was. Insane.

Which brings me to my conversation with **Dov Eden**. If you haven't read his work on the Pygmalion effect from the 80s, you really should. These were terrific field experiments showing that some (but not all) lab findings regarding the effect generalize to life and death situations. Most journals would desk reject those papers today because of a lack of theoretical contribution. I can't claim to know right when I see it, but I can usually tell wrong, and my wrong-dar is going off like crazy.

And that, in turn, means that it is time for my martini. Nothing settles the wrong-dar like a martini.

Except perhaps another one.

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

Early Registration Deadline February 19, 2015

Registration is now open for the premier event in industrial-organizational psychology, the 30th Annual SIOP Conference!

The event will take place April 23-25, 2015 at the Philadelphia Marriott.

Register TODAY!

Morrie Mullins
Xavier University

To Be Determined

Welcome, readers, to another installment of *TIP*! Our deadlines are a month or so ahead of when you get this, so I'm writing my column following a day of fervently avoiding any brick-and-mortar retail establishment on a fairly notorious shopping day. (Don't worry, friends and colleagues in the retail industry, I supported a number of your employers online!)

For a variety of reasons, my mind is on change. In fact, my first title for this column was, "The Only Constant," which after about 5 minutes seemed so cliché that I could almost see my father pulling a red pen from his pocket and leaning toward my laptop screen. *TIP* has been evolving since I started my editorship and will continue evolving in response to your feedback and in response to the needs of our authors. What started out in a pure flipbook format has transitioned to something I believe is much more flexible and user friendly, and we continue to look for ways to improve the reading experience. I also remain focused on providing you with interesting, relevant, high-quality content, something I could not accomplish without our amazing editorial board, the (apparently tireless) chairs and members of SIOP's committees, or the authors who submit such fascinating work.

Although it has its downsides, the thing I love most about publishing in a digital format is that we *can* evolve. We *can* change, and respond, and adapt. I had a vision for what *TIP* could be, when I stepped in, and I've worked to involve authors who bring unique perspectives to help realize that vision (and you'll be meeting some more of them in this issue, and be reintroduced to one). But *you* also have a vision for *TIP*, and in the end that vision is more important than mine. I'm editor for 3 years; you're a reader for as long as you want to be.

Where does *TIP* end up? What does it look like a year from now? Two? Five? That's to-be-determined. Every time I start to worry, though—and I'm a worrier, it's what I do, feel free

to ask Jen Baker or Dave Nershi!—I get an update from a committee chair, or a draft of a column, or a submission of a new article, and I see just how many amazing directions our field is going and how much more room for growth we still have.

We've got a wonderful and varied set of articles and columns this month. I could write more (I could pretty much *always* write more!), but instead I will get down to the business of sharing with you what's new.

After starting off with **Jose Cortina**'s presidential column, we have a new column and two columns with new authors. **Richard Vosburgh** will be offering "Practitioners' Ponderings" in coming issues. To provide some context for the column, one of the most frequently-requested types of content for *TIP*, based on last year's survey, was more focus on how practitioners address real-world problems—as one respondent put it, more "stories from the trenches." In talking with **Allan Church** about who might be good to tackle such a column, the first name he offered was Richard's, and Richard seemed very interested in the idea and agreed to come on board. I will be honest and say that if I knew more about what Richard had done prior to that first round of emails, I would have been much more nervous! He has—well, you know what? *TIP* has limited page space, and Richard has amazing credentials. If you don't already know him, Google is your friend. For as impressive a career as he's had, Richard is as down-to-earth and approachable as any of our authors. He has a great vision for the column, which he lays out in his initial offering, and I'm excited to see how things develop!

Up next we have "The Academics' Forum," with **Allison Gabriel**. You may remember Allie from her work as a member of a previous "TIP-TOPics" team. Now a young faculty member, she's bringing that early-career perspective to the column that **Tori Culbertson** wrote so wonderfully for over 4 years. I'm going to miss getting columns from Tori because she has a grace and wit that just make her fun to read. As a representative of *TIP* and of SIOP, I have nothing but respect for everything Tori has done, and Allie knows that she has some big shoes to fill! As soon as I saw this first column from her, though, I knew that she would be up for the challenge.

In "Max. Classroom Capacity," **Marcus Dickson** welcomes a new coauthor, **Loren Naidoo**. Their dialogue about issues in international teaching and the lessons they've learned from it carries messages that go well beyond the classroom. Anyone who's worked as an expatriate will resonate with the kinds of things Marcus and Loren discuss.

M. K. Ward and **Bill Becker** continue to offer insights into the growing field of "Organizational Neuroscience." This issue, they interview Dr. Sebastiano Massaro, who is part of the generation of researchers who are going to define what the domain of ON becomes. His thoughts on what organizational neuroscience is and how it meshes with I-O, management, strategy, and OB, outline where our field may be headed. If you haven't been reading this column, you really ought to do so. ON has the potential

to dramatically alter the landscape of research and practice in the coming years!

Speaking of "where our field is headed," **Steven Toaddy's** "I-Opener" provides a thought-provoking take on the scientist–practitioner divide. This isn't a new topic, to be sure, but the conversations surrounding the divide constantly need to be revisited. Steven offers insights from several practitioners, and an academic, and their thoughts on where things stand are, well, kind of revelatory. What is the role of basic research? How do our training models need to shift? Ultimately, how well do we "live" the scientist–practitioner model, and what kinds of things get in the way of our doing so? As someone who primarily trains students who become practitioners, I found some of the points from this article very thought provoking.

In the vein of training scientist-practitioners, **Jenn Rineer** and **Frankie Guros** weigh in on this issue's "TIP-TOPics." Publishing the research you conduct as a graduate student may seem like something that only future academics ought to care about, and to be sure, those students may care the most, but Jenn and Frankie make a strong case for the value of publishing even if you're planning to go the applied route. I happen to think they're right, for all the reasons they listed and more besides. Their recommendations actually dovetail nicely with some of what the Professional Practice Committee ends up reporting on later in this issue.

This issue's "History Corner," courtesy of **Jeff Cucina**, is part one of a two-part series. Why a two-part series? Because Jeff has decided to help fill in the gap that exists in so many books that cover the history of testing, from between the Chinese civil service examinations (which started about 4,000 years ago) and World War I. I think a two-part column is more than appropriate! I enjoyed reading this, and here's a tip for all of you: Read the notes at the end. They're worth it.

Also worth it? **Paul Muchinsky**'s "High Society," in which he proposes a way to further expand the ranks of SIOP's Fellows. Much has been said about SIOP and its Fellowship process, but leave it to Paul to find something nobody else has considered!

"SIOP in Washington" comes to us courtesy of **Jill Bradley-Geist** and **Daisy Chang** this month, as they present the results of SIOP's Advocacy Survey. In their "Spotlight on Humanitarian Work Psychology," **Alex Gloss** and **Lori Foster Thompson** focus in on international skills development. The case they make for how I-O can contribute to countries dealing with rapid change (both technological and social) is a must-read. It also ties in quite well with this month's "International Practice Forum," in which **Lynda Zugec** welcomes **Neha Singla, Subhadra Dutta, Aarti Shyamsundar, Ruchi Sinha, Yoshima Somvanshi,** and **Shreya Sarkar-Barney**, who describe efforts to help organizations in India to adopt sound I-O practices. Building the "I-O brand," it's clear, needs to be an international undertaking.

SIOP's Professional Practice Committee has been exceptionally busy, if the flurry of emails I shared with its chair, **Mark Poteet**,

is any indication! Their first contribution to this issue comes in the form of a piece from **Bethany Bynum** and Mark himself on practitioners as journal reviewers. Remember how I mentioned "TIP-TOPics" foreshadowing things to come? What Bethany and Mark have provided links up nicely with both that and "The I-Opener's" focus on the scientist–practitioner divide. It's clear what kinds of things are on our collective mind.

In "Practice Perspectives," **Rob Silzer** and **Chad Parson** provide interesting insights into popular conference workshops from the past 15 years. **Rich Tonowski**, speaking "On the Legal Front," updates us on such topics as credit and criminal history checks and opines that although the EEOC may have lost some key battles, the war is far from over. In "The Modern App," **Tiffany Poeppelman** and **Nikki Blacksmith** discuss technologies that can help with common challenges in virtual workplaces.

Turning to our Features, we start off with **Mike Fetzer** and an invited piece on gamification in talent selection and development. Mike provides a great overview of "serious games" and offers fascinating thoughts on both how such games may be used in selection (practice) and what kinds of future research are needed (science) on the topic. I feel like we ought to have #scientistpractitioner for this issue!

I'm then pleased to feature **Tammy Allen's** Presidential Address from our Honolulu conference, in which she talked about the important topics of I-O's visibility and impact. The argument that we need to rethink what we mean by "impact" is a powerful one that we need to take seriously.

If you're one of those who wants more information about Big Data, you're in luck, and if you're one of those who thinks that Big Data may be getting "overplayed," you're also in luck! **John Morrison** and **Joseph Abraham** have provided a follow-up to last year's articles on Big Data and sound what I think is an appropriately cautionary note on the topic.

Shifting gears, **Gene Johnson** describes how the Division of Occupational Psychology within the British Psychological Society manages leadership development for its volunteers. Given that SIOP also has a strong infrastructure for developing its volunteers (as anyone who has attended the post-conference meetings for committee chairs can attest), it's always interesting to see how well we "practice what we preach," and what we can learn from programs our colleagues have developed. Thank you, Gene!

The PPC returns with the first of a series of articles on competencies for various I-O career paths. In this installment, **Alexandra Zelin, Joy Oliver, Dennis Doverspike, Samantha Chau,** Bethany Bynum, and Mark Poteet present data related to the academic career path.

Transitioning seamlessly to committee reports, we've got an update on the upcoming Philadelphia conference from **Kristen Shockley**, as well as a write-up on the preconference consortia from **Mark Frame** and **Tracey Rizzuto**. **Gary Latham** updates

us on newly elected Fellows of the International Association of Applied Psychology. Congratulations to all of you!

Katina Sawyer, Thomas Sasso, Daniel Gandara, Josh Weaver, and **Michelle Jackson** provide a report from SIOP's LGBT committee on SIOP's engagement with "Out and Equal." The committee continues to do outstanding work, and I'm always happy to hear from them and showcase their efforts.

And, in terms of busy committees, we have one more update from the Professional Practice Committee for this issue. Chair Mark Poteet recaps what the committee has been up to, both in terms of what was reported earlier in this issue and what has happened with such ongoing work as the group mentoring program and the practitioner webinars, among other topics.

SIOP's Electronic Communications Committee calls for us to all #createsomebuzz on social media for #SIOP15 and gives some pointers. **Milt Hakel** shines the "Foundation Spotlight" on the Human Resource Management Impact Award winners, and **Cheryl Boglarsky, Christopher Wiese, Reeshad Dalal,** and **Silvia Bonaccio** encourage us all to attend the 2015 APS convention. The SIOP-UN team (**Alexander Gloss, English Sall, John Scott, Deborah Rupp, Lise Saari, Lori Foster Thompson, Mathian Osicki,** and **Drew Mallory**) provide an insightful piece about the development of skills internationally, and Stephany Below announces the re-launch of SIOP's Consultant Locator Service.

Before we get to IOTAs from **Lauren Kenney**, SIOP Members in the News from Clif Boutelle, or the upcoming conferences and meetings courtesy of **Marianna Horn**, a sad note. SIOP lost another distinguished and important member in September of 2014, when Frank W. Erwin passed away. He is remembered in a fitting tribute, written by **Paul Thayer** and **Craig Russell.**

And that, fair reader, is our January issue. All else, as they say, is to be determined.

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

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Richard M. Vosburgh
Retired CHRO & President,
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The first SIOP conference I attended was as a graduate student in 1976 and I've been a member ever since. Yet allow me to share a story of drifting away and then back again. Even in the 1970s, SIOP was actively discussing how to achieve the right balance between the academic and the applied, the science and the practice. Recent years have shown a renewed commitment to incorporate more of the applied, which was the genesis of my being asked to begin a new column for TIP focused on "Practitioners' Ponderings" in order to provide a viewpoint from "in the trenches."

Why "Ponder"? First, good onomatopoeia with practitioner; and what is better than "to consider something deeply and thoroughly, to weigh carefully in the mind, and to consider thoughtfully"; that is what we shall attempt. Please be kind.

I freely admit this is a daunting task for many reasons, including opening myself up to the incredibly effective, detailed, and infamously critique-oriented academic culture—and that's a bit scary. I've spent my entire career "in the trenches" of some very well-known organizations. It's messy in there and yet I'm convinced that the scientific rigor of the I-O psychology profession has served to professionalize and in some ways standardize the human resource and talent practices within organizations. In this first edition of a new column I will ramble a bit myself on the topic, and in future columns I will draw in the practitioner's perspective from many others.

OK, then, my first "ponder" is to confide that my professional identity has always been that I am first and foremost and forever a PhD industrial-organizational psychologist who just happens to be working in this organization with this title. That means something.

My second "ponder" is to further confide that after attending half a dozen SIOP conferences while in organizations early in my career, I realized that the content there was not meeting my needs. In 1984, I discovered the Human Resources Planning Society (HRPS) and its relatively small conference that was focused on the applied aspects of I-O psychology and that was attended by fairly senior and strate-

gic HR professionals, many with advanced degrees like me. The HRPS founder in 1977, Dr. Jim Walker, had just written the book Human Resource Planning, and I was with PepsiCo where my dotted-line boss was Dr. Bob Eichinger, who later, with Dr. Mike Lombardo, formed Lominger, providing great talent tools that Korn Ferry then bought for their talent practice. During the 1980s, "Dr. Bob" was quietly assembling the largest team of PhD I-O psychologists within any organization ever—with groups of 3 to 15 in corporate and in divisions like Pepsi-Cola, Pepsi-Cola International, Frito-Lay, Pizza Hut and Taco Bell. Our "HRP" process (human resource planning) was well integrated with the management processes in the 1980s, more so than I've ever seen it anywhere. We were even accused by some of having too much power and influence—a rare observation about HR!

The young Dave Ulrich was contributing to both PepsiCo and HRPS. Great people focused on making great possibilities a reality. The content of the HRPS conference was highly relevant to me; the content of the SIOP conference seemed increasingly academically oriented and less relevant to me; and I migrated to HRPS as my career's "professional home." I served as executive editor of the HRPS People & Strategy journal, cochaired an annual conference, and am now serving as vice chair of the board (now named HR People & Strategy) during a year where our small organization (1,500 or so) has merged with the Society for HR Management (SHRM), with nearly 290,000 members—allowing us to "grow right" in the senior/strategic HR niche.

SIOP's opportunity to become the "professional home" for a larger number of practitioners will depend on its ability to deliver on the promise to have a more balanced applied offering, with topics and issues relevant to practitioners. There continues to be mounting evidence of SIOP's commitment to achieving this balance. It has not gone unnoticed that SIOP's recent 10th Annual Leading Edge Consortium Conference was scarily similar to the content of the HRPS Conference. On the SIOP website, click on "Professionals" and look under "For Organizations" and you get very detailed information on how I-O is applied in strategy and measurement; staffing; learning and development; talent management; and performance management. This is a wealth of information on exactly how the science of I-O psychology can contribute to the practice of HR in organizations; really well done! Taking a deeper dive on these topics may well define the content for this column in the future.

I recently retired from a senior vice president and chief human resources officer role, and through my one-person RMV Solutions LLC, I am now offering management consulting services. In my 35 years of post-PhD organizational experience I served roughly half the time in talent and organizational effectiveness specialist positions where I used PhD on my business card because it highlighted my credentials to be in that kind of role; and I spent roughly half the time in "HR generalist" roles where I generally hid the fact that I had something as academically aloof as a PhD because these were "in the trenches feet on the ground" kind of jobs and I didn't want to confuse anyone with the facts.

To be very specific, jobs where I used the PhD on the business card include five significant organizations, adding up to about 15 years:

- Manager—Director—Senior Director, Management Development & Training (in Pizza Hut and Taco Bell when part of PepsiCo in the 1980s)
- Hauptabteilungsleiter Organizationsentwicklung (my favorite title, early '90s with VW in Germany; translation—Chief of Organizational Development)
- Director of Management Development & Training (with Campbell Soup Company in the late '90s, leading to CHRO of the spinoff, Vlasic Foods International)
- Director of Organizational Effectiveness (with Compaq in 1999, leading to VP-HR for the Americas then VP-HR for Asia Pacific in Singapore with HP)
- VP-Talent & Organizational Effectiveness (with KEMET Electronics Corporation in 2011, leading to VP and SVP-HR, both CHRO).

It is interesting to note that in three of these companies, the talent and organizational effectiveness platform and skill set were what they wanted for the next VP-HR, which is why I got the opportunity and moved up. That is different than 50 years ago when most CHROs came from labor relations, legal, or compensation and benefits. This is good career news for practitioner-oriented I-O psychologists!

How did I find my way into the industrial-organizational psychologist track? I was raised in the humanism era of the '70s and as a college junior did a 6-month internship at the National Center for the Exploration of Human Potential in La Jolla, CA. Dr. Herbert A. Otto trained me to co-lead public T-Group programs (sensitivity training). I learned to do that fairly well but I learned "that isn't me"—as a Myers Briggs ENTJ, I am much more inclined to just drive for results and closure, and I didn't have the patience to deal with people who didn't "get it." This great experience changed my plan to go into clinical psychology, and I learned that I had much more passion for the business relatedness of I-O psychology.

How did I find my way into the HR generalist and CHRO track? I don't think I'm too different than many others. The simple answer is that after you get to the "top" of the career for talent and organizational effectiveness specialists, to continue to grow into larger jobs, make a greater impact, and, yes, get paid more, then you move into more business partner and HR generalist kinds of roles. My favorites of such roles were when the challenges were about leading organizational change in ways that get the understanding, engagement, and commitment of the employees. The field of I-O psychology has much to offer to organizations that are dealing with fast paced and ongoing change; that's why I think "we" are getting more opportunities within organizations.

I-O psychology has made great contributions to our understanding of human motivation and group effectiveness within organizations. In graduate school Motivation 101 an essential learning was revealed: Involve me early and get a champion; involve me late and get a critic. When we

cocreate together we have a bond, and we feel part of the solution. We all know that involvement leads to commitment and most change implementation plans are all about giving people the knowledge, skills, and abilities to be successful in the new changed environment. Well guess what Millennials expect and demand from their workplace? To be challenged and involved, to have variety, and to keep growing and moving. It's what our high potentials expected all along, even 50 years ago!

Back in 2007 I described where the HR professional's role has been over the last hundred years, and where it needed to go to make a difference. The Evolution of HR: Developing HR as an Internal Consulting Organization won the Walker Prize for best article of the year in the Human Resource Planning journal (September 2007). The challenge and "call to action" I made in 2007 sadly must be repeated today. "If we do not step forward with compelling HR leadership, the future will be determined for us. When the June 2005 Business Week reports 'Why HR Gets No Respect,' the August 2005 Fast Company proclaims 'Why We Hate HR,' and the 'evil personnel director' in Dilbert continues to get knowing laughs, something is going on that the HR profession needs to address. This set of issues goes beyond the never-ending lamentations about lacking a seat at the table for the top HR person—this is about the future of HR in total" (Vosburgh, 2007, p. 12). The following chart summarizes my point—that there is a "lower left" more administrative portion of our function that is the basis of our legacy; and there is an "upper right" more strategic portion of our function that is the basis for our Future. That is the arena where the "science" of I-O psychology can contribute mightily to the "practice" of human resources, and that is why we are seeing more high level and impactful job opportunities for business oriented I-O psychologists in organizations today. That's a good thing.

In graduate school I was blessed to have one of the icons of applied I-O psychology as our program chair and my advisor, Dr. Herbert H. Meyer, who spent a full career with GE leading their HR Research capability (and also served as president of SIOP)—and he always required an executive summary for anything! We had to use "plain English" to describe what we were doing in the deep science of I-O psychology—would a 35-year-old manufacturing manager understand you? Try that with the results from a simple correlation and a complex factor analysis! Oh yes, did you answer the "so what" question—interesting data, but so what? It forced us to have great clarity; to better understand and communicate our point of view on a topic.

Well that was kind of a fun ramble on my part. Now I'd like to involve you! I invite input from both the academic and the applied sides of the I-O psychology community on how this new column can address issues of relevance to you. Please email me at: RMVsolutionsLLC@gmail.com.

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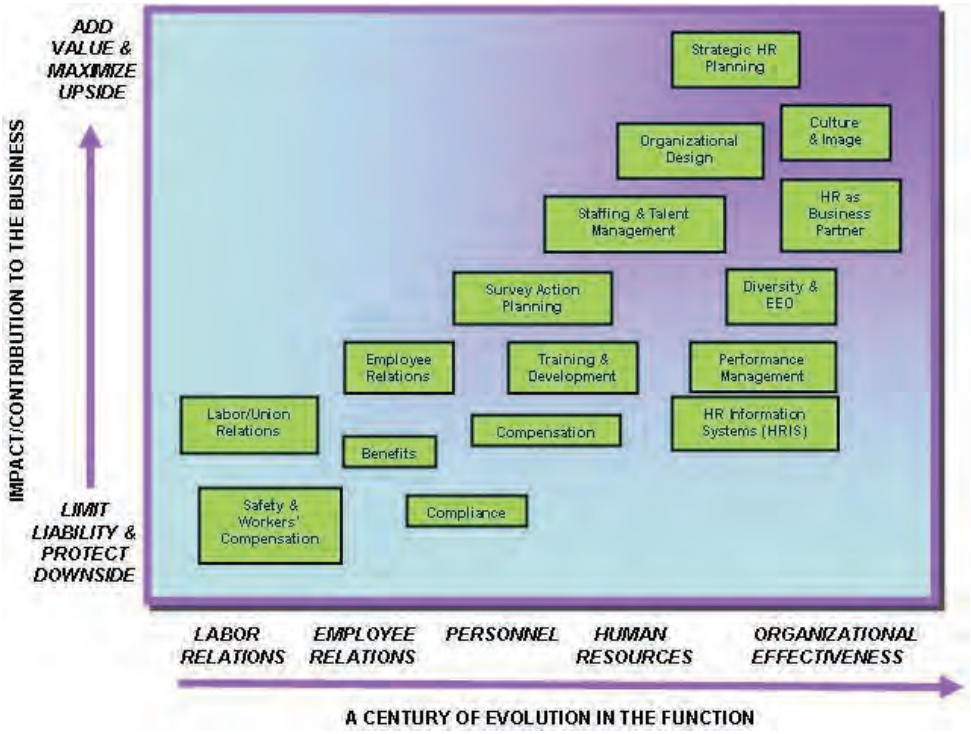
HR Continues to Evolve



White Papers

The SIOP White Paper series organizes and summarizes important and timely topics in I-O psychology for business and HR professionals, members of the press, and interested individuals. SIOP White Papers are produced by three SIOP committees: International Affairs, Scientific Affairs, and Visibility.

For more information about the SIOP white papers, click HERE.

Allison S. Gabriel
Virginia Commonwealth University

Finding Your Path to Academia

On a Friday afternoon not too many weeks ago, I was sitting in my home office nursing a cold that I seem all too prone to as of late (apparently, your immunity does *not* improve when you get your PhD), when I received an email from **Morrie Mullins** entitled "Come back to *TIP*?" My first reaction was a mild panic. You see, I had promised Morrie (and previous editor **Lisa Steelman**) that I would work on a brief article outlining some of the growing pains associated with transitioning from graduate school to life on the tenure track. It was to be a one-time gig building upon some of the papers I had written when I was part of the University of Akron TIP-TOPics team from 2011–2013. However, life got in the way—all good things, I promise—and the article, while still in the back of my mind, drifted to the back of my writing cue. As I was flooded with embarrassment, I clicked the email open already mentally wording my apology to Morrie in my head, and was shocked to see an invitation to take over **The Academics' Forum**.

For those who know me well, it should come as no surprise that my first reaction was excitement, followed by panic, followed by an immediate desire to respond "Yes!" within minutes of receiving the email. I should point out some irony here. The last column my peers and I wrote for the TIP-TOPics column was a "Top 10 List" of things we wished we knew during graduate school which we later knew upon graduating. My piece of advice? Learning when to say "No." But, in my defense, that was saying no to opportunities that didn't fit with who I was becoming as a researcher or I didn't find intrinsically interesting. Coming back to *TIP* was certainly tempting as a creative outlet. As I looked at the previous writers of this column—**Satoris Culbertson** and **Sylvia Roch** being the most recent—I couldn't help but feel flattered, a bit overwhelmed, and all too enthusiastic to take a stab at sharing my point of view, or, as I told Morrie in our phone conversation when I said yes, the awkward ramblings of someone trying to handle life on the tenure track.

To set the tone for this column over the next several issues, I think I should start at the very beginning—and by beginning, I mean *really* go back and set the stage for why I wanted to be

an academic to begin with. Like many of us in this profession, I did not grow up wishing to be an I-O psychologist. I did, however, grow up wanting to be a professor; I just didn't know what exactly I would be professing. I am fortunate in that I can tell you close, personal stories about time spent with three out of the four of my grandparents. I did have one grandparent, however, who passed away when I was quite young. His name was John Gabriel, he was my dad's dad, and he was a professor of Sociology at Fordham University. Thanks to Google and some crafty EBSCO searches, I can tell you that his research focused on issues related to domestic violence and that he spent just as much time working as a social worker as he did teaching. I can tell you how my dad remembers weekends at their home growing up, with other professors lounging around discussing very professorial things and graduate students coming in for mentoring. I can tell you that out of all the people who have influenced me in my life, he is the one who may have influenced me the most, and I only knew him for 6 short years.

Growing up with those images of my grandfather in my head always moved me to want to teach at a university. In some small way, I wanted to finish what he started by following in his footsteps. Those footsteps led me to taking several sociology and psychology courses when I arrived at Penn State University to complete my undergraduate degree. At the time, my plan was to go to law school, practice law for a few years, and eventually circle back to academia to fulfill my desire to teach at the collegiate level. My (ill-formed) thought was that, by taking sociology and psychology courses, I could learn how to "read people," improving my chances of succeeding in the courtroom. Considering how we all have faced some version of this misconception at some point in our lives as I-O psychologists, I always laugh thinking how it was this fallacy that got me into the right classroom at the right time. In particular, it was the classroom of **Alicia Grandey**. She taught a seminar on "Psychology of Service with a Smile." Halfway through her course, she pulled me aside and told me she thought I would do well in her research lab, and she asked if I was interested. Upon joining, she told me that she thought I could get a PhD in I-O psychology. I pushed back a bit, thinking I didn't get this research "stuff" and that I could barely explain I-O psychology to my family (if you ask my parents, they'll tell you that I do something with emotions and nurses, which I put in the "win" column of my book). After a few months of resisting, some encouragement from **Peter Dominick** who was a family friend *and* an I-O psychologist (how often does *that* happen?), and some excellent teaching and support from **Susan Mohammed** and **Rich Jacobs**, I began to have more faith in myself that maybe, just maybe, I could pull this PhD thing off.

I'll never forget the day I received a voicemail from the University of Akron inviting me to visit day. Upon meeting **James Diefendorff**, who was slated to be my advisor, I knew it was the right place to be. It also didn't hurt that **Robert Lord** cornered me in the hallway and told me that if I wanted to research emotions, I had to be in Akron with Jim. When Bob Lord tells you to do something, you generally do it as I quickly learned. The 5 years I spent at Akron were equally amazing as they were

fast. I can still hear **Paul Levy** laughing in his performance appraisal course as my cohort and I panicked about taking his "famously evil" comps-style final exam (current UA students: Believe the hype. Kidding![1]). I remember Andrea Snell telling us to never spell principal as principle when writing about a principal components analysis, which to this day I still think about every time I write that word. I will continue to be blown away as I run MPlus analyses that I once watched **Rosalie Hall** hand write me syntax code when I couldn't get a particular analysis for my master's thesis to start. The other faculty members there when I attended—**Dennis Doverspike,** Joelle Elicker, and **Aaron Schmidt**—were all incredibly supportive and helped encourage me as I progressed through the program and ventured out onto the academic job market, ultimately landing a job with the Department of Management at Virginia Commonwealth University where I am today.

This trip down memory lane is partially because I am always fascinated to hear how people stumbled into their careers as I-O psychologists and into academia in particular. On those days where the stress seems to be piling up or I am faced with too many competing deadlines (as you might guess, those tend to positively correlate), it is helpful for me to think back to how I got to the chair in my office where I am currently writing this piece. It is nice to feel connected in some small way to a lineage of academics—whether it is my *actual* family lineage or my academic family tree (as **Tori Culbertson** described in her first column for The Academics' Forum). But, this trip down memory lane is also to help bring home the point that I'm new here. As in, I'm really new. That would be "only half-way through my second year on the tenure clock fresh out of grad school" new, which is one of the reasons why I was a bit caught off guard when the column was presented to me.

My perspective and point of view for this column will be as close to a live reflection as one can get to what it is currently like to survive the academic job market and, after all of that stress, survive (hopefully) getting tenure as well. I hope to approach the column with a lot of curiosity, a huge dose of humility (there are so many people to thank for supporting me), and a tiny bit of humor at the ridiculousness that is my life these days. From time to time, I'll have some guests joining me who are other junior faculty to make sure my point of view isn't too off base from the experiences others are having. Most importantly, I hope to use this column as an outlet for a bit of self-reflection. A lot of days, I come home having a hard time processing everything that occurred during the day and everything that is slated for the days ahead. Through writing this column, I look forward to taking time for some careful reflection on what went well, what could have been better, and where I may be going next. For now, I want to thank Morrie and the rest of the *TIP* team for inviting me on board, and for already being so welcoming.

Let the next journey as an academic begin…

[1] Or am I?

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Max. Classroom Capacity

Marcus Dickson
Wayne State University

Loren Naidoo
Baruch College (CUNY)

Avid readers of Max. Classroom Capacity (and I know there are at least a couple of you) are eagerly turning to this page to find out who the new column coauthor is. I'm delighted to say that Loren Naidoo from Baruch College (CUNY) has stepped up to the challenge and will be starting his tour as coauthor with this issue of *TIP*.

I've known Loren for several years, first meeting him through our shared connection of teaching executive education courses through Baruch's overseas executive master's program. The program we teach in is a cohort program, so the students go through the program together and have the same courses. Loren's courses would often fall earlier in the curriculum than mine, and I started hearing about Professor Loren and how much the students liked his classes. More recently, I've been working on a couple of projects with some Baruch grad students, who also speak very highly of Loren's teaching skills and dedication. So it wasn't a hard decision to think about who to turn to as a coauthor for the column.

Loren received his MA and PhD in I-O from The University of Akron in 2005, after getting his BSc in 1998 from McGill University, where he conducted research in Social Psychology and Social Cognition. Much of Loren's research has focused on leadership processes, which he conceptualizes as a form of social influence that involves characteristics of the leader, of the follower, of the leader-follower dyad, and of the broader social context in which leadership takes place. As a teacher, he's covered classes at undergrad, master's, doctoral, MBA, and international executive levels, covering both content and methods/statistics topics. I'm excited to have him join in this ongoing discussion about teaching in I-O.

MWD: So, Loren, you and I have each spent time teaching topics in executive education settings in Asia that we've also taught at home in more traditional settings. When you first were preparing to teach in Taiwan or Singapore, what did you do to prepare for the class, and what surprised you about teaching in that setting when you got there?

LJN: Hi Marcus! First let me say how excited I am to have these conversations with you and share them via *TIP*. Teaching is very important to me and it's a real honor to work with you on this column.

I was in my second year as an assistant professor at Baruch College when the opportunity arose to teach in Taipei. I was very excited! My good friend and colleague **Charles Scherbaum** prepared me well for some specific practices. For example, he showed me how to present and receive a business card and hand out class materials using two hands, which sounds easy but isn't when you're holding a big stack of papers! In fact, in my very first class meeting I automatically started handing out the syllabus one-handed and I remember being so dismayed that I had already messed up one of the few things I HAD been prepared for!

These kinds of superficial behavioral norms may seem, well, superficial! But, I think they prepared me to think differently about these students, be alert and observant of students during class, and think about the deep cultural values that underlie the norms. So to answer your question, I was most surprised at how "real" and tangible the cultural differences were in terms of the classroom dynamics. For example, I like to ask a lot of questions of students. Minimally, it keeps them engaged and gives me some feedback on their thinking. It quickly became apparent that if I asked an open question to the class, no one would answer until the oldest, most experienced student answered first. Then, no one would say anything that overtly contradicted the first student's answer.

Have you had similar experiences in terms of managing class participation, and if so, what solutions did you develop?
MWD: This is a really interesting question you're raising, Loren, and I had a lot of those same experiences, especially in Taipei (moreso than in Singapore, for example). On occasion, I would have younger students ask to sit with me at lunch, and they would find ways to express frustration with not being able to respond because of the cultural norms of respect for elders, even if the eldest student was not the most knowledgeable. They wanted to be sure that I knew that they had ideas they wanted to contribute, but they felt constrained from doing so.

One thing I began to try was simply not starting with open-ended questions. Instead, I might give the class a question, and then give them some possible answers. I'd then ask for a show of hands of people who endorsed one answer, and then those who endorsed the other. Then I could call on people who had raised their hands to explain their answer. This put all of the students on a more even footing, but it was clearly still at times an uncomfortable situation. But using this approach led to using "clickers," which I've written about in previous Max. Classroom Capacity columns. With clickers, I might ask a question and then have students "vote" on the answer, and then I show the results of the class vote. I've learned to phrase my follow-up questions carefully. I ask "How would someone who answered

A likely justify their answer?", rather than asking "Who said A? Can you tell me why?" That allows students to express their answers in a way that doesn't necessarily publicly commit to a specific answer. (This has proven to be important for reasons other than cultural norms. Sometimes the questions inadvertently hit close to home in terms of business issues that students were dealing with in their own companies, and they would be hesitant to claim "ownership" of an answer for fear of divulging information they shouldn't.) So I use clickers now with pretty much all of the executive classes I work with and have had generally good response to them. The technology allows everyone to have input and can help to reduce the dominance of single individuals who insist that "everyone knows" something when, in fact, the class as a whole thinks quite differently.

One thing I was not immediately prepared for was what felt like an ethical issue. At home, if a student were to offer to pay for my lunch or dinner, or to take me out to drive me somewhere I needed to go, I would decline. I wouldn't want either that student to feel as if he/she were doing something that would yield a better grade or treatment, and I wouldn't want other students to see that and conclude that anything unethical was occurring. I've had students finish their master's degree with me and want to get me a gift, but I've always pointed out that we still have a dissertation to do together, and so I have declined. But in Taipei especially, it was common for the students to insist on buying my lunch (class would run all day Saturdays and Sundays), and at the end of the course, the students would go together to get the professor a gift.

Given that I hadn't completed grading the course when this occurred, I initially felt uncomfortable, though I knew that to decline would have been insulting, as well. Have you run into that, and if so, how did you handle it?

LJN: I also have run into that issue a lot, mostly in Taipei but in Singapore too. It's a tricky one. I think as psychologists we are quite sensitive to the issue of bias because much of our training involves being aware of and trying to minimize biases of all kinds in many different contexts. One way I manage the dissonance this situation produces is to realize (rationalize?) that the gifts and meals are provided to every instructor by the class as a whole rather than by individual students to me specifically. I don't believe students are doing it to curry favor. It's the norm in Taipei and we (professors, students, administration) all understand this. But also, my job is to teach these folks. I think I can do that more effectively by immersing myself in their culture. Violating the norms in this way would probably impede their learning. As I reread this it sounds like a terribly self-serving and maybe even entitled excuse! But I really think that the alternative is worse. As you said, refusing these gifts would be confusing and possibly insulting to them. A deep respect for teachers is part of their culture, and denying them the opportunity to enact this sends the message that you don't respect their culture and values and expect them to completely abide by your

own. That's no way to create a classroom climate conducive to learning. So I accept and appreciate their generosity and hopefully it motivates me to work that much harder in the classroom.

Also, it's an adventure! I never thought that I would eat the head of a shrimp, but my Taipei students taught me how to do that! OK, so that is a pretty strange example, but I really feel like I learn as much or more from my students as they do from me, especially in my international teaching. Do you agree, and if so, what is one of your favorite examples?

MWD: Learning from the students is always a happy outcome of teaching executive courses, I think. Sometimes we actively seek that out. For example, in teaching a leadership course, I often refer to work I was part of with my colleagues ***Christian Resick****, Mary Keating, and Gillian Martin (Martin, Resick, Keating, & Dickson, 2009; Resick, et al., 2011) where we looked at national/cultural differences in leadership behaviors that were perceived as highly ethical or highly unethical. In some cases, we identified a lot of consistency around those perceptions, but then we also identified some country-specific examples of perceptions of ethical/unethical leadership. I try to engage the students in a discussion of whether within their cultural setting they would share the same views of ethical/unethical leadership and whether there were behaviors that would be more unique to their cultural home. In a recent class in Singapore, for example, an expat in the class raised the issue of corporal punishment and about the ethics of caning convicted criminals. I hadn't planned on that as a discussion topic at all, but it allowed for a discussion of cultural history, origins of cultural values, and the topic of cultural universalism and exporting one's culture, which then led us back to challenges that expatriates can face in leadership settings. I certainly learned a lot in the discussion, and my role clearly shifted from being "instructor" to being "facilitator" during that time.*
So let's pull out some takeaways from this discussion. There are several things we've mentioned about teaching in an overseas setting, focusing mostly on the settings in which we have shared experiences. Is there something that you've taken away from your teaching in those settings and begun to apply in the rest of your teaching? For me, I'd say that working with executive classes in any location, I've come to emphasize that my role is not so much to teach them things they've never seen before (especially given that I am often teaching leadership to business leaders), but instead my goal is to help them have some frames that they can put around their own experiences, to help them think about them from a bigger picture perspective so that they're better prepared for similar situations in the future. I also emphasize the message from my friend ***Paul Yost's*** *leadership development book (Yost & Plunkett, 2009), that he and his co-author point out that "your job is your classroom." My job is to provide the students with some frameworks and ways of thinking about the problems and opportunities they face, so that they can then go back into their "real classroom"*

—their jobs—and begin the real process of learning. That approach of not having to be the "sage on the stage" and trusting that the students will learn on their own if the environment is right, and I can provide the starting points is something that I have taken from our overseas courses and applied to a lot of my other classes. What about you? Are there things you've learned about teaching in these overseas executive settings that have carried over into your other classes?

LJN: That's a great question, Marcus. I think early in my teaching career I was mostly focused on things under my control: what material to cover, how to present in an engaging way, how to assess learning, and so on. All of that is important. But I think teaching overseas helped me to be more thoughtful about where my students are coming from, literally and figuratively. I'm much better at considering students' individual backgrounds, experiences, and perspectives. Baruch College has one of the most diverse undergraduate student bodies in the country, and it is diverse in ways that go beyond race. Students come from over 150 countries. Many work full time. Many have returned to school after time away. They represent close to the full range of social economic status in New York City. There is large variation in how academically prepared they are for college. Sometimes I get comments in class that are hard to parse or may even seem off the wall. I would usually assume that these students just weren't following along or were confused. For example, in a social psychology class I remember one African-American student asking something along the lines of "Do negative stereotypes against African Americans exist?" I understood what he said but I couldn't figure out what he was asking because, obviously, everyone knows that these stereotypes exist. I can't remember my response but I'm sure it was polite but brief. It was only after speaking with him outside of class a week later that I came to understand his question. He had recently arrived from Jamaica and was simply unaware of such negative stereotypes against African Americans! I've since had a few other students from various Caribbean nations describe their baffled dismay at discovering these stereotypes after arriving in the US. So the problem wasn't with the student's question, it was that he had such a different perspective from my own that *I* failed to understand it. What a great in-class discussion that could have spawned, what a missed opportunity! In recent years I've tried much harder in such cases to ask the student to clarify their comments, to dig a bit deeper, and to really listen to what they are saying. Sometimes it's fruitless, but more often it leads to some really interesting insight that enriches the class and my own perspective as an instructor. By the way, these examples involve students from other countries, but I think the same issues exist in any classroom as every student has their own unique background of which you may have little knowledge. I think teaching overseas helped me to realize this.

Marcus here again. I hope that you're looking forward to hearing from Loren in the coming issues as I am to work with him

on Max. Classroom Capacity. We hope to continue to bring interesting discussions about teaching and other I-O classroom issues to *TIP*. Something you'd like us to address? Send us a note. We're at marcus.dickson@wayne.edu Loren.Naidoo@baruch.cuny.edu.

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Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

Organizational Neuroscience

M. K. Ward
North Carolina State University

Bill Becker
Texas Christian University

Putting the Neuroscience in Organizational Neuroscience: An Interview With Dr. Sebastiano Massaro

In this issue, Dr. Sebastiano Massaro tells his story from his beginning in neuroscience to his current involvement in organizational neuroscience (ON). In so doing, he describes why ON is extremely relevant for management and I-O psychology and he argues for the need of rigorous ON research practices.

Sebastiano Massaro is an assistant professor at the Warwick Business School. He is academic lead of the Global Research Priority in Behavioral Science, and the inaugural PhD graduate of the UCL Management Science and Innovation Department. He holds a BSc in Biotechnology from the Medical School of the University of Padova, and a MRes in Neuroscience summa cum laude from the University of Trieste and the International School of Advanced Studies. Sebastiano also received the 2011 Academy of Management OB Most Innovative Student Paper Award.

In this interview, Sebastiano shows his expertise all the way from neurons to organizations. At the same time, he reminds us to be conscious of the mechanisms of the brain—things that influence what we think and do, and of which we are largely unaware.

Your early training was in neuroscience. Why did you get involved in ON rather than continue in mainstream neuroscience?

Simply said: While I was educated, trained, and did a good deal of research in neuroscience, a few years ago I decided to make a career change and to pursue a PhD in management. During my PhD training a paper about ON (Becker, Cropanzano, & Sanfey, 2011) came out. My initial reaction was skeptical. "What is this about?" The word "neuroscience" in the title of a management paper sounded suspicious. Yet, once I read the paper, I realized that the authors were bringing forward a fundamental concept: If we wish to fully understand human behavior, both of single individuals and of people within organizations, we shall also account for their neural underpinnings.

For behavioral neuroscientists this is a fairly obvious concept. However, this idea has been largely overlooked and challenged within mainstream management and I-O community. Thus, I just put two and two together and thought, "I'm a neuroscientist now shaping my career as a management scholar: Why not do some ON research then and fill some of these gaps?"

What's your idea of ON?

I view ON as a truly multilevel interdisciplinary research field that belongs to management, organizational sciences, and business studies, as well as has foundations and branches in the social neuroscience scholarship (Decety & Keenan, 2006). Initially, I thought that ON was just an empirical field: the application of neuroscience methods to organizational and management research. More recently, however, I have appreciated that neuroscience insights can offer important theoretical lenses across various areas of management and I-O psychology, including strategy and organization behavior. Indeed, the idea of organizations as brains is not new (Morgan, 1986); and, how often do we read about organizational cognition or learning? Learning and cognition are neuroscience-based concepts, aren't they?

Where did this thinking lead you?

One year ago, I was hired at the Warwick Business School, which has an innovative research group in behavioral science. This allowed me to work with world-leading behavioral scientists, management scholars, economists, and psychologists. I'm also co-leading the university's Global Research Priority in Behavioural Science, which spans across departments and aims to advance the global behavioral science agenda into various research areas, including ON. This research network, together with the momentum within the scholarly community about ON, is providing a good platform to perform ON research within a scientifically rigorous setting.

My ON research has two main talking points. The first is theoretical, almost epistemological: I am an advocate of the need for sounder methodological, ethical, and professional guidelines in ON (Massaro, forthcoming). Management scholars have a lot of fascination about neuroscience, but usually they are not trained. For instance, they often think that ON research equates to putting someone into a scanner and getting a colorful picture of the person's brain. This is not the whole story: Neuroscience is not just neuroimaging. Or, we frequently read concerns about neuroscience being a reductionist threat for management; but similar worries were resolved years ago in social neuroscience. Similarly, researchers attempting neuroscience approaches in management often are more excited about being pioneers than about seeking scientific soundness. We all should step back and concentrate on doing ON research properly rather than chasing academic accolade. My primary research goal is thus to inform the management academic community about what neuroscience research signifies and its real potential for management and organizational studies.

My other research is empirical. I focus on the interplay between emotion and cognition, a hot topic in management and in I-O psychology and a long-debated puzzle in behavioral neuroscience. In management and I-O psychology we need a

more nuanced view on emotions and the way in which we perceive, relate to, and deceive them. Just think that we usually recognize emotions through faces, and the categorization of facial features can occur at latencies as short as 100 milliseconds. Face recognition is a fundamental aspect of everyday life, since it conveys key information used to guide and evaluate social interactions. But how can we fully capture such dynamic phenomena with just a classic questionnaire? While much of my research in this area is still at its very early stages, we're using a number of behavioral methods, from qualitative tools up to neuroimaging. We also use measurements related to the autonomic nervous system, like heart rate variability. The extrapolated data as variables to the classic regression analysis. These physiological measures are probably the most practical approach to do basic empirical ON.

But research is not all I do. I also like to educate the broader academic public about ON. For example, at Warwick I teach an innovative module titled, "Neuroscience for Business and Social Studies." I get to present neuroscience across its broad spectrum as a complementary means to look at common topics students encounter during their business or economics studies. I cover the essentials of neuroscience, starting from its history up to the more recent insights in neuroeconomics and marketing, always remarking that the understanding of neural processes is an important element to fully comprehend human behavior (Kandel & Squire, 2000). If I want to present something "cool," but if am not entirely grounded on that topic, I invite guest speakers. For example, a colleague from the Engineering Department recently demonstrated to the class how to conduct a simple EEG experiment on attentional cues. This teaching is quite challenging because I'm often talking to people who don't have basic neural knowledge. Some want to know everything on how the brain makes decisions right away but perhaps do not even know that neurons are cells. Yet, I empathize with them, and I am happy to see their interest growing as they learn more about the nervous system. At the end of the day, knowing more about neuroscience means knowing more about themselves.

How could our* TIP *readers recruit a neuroscientist for research?

I believe neuroscientists are always willing to listen to new ideas and have shared projects. One selling point is that those of us researching and consulting in organizations probably have a more nuanced knowledge of the social world than what the average neuroscientist might have. Thus, together, we could come up with original research questions that fall outside of mainstream approaches or contexts. The best option is to talk to people who are trained experts in fields which are close to your own research: a social neuroscientist may be a better bet than a molecular neuropharmacologist.

Remember, as you strike up collaborations, that no one is born a neuroscientist. Rather, we are like kids in the world of neuroscience. This because neuroscience research is extremely fast-paced and the research community is way bigger than the I-O and management ones. So those of us in management and I-O need to know why we need to employ a neuroscience approach to our research, understand well the relevant literature, and move on with state-of-the art research practices.

In terms of tools in neuroscience, why should* TIP *readers care about functional magnetic resonance imaging (fMRI)? In other words, what are the advantages of fMRI compared to other measures like EEG?

MRI machines traditionally enable a higher spatial resolution than standard EEG systems because EEG measures signals at the scalp. Imagine we have a ball, and the brain is this sort of sphere. Very simply said, EEG would record signals at the surface of the ball. For instance, this is relevant in understanding variation of activity in deep brain areas like the insula, where fMRI would be more capable of detecting neural activity. The use of either EEG or fMRI, or both, depends a lot on the specific research needs. So, we really need to be prepared to use several tools, including fMRI.

What would strengthen ON research?

Well, I obviously read academic management journals. Unfortunately, there have been a number of experimental pieces in leading journals that were too vague about the methodology used. This impedes understanding how the research was actually conducted or how to reproduce the studies. Thus, I would like to see more detailed methodological descriptions of ON research. The problem is these descriptions have to be technically precise, and this requirement might clash with the need to be understood by an untrained scholarly community or even by editors. On the other hand, oversimplifying the methods can easily lead to poor research outcomes. Finding the right trade-off between these extremes is the key challenge in publishing ON work.

What are the next big questions in ON?

We are at a very interesting point in time for ON, and more generally for the I-O and management scholarships: Can they take on neuroscience research and do it properly? Or should they just close their eyes and forget for instance that we are humans and we have a nervous system that allows us to essentially live, work, and also carry out this interview? Jokes aside, this is a big dilemma that goes to the core of the disciplines. A puzzle that can't be answered in a paper but only by a joint academic effort in setting core guidelines and key points for ON. Only by doing this will we also address the various concerns, doubts, and research imprecisions that have populated ON so far.

What final comments do you have for* TIP *readers?

The way research is conducted in management or I-O is profoundly embedded in the social sciences. Understanding neuroscience, from its molecular core up to the insights of neuroimaging research, can be a powerful instrument to reflect on how we conduct our research. The power of modern neuroscience indeed comes from its location at the interface between the natural and social sciences; applying an ON approach to management and I-O psychology can actually be a revolution in our paradigm of research practices.

But, are we really ready to embrace ON and in what way? My concern is that due to an intrinsic lack of neuroscience knowledge ON will remain at a very vague theoretical level with an increasing number of unskilled scholars willing to jump on the bandwagon. While being critical and having many views with the aim of improving knowledge is surely the first stage needed to advance a research dialogue, it is also essential to remember that the real step

forward is to perform rigorous research and bring forward scientifically sound theoretical frameworks. That's why it's very important to work in collaboration with neuroscientists and aim for high-quality interdisciplinary research. This, in my opinion, is the only sensible approach to advance management and I-O knowledge in a truly meaningful way.

Conclusions

We send an international thank you to Sebastiano Massaro for sharing stories about ON from the eyes of a neuroscientist. His point of view reminds us that a humble, curious, and disciplined approach is necessary for ON to progress.

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The I-Opener

"Scientist–Practitioner"—You Keep Using That Phrase. She Does Not Think it Means What He Thinks it Means

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My sources for this edition of the I-Opener are, upon my insistence, anonymous—but I'm not, so I suppose I should explain myself here.

At the time of writing, it's campaigning season. When you're reading this, would that the lawns full of peripheral-route pleas, front-door visits rife with vapid generalities, and *ad hominem* smears are rapidly fading memories, but it was in this context that I started thinking of the scientist–practitioner (S–P) model.

Some great works have been done within our organization to define, promote, revise, defend, and augment the S–P model; it is not my intention to cast aspersions on those works (the interested reader need only search for "scientist–**p**ractitioner" on the SIOP homepage to peruse some of them). However, and with little evidence but much theoretical grounding in social psychology, I feared that we as members of SIOP all to often consume and regurgitate the party line with regard to the S–P model , and that it is at best not fully representative of the privately held perspectives of SIOP members and at worst fully disconnected from these perspectives. The root of my line of questions was as neutral as I can make it: What do early-career I-O psychologists actually—and that's where the anonymity comes in—*actually* think of and about the S–P model?

The responses I received may surprise you, particularly when one attends to what the practitioners are saying on the one hand and what the academic is saying on the other. Regardless, would that they get you thinking about your own perspectives on these issues and, if possible, what you can do to improve our field.

The Perspectives

Person A, an early-career PhD practitioner working for a Fortune-*500 company who has done work in selection, surveys, business development, workforce planning, and analytics:*

I-Opener: Leaving aside the rhetoric of SIOP for a moment, what is your definition of the S–P model as it applies to your own professional life?

I truly believe that **science should drive practice and practice should drive science**. I believe that although this is a **noble** cause, it was **flawed from its outset**. I believe **there is a disconnect between practice and science** that is perhaps at its greatest divide ever.

What are the greatest impediments that you face in your attempts to enact that model personally (including, perhaps, a lack of interest in enacting the model)?

The first big impediment is **time**; this is difficult to bridge for obvious reasons that time takes time. There are ways of addressing this, such as attending conferences or earning certifications to keep up to date in the field. The draw for these conferences is not just the fancy destinations but also the fact that time is set aside solely to focus on continuing education. This is a difficult thing to manage otherwise.

Secondly, **"junk" research**. I see this as a problem of motivation. There are more researchers than ever focusing on obscure or nonrelevant topics to get published because these have not been researched before. There used to be research on job analysis or selection tools (both high-fidelity and valid topics); now it's all multilevel modeling with moderators and mediators of nonlinear relationships, **none of which can be applied in practice**.

On the practitioner's side, what is the motivation to publish? "Hey, let's take real (most likely archival) data and have to write them up in APA format, find a relevant "theory" to piggyback on, go through the whole publishing brouhaha, wait 2 years with three rounds of edits to find out we've been rejected." The **ROI is not there**.

To me, **if a researcher is researching a topic that cannot be applied, then it should not get published**. Also, **if a practitioner is acting upon research that doesn't at least acquiesce to some form of scientific standards, then they should not be working.**

What, if anything, could/should be done to remove the impediments you mentioned above?

Well, for one, **access to "top" journals should not be so difficult to get** ($$$). I read *TIP* every time it's published because it's free to SIOP members. Other top journals? Never, unless I can find them on Google Scholar.

I would also say **that bringing more practitioners back into academia** could possibly help.

Person B, a new PhD practitioner, recently graduated, working as an internal consultant for a large organization:

I-Opener: What is the S–P model for you?

Being primarily a practitioner, that model for me is **using research in the workplace, trying to find a way to apply it**.

The other part is **partnering with scientists in order to continue to publish more research**. There are professors and upper-level graduate students who have ideas and they just need data and we just want it to be mutually beneficial—useful to them and to the field as a whole but also useful to us to inform our decision-making processes.

What are the greatest impediments?

There's a **weird slowness to everything**—in academia it takes forever to write a research paper and in the practitioner world you have to go through legal and the paperwork and the approval and then back and forth with getting data together.

Another impediment is **access to data**. I think that there are **companies that would be happy to share data and work with academics** but sometimes they just don't have the data, they weren't collecting it very well or there's too much of it to find a way to organize, they don't have the right people to do that, so that can be a struggle.

Sometimes egos get in the way. The **stereotype** is that **academics don't get what the real world is like, practitioners aren't using the research** and are people who get I-O degrees and then go out in the field **forget that half of the stuff that they're researching internally has already been done**. But both of those perspectives can be skewed. I think that most academics would be happy to tailor their research to better fit their practitioner counterparts and vice versa.

What can/should we do?

I think one thing you could do is, starting earlier on in graduate school, **have more of an obvious blend of S and P experiences**. I benefitted from that in my program. Every school says that it's an S–P school, but some are really not. You have to get the academic fundamentals down first in school so the practitioner topics may not appear at the outset. That's the benefit of having faculty who have real-life experience on the side—having specific and real-world examples of practitioner issues. Obviously not all programs will be able to have a bunch of people like that, but it is good to think about that.

I think that **creating some kind of network like a Craigslist posting for scientists and practitioners** would be helpful. Practitioners have some studies that they want to do; likewise, there are academics out there who are looking to work in specific areas; if they could honestly say this instead of just trying to get their hands on data or to piggyback their ideas on to unrelated topics, that would work out for all parties.

Person C, a relatively recent PhD working in the field of psychological assessment and employee selection for the past two years:

I-Opener: What is the S–P model for you?

To me, the S–P model refers to **the need to blend and balance two roles/perspectives in the study and application of (psychological) science**.

As a scientist I look at problems objectively, think creatively, apply logical reasoning, formulate hypotheses, test ideas, measure effects, and make data-driven decisions. I leverage an existing body of scientific knowledge, and also strive to disseminate knowledge—uninhibited—to the wider community.

When I put on my **practitioner cap**, I am applying my expertise with the goal of making a positive, tangible impact on a client; I rely more heavily on my experience and emphasize practicality, palatability, speed, and results.

What are the greatest impediments?

I am **not convinced the need to spell out that we are scientists and practitioners still exists**. Not to be misunderstood, I do need to be both to be optimally effective, and I do continue to grow and build "each" simultaneously. Yet, I do not find that I really run into situations where I experience an "S–P" problem.

What can/should we do?

During our formal education we tend to focus more on the scientific method because it is simply easier to do at the university. It happens to be **more difficult to find relevant part-time jobs, project work, and internships in I-O**. It is also more difficult to invest the time into creating high-fidelity classroom projects and course assignments (that is, those that mimic "real world" experiences); this might especially be the case when professors are unmotivated (perhaps they are too seasoned) or when professors lack the first-hand experience themselves (perhaps when they are too new).

I recognize that many programs do in fact have an applied component, such as a consulting practice. I think **those who master this balance well are indeed among our top programs in I-O.**

I would **suggest that students be encouraged to find as much hands-on, in-the-trenches work as they can**. University **professors should support them** by emphasizing this, networking on their behalf, and guiding them to opportunities. Those in the field, such as alumni, should help to seed opportunities back to the university. When this cannot be accomplished, at least more effort should be made to **imbed practical experiences into the classroom**, perhaps by collaborating more with people doing the work.

Person D, an early-career assistant professor at a small regional university who works with master's-level I-O students:

I-Opener: What is the S–P model for you?

My view of the S–P model is **that we shouldn't do research that doesn't have some applicability to the workplace,** and we should be **teaching our students** in such a way that they can see how what they're learning—theories, knowledge structures—**apply to the world of work**. We **shouldn't be teaching theories without demonstrating** how those can be applied; we **shouldn't be doing research that can't be applied** to the workplace. For instance, **I don't think that there's any place for basic research in I-O psychology**. Similarly, I don't think that, in practice, we should be doing anything that **doesn't have a firm basis in science**. I understand that research hasn't kept up as much with practice as it should, but that being said, I believe that if you're doing any sort of applied work in an organizational setting, you should as much as possible **try to find some support for what you're doing.** Conduct your own mini study if you have to on the spot but don't just invent theories and try them out with no evidential basis for doing so.

What are the greatest impediments?

Many of the **graduate students** with whom I work seem **not so much interested in the theories** behind what I-O psychology does as much as just **focusing on the process of what I-O psychologists do**. They're only interested in I-O theories and research to the extent that it'll get them a job. I get the feeling that they don't really understand that there should be a seamless relationship between research and practice. It's very **difficult to impress upon them the importance of reading empirical articles**. They don't see how that's going to help them when they get out into the workplace. I think it does matter that they don't understand the theory because in order to apply something properly you have to understand the theory behind it.

What can/should we do?

One issue is that, at least from my observation, **we expect very different things from a master's-level student than we do from a PhD-level student**. I think **the same principles should underlie both levels**; we should be focused on understanding theories in I-O psychology, learning how to do the research in order to apply those to the workplace. Yes, **a PhD-level student is going to have much more understanding**, but **I don't think that we should short-change our master's students**. I think if we worked more toward developing scientists at the master's level of education, it might help to get rid of that problem.

Across the board, **many master's programs are oriented towards** people who intend to go into **HR-type jobs**. HR has its place, but **I-O and HR certainly aren't the same thing**. I don't know if there are just enough PhDs out there to fill those roles that it's not necessary to train master's-level students in those skills, but it struck me as a little bit odd that a lot of the master's-level I-O programs were trying to train people to go into HR.

I think **as researchers we should do a little bit more to make our findings applicable to the real world**. For someone who is just trying to figure out how to design an efficient performance-management system, they want some clear-cut recommendations, they **don't necessarily want to see a complicated structural equation model** relating some of the variables in which they're interested to 10 other variables in which they're not interested with five different outcomes. I think a lot of **people just get lost in the minutiae**, they can't see how to apply these complex theories to the workplace, so I think we as researchers could do more to make our findings more digestible, more easy to use, and that might remove some of those barriers to using research in applied situations. If more **journals gave authors the option to write a 300-word blog post** about their articles, that would be an easy, low-cost way to make some of these findings more accessible to practitioners. Also, the whole movement towards **open-access journals** is a huge step forward, although right now if you want your article to be published open-access **you have to pay extra**, so that's something that needs to change.

The Take-Home Message

Ah, you're probably already at home. Whatever, you know what I mean.

I hesitate to summarize the already-drastically-cut-down interviews that appear above; instead, I'll end with some observations and questions for you to consider.

- Who pushed hardest against basic research? The academic. Who pushed hardest for it? A practitioner.
- Only Person C explicitly indicated that scientists and practitioners can exist within one body at one time in one role.
- Concern was often voiced about instances in which practice is done under the banner of I-O psychology without being informed by I-O theories and research.
- Accessibility—cognitively and logistically—of published work was a recurrent theme—and cognitive accessibility is in part a function of sufficient training and in part a function of appropriate simplicity in research and in communicating research findings.
- Starting with a foundation in theory (looking at you, master's programs) and building upon it with applied examples and experiences (looking at you, PhD programs) featured prominently.

Do you agree with these individuals' thoughts? Did one or more of these perspectives resonate with you? Were these reiterations of the popular perspective on the S–P model or do some of these overthrow traditional thinking?

Building Your CV and Sharing Your Research: Publishing Your Work as a Graduate Student

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Graduate school is full of challenges, so it makes sense that we sometimes focus on the milestones and requirements needed to complete the degree, charging ahead at full speed. For example, by the time you've officially passed your master's thesis—successfully proposed and defended, and gotten final approval from your committee—you've probably already been working on that project for at least a year. If you're like many of us, once you've finished your thesis and either are about to graduate if you're in a master's program or move on to comprehensive exams or an internship if you're in a doctoral program, you're ready to throw yourself a party, celebrate your successes, and leave your master's thesis research behind. However, if you have an opportunity to publish your research, you really should invest the time and effort, regardless of whether or not you want to enter academia upon completion of your grad program. This applies not only to your thesis project but to any of your graduate research. In this column, we'll explain not only *why* but also *how* you should go about publishing research as a graduate student.

What's the Point?

A few I-O grad programs require that you publish research as a formal requirement but most don't. Particularly if you are planning on "going applied" (e.g., getting a job in applied research, working for a selection and assessment firm, becoming an Occupational Health Psychology consultant), it may seem unnecessary to publish your research. It does often require a great deal of time and effort, but there are many important reasons why publishing as a graduate student is worthwhile:

1. **It greatly increases the impact of your work.** You've put a great deal of time and energy into conducting meaningful research, but the potential for your work to actually make a difference is limited unless you are able to share it with a wider audience.

2. **Publishing makes you more competitive for almost any type of internship, fellowship, or job.** Based on conversations with faculty and other graduate students, it seems that the number and quality of publications on your CV may often be used as a proxy for your ability, motivation, and work ethic. They provide additional information about your academic achievements, a bit like your GPA. Even if the opportunity you're pursuing doesn't involve publishing, those making the selection decisions often want to know that you *can* publish (and *have* published). Having your work published simply improves your reputation as a researcher and, more broadly, as an employee.
3. **Submitting work for publication improves your collaboration skills.** Even if you are the only author on a publication (which is rare), publishing is a team effort. You will likely have to edit your manuscript in tandem with your coauthors, and you will have to work with the journal's editors to edit your manuscript if it is accepted. This includes addressing the specific requests made by the editor and reviewers. Being a good collaborator is a valuable skill that can be applied to nearly all work situations.
4. **Publishing (or trying to publish) helps you learn how to utilize criticism and deal with rejection.** As graduate students, we are high achievers and often challenged by harsh criticism or rejection, both of which are common in the world of publishing. Even relatively positive reviewer comments can be quite challenging and blunt. However, you *will* experience both throughout your career, and it is a benefit to learn how to handle them gracefully.
5. **Publishing your work makes your thesis and dissertation committee members happy.** Although this may not be the main motivator to publish, it is important. Sitting on your committee requires a large commitment from faculty. If you publish your work, they will usually be coauthors on your manuscript. Remember, as academics, *their* performance is judged by their publications. Publishing is a way to give back, as adding the publication to your CV *and* theirs is a win–win for all involved.
6. **You'll feel cool when you see your name in print.** Ok, this is admittedly a fringe benefit, but it's still real. It's extremely gratifying to see your name listed as an author on a publication!

How Do I Publish?

It's one thing to be motivated to publish, and another to know how. While we won't go into all of the steps necessary to publish your research we will touch on a few main areas we think will be helpful as you start to navigate the process.

Getting Your Hands on Data

No matter how great your research question, your developing manuscript will not go very far without data to test your hypotheses. Finding a data source can be a hurdle in the process of turning an idea into a burgeoning manuscript. In our experience, this step can range from being fairly simple to being the roadblock that keeps you from pursuing your idea. The difficulty level may be reliant on the type of data you need for your research question but may

also depend on the type of data to which you have access. Here, we present a few common ways to acquire data:

- *Your advisor's data:* It's more than likely that your advisor has collected data for numerous projects. They may have thesis or dissertation data that they or their past students have collected or that they have conducted as part of a primary data collection. This is a great first place to look as your advisor probably shares some of your research interests and therefore may have data with content related to your research question. It is especially useful if your advisor is the "owner" of these data – meaning they can choose to share them with you without discussing it with any collaborators. Sometimes they are part of a research team that collected the data, and while getting you access to the data set could take some work, we have found this can be invaluable in getting useful data!
- *Other professors' data:* Here at Portland State University (PSU), all of us tend to be working on or have worked on *at least* one project with a faculty member other than our advisor. Faculty who work on multiple projects may be more than happy to have you use their data for your project, regardless of how much they want to be involved. After all, if you publish using their data, then they will likely be an author on the project. Moreover, they will be pleased to see you working to establish yourself as an I-O psychologist with the addition on your vita as well.
- *Public data:* Public data, often collected by other researchers supported by government funding, has some striking advantages and equally striking disadvantages. The benefit of public data is there is a LOT of it, and because it is public, the process of accessing the data and getting permission to use it is often relatively straightforward. The main disadvantage is that you have zero control over what type of data was collected and how this was done. What might surprise you, though, is that there are lots of creative ways to test your hypotheses with data that are already out there. A visiting I-O professor revealed that one of the publications he conceptualized and completed while he was in graduate school utilized archival public data. In other words, it can be done!
- *Collecting your own data:* Although the process requires a lot of effort, collecting your own data gives you control over the type of data and the data collection procedures. In our program, you are required to play a substantial role in data collection for either your thesis or your dissertation (though you may not be the official PI on the project). Collecting data is sometimes a huge undertaking. Students may not have to collect their own data for projects other than theses or dissertations because of the effort involved. However, that does not mean you cannot be a part of a faculty member's data collection or another research project in which you can add some variables you'd like to analyze.

Initiating Projects: Approaching Faculty, Peers, and Other Collaborators

Another hurdle you may face in graduate school while you pursue various research opportunities is figuring out how to initiate a research project that you hope will eventually result in a publication. This may be one of the most intimidating experiences for a graduate student researcher, even though many of us can be characterized as having proactive personalities. Much of your work in graduate school is likely dictated by your advisor's project needs or the professor for whom you are a teaching assistant; it can be more or less a rarity (aside from your thesis/dissertation) when you come up with your own project idea. However, it is also one of the most valuable experiences you will have during your graduate school career. You can approach faculty, peers, or outside organizations to conduct your research.

Faculty are probably the best place to start, but they are extremely busy. Therefore, they may not be receptive to starting a new research project unless they see great value or potential in the project. You also want to be mindful of checking in with your advisor before starting a project with another faculty member. After all, your project idea might be something they are interested in working on. Also, although they may see the value of your working with another person, it may mean less time you can devote to their research, or they may believe you're spreading yourself too thin. With these considerations in mind, it is entirely possible that a faculty member you approach will love your idea and will help. They might even have access to the data you need (see previous section)! Peers are also busy, but graduate school is a rare time when you are surrounded by people who are highly motivated with similar research interests. Approaching organizations on your own can be tricky, but faculty are contacted to work on projects so often sometimes that they can't pursue all of these opportunities. They may be able to connect you with the organization or let you play a vital role in working with their organization.

A few of our peers had an experience initiating a project with faculty that revealed a valuable lesson we'd like to highlight. When the call for reviews for a major I-O/OB journal came out a few years ago, a few students in the same lab approached their professor and asked if they could write a proposal for a review with her. As it turned out, the professor had received a request to write a review paper for another publication. The professor had not yet responded because of the volume of her workload, but because the students showed initiative, she agreed to write the review together with them. This quickly turned into a valuable publication that may not have been a part of the students' CVs had they not approached their advisor about starting a new project.

A Few Final Tips

The publishing process is nuanced and unique, and we cannot cover every aspect of it here. However, we want to leave you with a few final words of advice as you embark on or continue your journey to pub-

lish your work as a graduate student:

1. *Don't be intimidated by the process, but take it seriously.* Although getting your work published is not easy, it is obviously quite possible. However, you need to be diligent and thoughtful in your submission to set yourself up for success. Make sure you understand the unique requirements of the journal (or other outlet) to which you are submitting. Never submit something that has been done hastily or sloppily. Even if it's a good paper, it won't appear that way to them, and this is a major turnoff with the reviewers and the editor. (If you were not careful with the writing of the paper, how careful were you with data collection and analysis?)

2. *Don't take it personally***.** Journals in our field are increasingly competitive, and if you are submitting multiple manuscripts for publication, it is likely you will experience criticism and/or rejection. In fact, some of the top journals in our field have rejection rates over 90%! Having your submission rejected doesn't mean you're a bad researcher. Just learn from the experience every time you submit, and eventually you'll learn how to navigate the process. Of course, do take the reviewers' comments to heart before resubmitting to a different journal. (You may get some of the same reviewers when you resubmit!)

3. *Utilize your program's faculty and more senior graduate students.* You're not expected to know how to publish right out of the gate. Instead, utilize the knowledge and wisdom of those who have experience with the process. Ask the right questions and take the advice of those who have had success getting their work published.

We hope this column is helpful as you endeavor to share your work by publishing your research as a graduate student. Now go forth and publish!

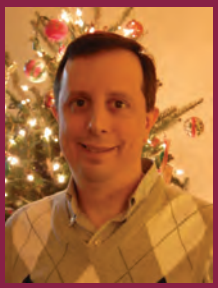
Next column:

Though we receive the requisite training in our graduate programs, not every graduate student desires a job in a traditional area of I-O psychology, such as selection or training development. Our next column will draw upon our program's NIOSH-funded Occupational Health Psychology (OHP) training program as well as a panel regularly presented at the Work, Stress, and Health Conference on potential options for graduate students interested in pursuing OHP as a career. This column will highlight academic, applied research, and consulting careers in OHP. Using these resources, we will discuss how students in our program have gotten jobs in this specialty area, including general suggestions that will be transferable to students who are interested in careers in other specialty areas.

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

Early Pre-Industrial-Organizational Psychology Employment Tests: Part I

Note. *This is the first installment of a two-part series.* The author would like to thank Chihwei Su and Henry Busciglio for their valuable comments and suggestions on this paper. The views expressed in this paper are those of the author and do not necessarily reflect the views of U.S. Customs and Border Protection or the U.S. federal government.



Jeffrey M. Cucina
U.S. Customs and Border Protection

Note. The views expressed in this paper are those of the author and do not necessarily reflect the views of U.S. Customs and Border Protection or the U.S. federal government.

Most historical accounts of employment tests begin with descriptions of the Chinese civil service examinations (which began circa 2200 BC; Cohen, Swerdlik, & Phillips, 1996). The accounts then follow with descriptions of early employment tests developed by psychologists, such as Munsterberg's trolley-car simulation and World War I efforts such as the Army Alpha and Beta examinations. In this two-part series, I will describe some of the early pre-psychology employment tests that were used in the time period between the Chinese Imperial Examination and the psychologist-developed tests that are well described in many I-O psychology and testing textbooks (e.g., Cohen et al., 1996; Gatewood & Feild, 2001; Guion & Highhouse, 2011; Muchinsky, 2012). To my knowledge, many of these tests have not previously been described in the psychology literature.[1] In this part, I begin by describing two types of employment tests which took place during the middle ages.

Guild Masterpieces

In the middle ages, skilled labor was largely controlled by guilds, which were first described in historical documents in the early 1100s (Kieser, 1989). In order to become a tailor, shoemaker, armorer, tanner, or candlestick maker, you often had to join a guild (Gies & Gies, 1990). A guild can roughly be viewed as a hybrid of modern-day trade unions, professional organizations, fraternities, and job-training programs (Armstrong, 2009). The two largest groups of guild members were apprentices and masters; some guilds with more demand than supply for services also had journeyman

members, and all guilds had some officials who handled the running of the guild (Gies & Gies). Typically, a master would train a skilled trade to one or two apprentices for approximately 5 years, providing training, experience, room, and board in return for long hours of work (Gies & Gies).

As part of the process to advance from apprentice to master, an individual had to create a "masterpiece," which was submitted to a jury of guild masters who evaluated the piece (Hanson, 1992). The purpose of the masterpiece was to demonstrate that an apprentice had mastered the guild's craft and that the apprentice had enough knowledge and skills to be able to work independently in the field (Gies & Gies, 1990). Thus, a masterpiece could be viewed as an example of a work sample test, which has the highest level of criterion-related validity for job performance in table 1 of Schmidt and Hunter's (1998) meta-analytic review. In fact, it has been described as "an examination," "a test of skill," and "a demanding test" in the historical literature (Johnston, 2011, pp. 310, 306). Historical documents present evidence of rudimentary benchmarks for "rating" an apprentice's masterpiece. At first, documents only stated that the masterpiece should be "well and suitably made... in the appropriate manner and style" (Cahn, 1979; p. 12). Later the standards were described in more detail, such as those for artists who were required to create a picture "of the Virgin [Mary] or 'some other appropriate image with garments that are carved [which] he should paint, polish, gild, varnish, along with other decoration.'" (Cahn; p. 12). The use of multiple raters to evaluate the masterpiece has been noted in the historical literature (e.g., Dijkman & Prak, 2014) and likely would bolster the reliability of the assessment.

That said, oftentimes the masterpiece had no practical use but instead was an elaborate and difficult to make work sample that would lower the content validity of the assessment. For example, instead of producing routine products, an apprentice goldsmith might create "intricate jewelry" and an apprentice baker might bake "difficult breads and pastries" (Johnston, 2011, p. 310). In fact, the *Encyclopaedia Britannica* (2014) describes the standards for promotion to master as "ridiculously high." In addition, the masterpiece had to be created during the apprentice's "free time" (which was not plentiful as apprentices typically worked for their master during daylight hours, Monday through Saturday) and using the apprentice's own tools and materials (Betcher, 2004). Apprentices also had to complete the masterpiece without any outside assistance or input (Cahn, 1979).

An apprentice presented the masterpiece to the guild masters in a ritual ceremony and the masterpiece became the property of the guild (Davis, 2009; Metropolitan Museum of Art, 1975). Typically, a masterpiece took several years to complete, and many apprentices and journeymen either never finished their masterpieces, had them rejected by the guild's master, or were not promoted to masters due to economic reasons (one purpose of the guild was to prevent the supply of masters from exceeding the demand for their services; Jovinelly & Netelkos, 2007). After success-

fully completing a masterpiece and being promoted to master, an individual could then begin to teach his or her own apprentices (Benton, 2009). It is not clear when masterpieces were first used by guilds for promoting apprentices to masters; however, the earliest known account of the practice is for carpenters in a book covering Parisian industry and commerce published in 1268 (Boileau, 1268; Cahn, 1979). By the 1500s, the practice was widespread (Dijkman & Prak, 2014).

In some cases, it was not practical for a guild to use masterpieces to promote apprentices to master; these guilds used tests instead of masterpieces (Epstein, 1991). For example, Epstein (see also Gouron, 1958) mentions that fullers in Toulouse (a city in modern-day France) began using an examination for promotion to master in 1315. Fullers were involved in the processing of wool and cloth for later use in clothing; thus they did not produce a finished product that was suitable for a masterpiece.[2] There is little published information available on these examinations; however, Price (1989) provides some details and noted that the examinations were often "elaborate" (p. 126). The examinations were intended to measure whether or not an individual had the knowledge and skills required to perform the craft of the guild. Apprentices could not receive assistance while taking the examination, and their work was scrutinized by masters from the guild.

The tradition of using testing for guild membership is still present today. Modern-day versions of guilds continue to use written multiple-choice and practical tests, often developed by I-O and educational psychologists. Some examples include medical board examinations (for medical doctors), the Examination for Professional Practice in Psychology (for clinical psychologists), licensing examinations for realtors, the Uniform Certified Public Accountants (CPA) Examination for accountants, and examinations for skilled trades (e.g., plumbers, electricians).

University Examinations

While guilds were using masterpieces as examinations for promotion to master, early medieval universities also began to use examinations. Most of these examinations were not used for admitting students or for measuring students' progress at the university (Healey, 1950; Munro, 1924; Schwinges, 2003).[3] Instead, examinations were used to determine if a student had the knowledge, skills, and abilities to serve as a lecturer at the university (Munro, 1924; Rait, 1918). The examinations were oral in nature and included a work sample, whereby an applicant was given a brief amount of time to review a text and prepare a public lecture on it (Rait; Wilbrink, 1997). Faculty at the university attended the lecture and posed questions to the applicant at the end of the lecture. There were some rudimentary rules for the examination. The applicant, and the examiners, had to promise that they would not offer, or receive, a bribe, and the applicant had to promise that he or she would not "wreak his vengeance by knife or dagger upon" an examiner (Rashdall, 1895b, p. 689). If the applicant passed the examina-

Figure 1. This 14th century drawing depicts a medieval university lecture. In contrast to modern times, only one person in the room would have been required to take an examination: the lecturer. (Drawing on parchment by Laurentius de Voltolina.)

tion, he or she was awarded a doctorate and a license to teach at the university (see Figure 1).

At first glance, the examination may appear to be similar to a comprehensive, qualifying, or final examination given to modern doctoral students. However, many students who attended universities completed their studies without ever taking an examination. Munro (1924) notes that examinations were not required at universities "except for the license to teach" (p. 373) and that applicants who passed the examination were required to teach at the university for at least 2 years. Thus, in this context, the examinations in medieval universities can be viewed as an early example of an employment test for the position of university lecturer.

It also appears that individuals who passed an examination at one university were still required to pass an oral examination before they could teach at a second university. Evidence for this comes from a

series of Papal bulls. For example, Pope Gregory IX's 1233 papal bull allowed students from Toulouse the ability to teach at other universities without having to take further examinations (Leader, 1994; Nardi, 2003; Workman, 1899). Nicholas IV granted similar exceptions, known as *ius ubique docendi* [Latin for "the license to teach anywhere"],[4] to universities in Bologna, Paris, Montpellier, and Paris between 1289 and 1292 (Gürüz, 2007; Zutshi, 2011).

The oral examinations included a number of characteristics suggesting that they might have had adequate reliability and validity. First, they focused on a core duty of the job of lecturer: giving a lecture! Thus, they could be viewed as a work sample test or possibly an assessment center exercise. Second, they used multiple raters (Rashdall, 1895a; Verger, 2003), sometimes as many as five (Healey, 1950), which would increase the reliability of the oral examination ratings.

Over time, universities began using examinations to measure the progress of students in their studies as well as for graduate requirements rather than just as a license for teaching (McArthur, 1983; Rait, 1918; Rashdall, 1895a, 1895b). Some universities began using written examinations. For example, Hanson (1992) describes an early mathematics test given at Cambridge in 1702. In an early attempt at standardization, the Jesuits (the Catholic body of priests who are actively involved in academics; Pollen, 1912) published rules for taking written examinations in 1599 (Farrell, 1970). The rules covered topics such as cheating ("seat-mates must be careful not to copy from one another….any student [who is] permitted to leave the room after writing has begun, must deposit…his theme outline and whatever he has written"; Farrell, p. 58), scoring criteria ("ambiguous expressions will be construed unfavorably, and words omitted or hastily altered to avoid a difficulty will be counted as errors"; Farrell, p. 58), and test administration ("all should know precisely how much time is allowed for writing…"; Farrell, p. 59). McArthur (1983, p. 1) notes that the practice of using examinations in universities "disintegrate[d] almost completely by…1660" but was later revived in the 1700s by Oxford and Cambridge Universities.

To Be Continued…

In the next issue of *TIP*, I will conclude this two-part series with a discussion of early civil service examinations and the competitive examinations used by the East India Company.

Notes

[1] Searches for the guild masterpieces, medieval university examinations, the East India Company, and the competitive examinations in the United States and United Kingdom did not reveal any relevant articles in APA's PsycInfo.

[2] Fuller is included in Hardyman's (2014) list of "horrible jobs in medieval times" and is described as "the very worst job" in the middle ages by Robinson and Willcock (2004), who provide a video depiction of fulling in the British television series *The Worst Jobs in History* (you can search YouTube to see for yourself). The job of fuller included tasks such as "trample…cloth in large vats of stale urine and

water," "collect urine from the locals," and "trample the [urine-soaked] cloth with [own] feet" (Hardyman, p. 16). Hardyman notes that "the stink was overpowering."

[3] One exception is an entrance examination used by the Spanish College in the 1300s (Gieysztor, 2003).

[4] I thank Dr. Kevin Byle for the Latin translation.

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Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

HOGAN

PREDICTS PERFORMANCE

THE SCIENCE OF PERSONALITY

For We Need More Jolly Good Fellows

This column is both a history lesson and a song of praise for SIOP. It took courage and foresight for us to break from APA and form SIOP. Since the time we did so, I-O psychology has not only grown (the field has more than doubled in size) but flourished. I-O psychology now has a global presence. Recently the U.S. Department of Labor published a report listing the fastest growing jobs in society. Guess who was ranked #1? That's right, us! It took a long time and tireless effort, but we are now on top, and SIOP is going to make sure we stay there.

There are 54 divisions of APA. Think of them as 53 competitors who want a piece of our action. It ain't happening folks. The mark of distinction of any scientific society is how many headliners, stars, or big time players you have. The APA honors its luminaries by granting them the status of "Fellow." The more Fellows a division has, the bigger is its bragging rights. I became a Fellow of Division 14 in 1984. Guess how many Fellows were selected that year in our division? Two, me and someone else whose name I don't remember. This doling out of Fellows with an eyedropper serves no purpose other than to demonstrate self-defeating exclusivity. Simply put, two got it, and all other members didn't.

After we created SIOP, we finally realized the wisdom of the old union principle: There is strength in numbers. Every year the number of new Fellows in SIOP grows. In 2014 alone 24 new Fellows were selected. I bet we had more new Fellows in that one year than the entire decade of the 1980s. 24 is great, but it is not enough to keep us on top. Don't be deluded into thinking the other divisions are sitting back watching us Fellow-up. They are Fellowing-up too! I ran some linear programming analyses and concluded we need 50 new Fellows every year to stay on top. I know what you are thinking. If we select 50 new Fellows per year, we will soon be selecting graduate students. Not true. I have a plan.

We simply have to take a page from the playbook of the Baseball Hall of Fame (HOF) in Cooperstown. Every year the HOF inducts new honorees. Being selected into the HOF is like be-

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ing selected a Fellow of SIOP. But the HOF has two ways to get in. The first is what we use, a committee that examines the credentials of recent players. The second way is what SIOP needs to use as well. Another committee examines the credentials of people who, through regrettable neglect or oversight, were not given fair consideration. This committee also supplies new inductees into the HOF. And here is the key point. The vast majority of these new inductees are dead. Their selection into the HOF is a posthumous recognition of their achievements.

So this is the way it will go. Every year SIOP will select 25 new living Fellows. If SIOP can do 24 in one year, adding one more should be no big deal. However, in addition to the 25 new living Fellows, there will be 25 new dead Fellows. That is how we can get to 50 per year. Think of the new dead Fellows as a one-for-one quota system to correct for past injustice.

To get the dead ball rolling for 2015, I have identified the first batch of deceased honorees. The following year, and all subsequent years, the dead Fellows subcommittee of SIOP gets to do this, not me. So, as a service to SIOP, **The High Society** presents the 2015 inaugural class of 25 new dead Fellows in SIOP.

1. **Hugo Münsterberg**. Talk about a miscarriage of justice and being wrongly ignored, Münsterberg is credited with founding the field of I-O psychology. He is our godfather. Münsterberg's exclusion as a Fellow of SIOP is like not inviting the bride to her own wedding.

2. **Fredrick W. Taylor**. Taylor was one of the founders of I-O psychology. He developed methods to enhance productive efficiency through work design that are still practiced today. Critics will say that Taylor, who had no education or training in psychology, should therefore not be honored by a professional association of psychologists. Not being a psychologist is now an irrelevant decision-making criterion in selecting SIOP Fellows. You no longer have to be one to be selected as an outstanding one.

3. **Timothy Leary**. Leary, a psychologist, is credited with identifying two levels of meaning in life. The first level is the day-in and day-out drudgery of reality, riddled with its innumerable imperfections. However, with the aid of a pharmacological catalyst, one can take a trip to a second level in which you sublimely soar through ethereal visions of cascading sensory modalities. Have you ever been asked about the relationship between intelligence and personality (for example), and you respond, "Are you talking about the measurement level or the construct level?" If so, you are channeling Leary. Turn on, tune in, drop out.

4. **B. F. Skinner**. If SIOP is magnanimous, it will make Skinner a Fellow. Skinner is the Anti-Christ of SIOP, the man we love to hate. The author of extraordinarily influential research, he received the highest scientific award bestowed by the United States government: The National Medal of Science. Skinner is

the most prominent American psychologist in history. Skinner made his contributions to psychology all the while giving the finger to the madonna of SIOP, theory.

5. **Karl Pearson**. Pearson is singularly responsible for creating a common language by which all I-O psychologists can communicate with each other, no matter their nationality. He introduced us to the members of his Are family: Little Are, Big Are, Are Hat, Are Bar, Multiple Are, Are Squared, Biserial Are, Point-Biserial Are, Partial Are, Semi-Partial Are, and other extended family members. Can't you just see the family reunion photo?

6. **Kurt Lewin**. Lewin was a noted social psychologist who uttered the memorable line, "There is nothing quite so practical as a good theory." Journal editors adore theories. How many academics in SIOP get promoted and tenured by testing Lewin's love object? Practical, indeed. Career building, in fact.

7. **Franklin Delano Roosevelt**. As President of the United States, Roosevelt signed legislation that created the Dictionary of Occupational Titles, the forerunner of one of I-O psychology's finest professional accomplishments, the Occupational Information Network. FDR → DOT → O*NET → SIOP. QED.

8. **Michael Jackson**. Jackson is proof that validity and diversity need not be a dilemma. As a singer he sold the second highest number of albums of any solo recording artist in history. As a dancer he was favorably compared to the legendary Fred Astaire. And talk about diversity! Jackson represented five of the seven colors of the rainbow all by himself.

9-15. **The Seven Dwarfs**. Not much has been heard from these vertically challenged guys for over 75 years, so it is probably safe to assume they have all passed. Who can forget that classic scene in the Walt Disney film where the seven dwarfs march off with their picks and shovels singing what would become the Official SIOP Theme Song: "I-O, I-O, It's Off to Work We Go." Can't you just hear Dopey's acceptance speech?

16. **Benito Mussolini**. I-O practitioners love to talk about "drivers," things that drive change. Mussolini and his cronies were the drivers of WWII. If the United States had not entered WWII, there would have been no need for I-O psychologists to create the Army General Classification Test. That test showcased our ability to develop useful large-scale assessments in a time of urgency. *Gracie, Il Duce*.

17. **Jean Shrimpton**. Shrimpton was the first of the supermodels. In the 1960s she adorned the cover of more than 200 magazines. For about 50 years I-O psychologists have been developing models. While some are very good, none are super. This British super model will always be emulated but never equaled.

18. **Knute Rockne**. In the 1920s Rockne was the fabled football coach of the University of Notre Dame. His teams were graced with some of the finest individual players of the game in the first half of the 20th century. Nevertheless, Rockne emphasized the importance of team work in playing a team sport, not individual accomplishment. He immortalized the expression, "Taking one for the team." However, it was never made clear just exactly who was to take what where.

19. **Lyndon Baines Johnson**. Johnson was the U.S. president who signed the Civil Rights Act into law. How many billable hours can I-O psychologists attribute to that stroke of Johnson's pen? Johnson's campaign slogan was "All the Way with LBJ." For I-O psychologists it was "All the Way (to the Bank) with LBJ." Thank you, Lyndon!

20. **Maria Curie**. SIOP honors Madame Curie for demonstrating both the benefits and liabilities of workplace romances. She fell in love with, and then married, her lab partner. They went on to be co-recipients of the Nobel Prize in physics. Then her husband died suddenly in a tragic accident. She subsequently fell in love with her husband's married student. The press created a huge scandal out of the affair. Academia shunned her, driving her into reclusion under an assumed name. When she was awarded another Nobel Prize (this one in chemistry), suddenly academia welcomed back the world's only two-time Nobel Prize winner. SIOP welcomes Madame Curie as well.

21. **Al Capone**. Capone advocated using multiple methods in combination to increase the likelihood of goal attainment. Although a man more of action than words, Capone carved out a memorable phrase that captured his multivariate philosophy: "You can get more with a smile and a gun than you can with a smile alone."

22. **Giuseppe Garibaldi**. Garibaldi was a 19th century Italian freedom fighter. Bold and dashing, he fought in several wars of independence, leading the movement to be free of centralized oppression. In the mid-1980s the courageous leaders of I-O psychology who fought to break from APA and create SIOP all embodied the spirit of Garibaldi. In addition to his courage, SIOP honors Garibaldi's foresight to use the imagery of baseball's emerging societal presence to defiantly tell Napoleon III: "*Non rompere i coglioni!*"

23. **Richard J. Daley**. Daley served as the mayor of Chicago for 21 years and was known as the last of the big city bosses. His administrations were awash in corruption, but Daley himself was never formally charged. If there were an *Encyclopedia of Operational Organizational Politics*, Daley would have been the senior editor-in-charge. SIOP honors Daley for putting into practice the theory of participative decision making by getting dead people in Chicago to vote in municipal, state, and national elections.

24. **Willy Loman**. Loman was the mournful protagonist in Arthur Miller's *Death*

of a Salesman. Loman always had his nose pressed up against the window, forever on the outside looking in, chronically ignored. He had fanciful ideas but never were they brought to fruition. It has been almost 40 years since the *Uniform Guidelines on Employee Selection* were published. They have never been revised despite SIOP's impressive advancements in understanding test validation. Willy, we feel your pain.

25. **Babe Ruth**. The other day I was reading a bio of a social psychologist who somehow transformed the impact factor of the journals in which he published into his own personal impact factor. If this narcissistic dweeb thinks he has such great impact on life, he should compare himself to the man who defined impact: Babe Ruth. In 1927 Ruth hit 60 home runs, more than what every *team* hit that year in the American League. Three years later the New York Yankees paid Ruth an annual salary of $80,000, while the league average was about $15,000. When told he was paid more than the president of the United States, Ruth replied, "I had a better year than Hoover." If SIOP wants the gold standard for individual impact, his name is George Herman Ruth.

Think about it. We will have 1,000 new Fellows in just 2 decades. That is less time than SIOP has been in existence, and that is 1,000 new Fellows on top of those we already have. The other divisions of APA will tremble before our might! What did they expect? Industrial-organizational psychologists happen to know a thing or two about organizations, thank you very much.

My fantasy has always been to get into the Baseball Hall of Fame. Little kids would seek my autograph and collect my cards. I would be selected to endorse products people associate with me, like Polydent and Preparation H. The problem is, I never played professional baseball, let alone was outstanding at it. If you are a member of the HOF, you get a lifetime pass. In college, I once tried to use my outstanding knowledge of baseball to be admitted into the HOF. I fulfilled my fantasy: I gained admission into the HOF by purchasing a full-price ticket like everyone else in line. Maybe one day I will receive posthumous recognition for my outstanding baseball knowledge. But as Pete Rose would now say, don't bet on it.

Let's all help SIOP by thinking of outstanding dead people. For we need more jolly good Fellows. And that, nobody can deny.

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

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Key Findings From the SIOP Advocacy Survey

Over the last year, members of SIOP's Government Relations Advocacy Team (GREAT) have worked together to develop and promote an agenda for SIOP to increase government advocacy. In addition to some initial advocacy initiatives already undertaken (discussed in the last edition of *TIP*), the committee has been focused on addressing key questions including (a) the role of advocacy for SIOP, (b) intended objectives and outcomes of advocacy efforts, (c) how best to identify advocacy opportunities, and (d) how to match SIOP members with the relevant KSAOs for various advocacy opportunities.

To better address these important questions, the committee distributed a survey to SIOP members during the summer of 2014 to assess experience with, and interest in, advocacy efforts. The committee would like to thank all of you who took the time to share your views with us. Below, we summarize key findings from the survey and discuss how the results will be utilized by the committee as we move forward.

The first section of the survey inquired about members' prior experience with advocacy. All respondents indicated that they had engaged in at least one of the advocacy activities listed. The most common advocacy activity reported by SIOP members was promoting I-O psychology to outside audiences (e.g., K-12 students, managers): 86.7% of the survey respondents indicated that they had engaged in this type of advocacy on one or more occasions. Other common advocacy experiences included the promotion of I-O psychology through collaboration with colleagues in other disciplines (74% of respondents) and sharing knowledge of I-O psychology with a major government, military, or intelligence agency (50% of respondents). The least commonly engaged in advocacy activities included testifying before Congress on an I-O psychology-related issue (3% of respondents) and sharing I-O psychology knowledge on Capitol Hill (10% of respondents). (See Table 1.)

The second section of the survey inquired about members' interest in engaging in advocacy activities in the future. Partic-

Table 1
Members' Current Experiences With Advocacy Activities

Activities	Frequency distribution			
	Never	Once	Twice	More than twice
Promote I-O psychology to audiences who were not previously knowledgeable (e.g., K-12 students, managers)	32 (14%)	7 (3%)	11 (5%)	187 (79%)
Promote I-O psychology by collaborating with colleagues in another discipline (e.g., basic science discipline, medicine, computer science)	63 (26%)	23 (10%)	18 (8%)	135 (56%)
Share my knowledge of I-O psychology with a major government, military, or intelligence agency (e.g., Army, Homeland Security, FBI, TSA)	120 (50%)	22 (9%)	5 (2%)	92 (38%)
Work with mainstream media (TV, newspaper, radio, internet) to publicize I-O psychology	143 (60%)	28 (12%)	21 (9%)	47 (20%)
Translate I-O psychology research for a trade article or similar outlet (e.g., HR Magazine, Workforce Magazine)	130 (55%)	43 (18%)	19 (8%)	45 (19%)
Promote I-O psychology by providing advice on regulations and guidelines for a government agency (e.g., EEOC, DOL, Office of Personnel Management)	178 (75%)	14 (6%)	5 (2%)	41 (17%)
Promote I-O psychology at the state/provincial or municipal level	179 (75%)	15 (6%)	5 (2%)	39 (16%)
Serve as a reviewer or panelist for a major funding agency (e.g., NSF, NIH)	189 (80%)	14 (6%)	4 (2%)	30 (13%)
Serve as an expert witness in a court case that was relevant to I-O psychology	195 (82%)	18 (8%)	7 (3%)	19 (8%)
Educate members of a major scientific organization (e.g., NSF) about I-O psychology	199 (84%)	14 (6%)	7 (3%)	18 (8%)
Share my knowledge of I-O psychology on Capitol Hill	216 (90%)	7 (3%)	6 (3%)	10 (4%)
Testify before Congress with regard to an I-O psychology-related issue	234 (98%)	4 (2%)	0 (0%)	1 (0%)

ipants were asked to express their level of interest in a variety of advocacy activities ranging from 1 = *very disinterested* to 4 = *very interested*. Almost all respondents (99%) indicated at least some interest in one or more advocacy activities. However, we do acknowledge that given self-selection of respondents into the survey, respondents may be more interested in advocacy efforts than nonrespondents. Perhaps not surprisingly, the activities with the highest mean level of interest tended to be those in which SIOP members had the most previous experience, as indicated in the first section of the survey. The activities with the highest mean interest ratings were (a) promoting I-O psychology to outside audiences (e.g., K-12 students, managers), (b) promoting I-O psychology through collaboration with colleagues in other disciplines, and (c) translating I-O psychology research for a trade article or external outlet (e.g., *Workforce Magazine, HR Magazine*). SIOP members were least interested in testifying before Congress (only 16% were "very interested"; 30% were "very disinterested") and serving as an expert witness in a court case relevant to I-O psychology (only 18% "very interested; 30% very disinterested). (See Table 2.)

The third section of the survey sought to identify the key barriers to SIOP members engaging in advocacy. A list of factors was

Table 2
Members' Interests in Advocacy Activities

Activities	Frequency distribution			
	Very disinterested	Somewhat disinterested	Somewhat interested	Very interested
Promote I-O psychology to audiences who were not previously knowledgeable (e.g., K-12 students, managers)	4 (2%)	10 (4%)	76 (33%)	137 (60%)
Promote I-O psychology by collaborating with colleagues in another discipline (e.g., basic science discipline, medicine, computer science)	6 (3%)	11 (5%)	85 (37%)	125 (55%)
Share my knowledge of I-O psychology with a major government, military, or intelligence agency (e.g., Army, Homeland Security, FBI, TSA)	15 (7%)	38 (17%)	86 (38%)	88 (39%)
Work with mainstream media (TV, newspaper, radio, internet) to publicize I-O psychology	13 (6%)	31 (14%)	95 (42%)	88 (39%)
Translate I-O psychology research for a trade article or similar outlet (e.g., *HR Magazine, Workforce Magazine*)	12 (5%)	20 (9%)	84 (37%)	110 (49%)
Promote I-O psychology by providing advice on regulations and guidelines for a government agency (e.g., EEOC, DOL, Office of Personnel Management)	31 (14%)	48 (21%)	91 (40%)	56 (25%)
Promote I-O psychology at the state/provincial or municipal level	17 (8%)	30 (13%)	110 (49%)	69 (31%)
Serve as a reviewer or panelist for a major funding agency (e.g., NSF, NIH)	35 (15%)	43 (19%)	81 (36%)	68 (30%)
Serve as an expert witness in a court case that was relevant to I-O psychology	68 (30%)	56 (25%)	62 (27%)	41 (18%)
Educate members of a major scientific organization (e.g., NSF) about I-O psychology	17 (7%)	33 (15%)	103 (45%)	74 (33%)
Share my knowledge of I-O psychology on Capitol Hill	47 (21%)	38 (17%)	93 (41%)	48 (21%)
Testify before Congress with regard to an I-O psychology-related issue	69 (30%)	52 (23%)	69 (30%)	37 (16%)

Table 3

Members' Perceived Barriers for Advocacy Activities

Barriers	Frequency distribution		
	A large barrier	Somwhat of a barrier	Not at all a barrier
Limited time	81 (36%)	124 (56%)	17 (8%)
Difficulty initiating advocacy activities	71 (32%)	103 (47%)	46 (21%)
Lack of knowledge about advocacy	59 (27%)	106 (48%)	55 (25%)
I don't know what to do	51 (23%)	121 (55%)	48 (22%)
Unclear of objectives of advocacy	24 (11%)	141 (64%)	55 (25%)
Belief that other activities are more important	23 (10%)	94 (43%)	103 (47%)
Belief that advocacy doesn't make a difference	6 (3%)	23 (10%)	192 (87%)

presented and respondents indicated the extent to which each factor was a barrier ranging from 1 = *not at all a barrier* to 3 = *a large barrier.* Results from this section of the survey indicated that time was the biggest barrier, identified by 92% of respondents *(M* = 2.29, *SD* = .60). Other common barriers related to lack of knowledge about how to engage in *(M* = 2.01, *SD* = .67) or initiate advocacy *(M* = 2.11, *SD* = .72). Lowest on the list of barriers included beliefs that other activities are more important than advocacy *(M* = 1.64, *SD* = .67) and beliefs that advocacy does not make a difference *(M* = 1.16, *SD* = .43). As mentioned before, however, responses may be skewed such that respondents may view advocacy as more important and more impactful than nonrespondents. (See Table 3.)

The final portion of the survey asked for respondents to identify ways in which SIOP could help educate members about advocacy and promote advocacy opportunities. This question was open-ended, and the responses were coded and submitted to a content analysis. Several common themes emerged. A number of respondents suggested that SIOP provide training to teach members about advocacy. On a similar note, a common suggestion was to help SIOP members build networks and relationships that would lead to advocacy opportunities. Another common request was for SIOP to develop a clear agenda and set of objectives related to advocacy efforts.

The Government Relations Advocacy Team greatly appreciates the efforts of everyone who participated in the survey. We will be utilizing the findings as a roadmap to guide our future activities and intend to keep SIOP members informed of our progress. For example, the committee plans to articulate key objectives of SIOP advocacy initiatives, develop a system for linking SIOP members with advocacy opportunities in their areas of expertise, and identify tools to train SIOP members about advocacy.

If you have further comments or suggestions, or you would like to share a recent experience with advocacy, please contact **Seth Kaplan** (committee chair) at skaplan1@gmu.edu.

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Spotlight on Humanitarian Work Psychology

Frontiers in International Skills Development: Innovative Efforts in China's Transportation Sector and Three Dimensions of Work Information

Special thanks to The Ministry of Transport of the People's Republic of China, especially its Professional Qualifications Authority.

Lori Foster Thompson
North Carolina State University

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Introduction

The world's attention was recently placed on China as global leaders gathered in Beijing for the Asia-Pacific Economic Co-operation (APEC) forum in November 2014. APEC served as a reminder of how truly exceptional a country China is: Not only is China the world's most populous country with over 1.3 billion people, but China is also set to enter 2015 as the world's largest economy as measured by purchasing power parity (International Monetary Fund, 2014). As an example of the size of China's economy, consider Alibaba, a Chinese e-commerce company analogous to the giant e-commerce companies Amazon and eBay. According to *The Economist* (2014), in terms of gross sales, Alibaba is bigger than both eBay and Amazon combined. Yet, with tremendous economic activity comes tremendous challenges. Many of these challenges are related to transportation. Ensuring continued socioeconomic development in China requires facilitating the rapid, efficient, and safe transportation of goods, services, and people across a country that stretches from the South China Sea to Mount Everest. Ensuring the Chinese people's health and well-being while maintaining economic growth also requires major considerations relating to transportation. For example, consider that the number of vehicles sold in China jumped from approximately 2 million a year in 2003 to approximately 18 million in 2013 (United States Energy Information Administration, 2014). Such tremendous growth in vehicle ownership presents a host of challenges from enlarging roads and promoting greater fuel efficiency to properly training new drivers.

What do China's rapid economic growth and transportation challenges have to do with pro-social industrial and organiza-

tional (I-O) psychology? We recently had a firsthand glimpse at the answer to this question when we met with representatives of the Professional Qualification Authority (PQA) of the Ministry of Transport of the People's Republic of China. In this issue of the Spotlight on HWP column, we detail some of the activities and needs of the PQA in China and discuss how they relate to I-O psychology and, in particular, to information about work. We believe the realities faced by the PQA are examples of the sort of challenges that exist across many emerging economies and that directly affect the lives of billions of lower income people around the globe. In this way, I-O psychology's ability to help support fundamental activities like efficient and safe transportation in countries like China is an excellent example of how it can help to promote global human well-being. In addition, I-O psychology's engagement with issues of rapid social and technological change in emerging economies will likely help to keep the discipline aware of and relevant to the rapidly changing world of work.

As the article below attempts to make clear, an initial hurdle to engaging with work in emerging economies is an understanding of what information is required. We find it quite appropriate that when we began to focus on skills development in emerging economies, in many ways a "frontier" for I-O psychology, we turned first to consider issues of work information and work analysis, the first step in so much in I-O psychology.

Frontiers in International Skills Development

A Profile of Innovative Efforts in China's Transportation Sector

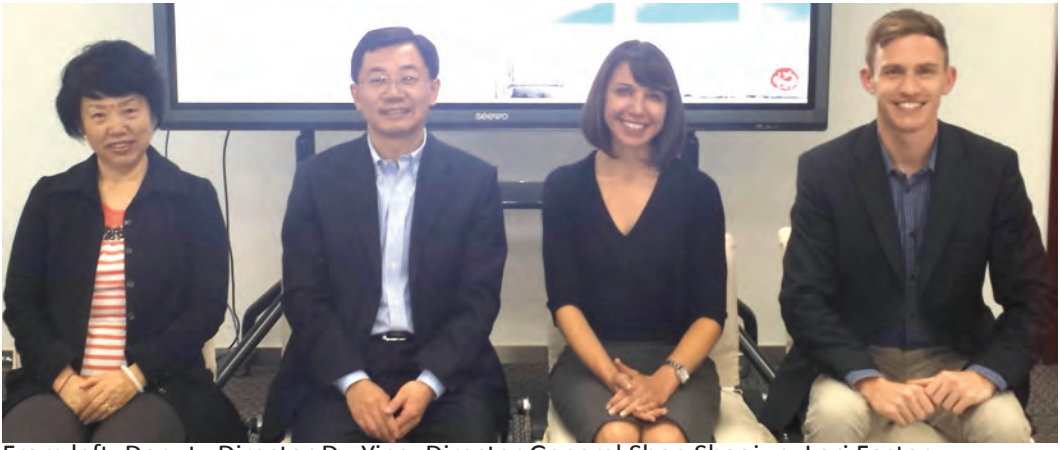
China's continued economic development and the safety of billions of its people are dependent in no small part on the pro-

Director General Dr. Shen Shaojun (second from right) alongside representatives of the PQA at an occupational skill testing center in the Bishan District of China. Photo credit: Ministry of Transport – People's Republic of China.

ductivity and well-being of workers in the transportation sector. From engineers to bus drivers, China depends on the skills of people in transportation-related occupations. Established in 2005, the PQA is charged with setting and ensuring professional standards and facilitating skills development in the transportation sector in China (Ministry of Transport, 2013). The occupations that the PQA focuses on include those from civil engineers and surveyors—occupations which are involved in guaranteeing the safety and infrastructural soundness of highways, tunnels, and ports around the country—to highway maintenance workers and the famously knowledgeable taxi drivers in Beijing who both help to keep the country moving.

Under the leadership of its Director General Dr. Shen Shaojun, the PQA in China has prioritized the creation of innovative and research-based approaches to skills development and to the setting and certification of professional standards in the transportation sector. In support of its mission, the PQA recruits and hires both top experts in transportation issues and psychologists who help to provide expertise in testing and research methods. In 2014, Dr. Shaojun led a team to the United States to meet with representatives involved in the development and management of the Department of Labor's Occupational Information Network (O*NET; www.onetcenter.org). Dr. Shaojun was interested in how approaches to conceptualizing, gathering, and presenting occupational information from around the world could be adapted to develop the most meaningful and cutting-edge professional qualification standards, the most accurate professional examinations, and the most effective skills-development programs. The PQA's visit to O*NET was in keeping both with the tradition of close collaboration between transportation authorities in China and the United States (see Department of Transportation, 2014) and with the PQA's recognition of the importance of international research, coordination, and collaboration in an increasingly global world of work (Ministry of Transport, 2013).

Lori and I had an opportunity to engage in-depth with Dr. Shaojun and members of the PQA during a visit to Beijing. The PQA has the important mission of supporting skills development in the transportation sector of China, and the activities needed to undertake this mission all require various sorts of information about work. During our discussions with the PQA, we jointly discovered that the types of information they require can usefully be described in analogy to a three-dimensional space as described below. We owe a debt of gratitude to the PQA because our conceptualization of information about work in this way was helpful to understanding the differences and similarities between major international sources of work information, from the information generated by O*NET to that included in national qualification frameworks (see the SIOP United Nations team's column in this issue for a profile of qualification frameworks). By introducing this "3D" metaphor for information about work, we do not mean to propose any definitive or rigorous taxonomy of work information; we mean simply to relay a way of thinking about work information that has helped us



From left: Deputy Director Du Ying, Director General Shen Shaojun, Lori Foster Thompson, and Alexander Gloss.

to understand the informational needs of the PQA and the different approaches that various international stakeholders have taken to understanding work.

Work in 3D: The Breadth, Height, and Depth of Information About Work

As I-O psychologists are well aware, the world of work can be conceptualized in many different ways. How work is understood, and measured, should be tied to the purposes of that information (Morgeson & Dierdorff, 2011). The PQA's mission requires a variety of types of information about work. They require detailed information about the full spectrum of typical activities in a job and characteristics of successful job incumbents, behavioral examples and personal characteristics that can help differentiate people of different levels of proficiency in a job, new and emerging tools and technologies and practices in a job, and relevant criteria by which to judge whether people in a given job are successful. The above forms of information help to support the PQA's detailed descriptions of the jobs it regulates, the development of proficiency exams, the design of education and training programs, and the adjustment of policy to help professions adjust to changing best practices, technologies, and conditions.

What emerged in our discussions with representatives of the PQA is that their activities require work information that varies according to the "horizontal" breadth of the concepts included (e.g., multiple job titles or a single skill), its inclusion of "vertical" considerations like proficiency or progression, and the degree of conceptual "depth" inherent in the information. Thus, different types of information about work can be analogized in relation to a three dimensional space with breadth, height, and depth. This analogy can be extended to include variation in the level of detail included in either of the three dimensions. Our metaphor of information about work as a location in 3D space is reflected in Figure 1. We further explain what we mean by this metaphor and make direct connections to parts of Figure 1 in the paragraphs below.

Breadth. Because it is involved in the development of detailed descriptions of occupations and the recruitment and education of candidates for those occupations, the PQA needs to understand how occupations might differ from one another and from the "average" job. This sort of nonnormative and nonhierarchical information about work can be characterized as "horizontal" in nature. An example of a horizontal understanding of work is knowing that two jobs are related to each other based upon the similarity in many of their skill requirements (e.g., the skill of critical thinking) but that those jobs differ from one another because one requires more deductive reasoning than the other. Information about work can have a large horizontal span by for example including multiple job titles or occupations, or it can have a very narrow span by considering only one or even a subcomponent of a job like a task cluster.

Height: In addition to horizontal information, the PQA is also keenly interested in normative and hierarchical "vertical" information about work that highlights differences in performance and proficiency within occupations and that helps to promote an understanding of how people progress "up" career ladders. Examples of this sort of vertical information include the behaviors and knowledge and skill proficiencies for people at different levels of performance within a single job title or in closely related job titles that are linked by a career "ladder" (e.g., an apprentice craftsman, a junior craftsman, and a senior craftsman).

Depth: Because of its involvement in such a wide range of work-analytic and skill-development activities, the PQA requires work information of varying "depths." These activities include everything from determining the number of people employed within a given occupation to the development of

Figure 1A
3 functional dimensions of information about work for skills development

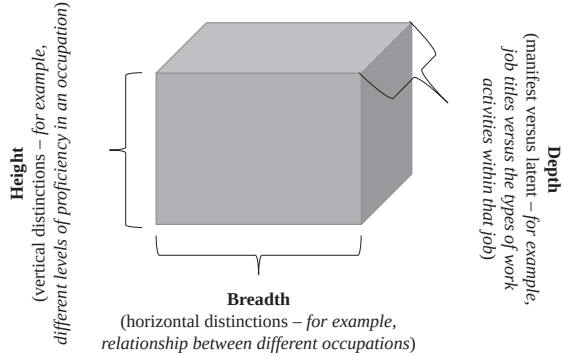
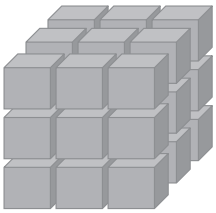


Figure 1B
Varying scope of work-information

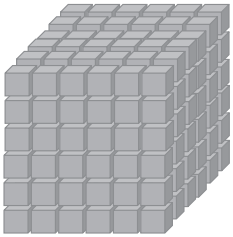
Work information of great breadth (e.g., many occupations considered) but small height (e.g., one level of proficiency) and shallow depth (e.g., occupational titles).

Figure 1C
Illustrations of two levels of detail

Less detailed information about work requirements
Depth: general ratings on cognitive, psychomotor, and physical skill domains;
Height: high, average, and low proficiency levels;
Breadth: three occupations considered.



More detailed information about work requirements
Depth: ratings on numerous types of cognitive, psychomotor and physical skills.
Height: many different performance levels;
Breadth: specific job titles within multiple occupations considered.



test questions meant to measure people's proficiency on key skills. Thus, the PQA requires information that is either manifest or "surface level"—like the titles of jobs and the number of employees—in addition to information about latent or "underlying" concepts like the skills required for successful performance in a job.

The breadth, height, and depth of work information is depicted in Figure 1A. It is important to point out that important variation along this three-dimensional cube can occur in at least two ways. First, variation can occur on either dimension according to the "scope" or "span" of each side. For example, although information might include a large number of occupations, it might consider only one level of proficiency in each occupation and might only include surface-level information like the occupation's title and the average number years of education required in that occupation. Such information as described above would include considerable "breadth" but very little height or depth (see Figure 1B). Another type of variation is the degree of detail included in each dimension. For example, although some information will need to include detailed behavioral statements tied to various levels of proficiency (e.g., the behaviors of both a novice and expert metal welder) in specific job titles (e.g., a shipyard metal welder and a rail yard metal welder), other information will need to generalize on the differences in proficiency and job titles, and succinctly characterize an overall occupation's or profession's key activities (e.g., the core activities of a metal welder). Work information of varying degrees of detail are reflected in Figure 1C.

The Unique Needs of Skills Development in China's Transportation Sector

The PQA's need for multidimensional information about work is not accidental; it is tied to the complex nature of their activities, the dynamics of China's rapidly developing economy and society, and to the changing world of work. Within the emerging, yet ever more sophisticated, economy of China (and indeed the economies of many other countries like Brazil and South Africa) there is a need for defining how different jobs or occupations differ from one another in order to support job descriptions, recruitment, and individuals' vocational choices. However, there is an equally important need in emerging economies to define both existing, and emerging, professional standards and to promote higher levels of performance and quicker career progression than what might be the norm. In other words, due to the unique economic and political landscape of China, skills development is accomplished through the collective setting of standards and then the delivery of coordinated support for education, training, performance appraisal, and career development in reference to those standards. In a rapidly changing world of work with new technologies and changing economic conditions, setting professional standards always requires flexibility and revision. Often, this task is especially difficult in emerging economies whose economic conditions, industrial specializations, and workforce characteristics can be even more volatile than in the United States and Western Europe.

There are a number of existing sources of information about work relevant to the PQA's mission. For example, O*NET's task statements, which are clustered into "detailed work activities" that extend across occupational titles, might help to provide an understanding of how the activities of different transportation job titles relate to one another (see National Center for O*NET Development, 2014). In addition, level-based qualifications frameworks from around the world might help to provide an idea of international professional standards and the knowledge and skills that are tied to different levels of proficiency (see the SIOP UN team's column in this issue). However, there does not appear to be one source of work information that can meet all of the PQA's needs, and it is unclear how to connect largely horizontal information like that from O*NET with the vertical information from qualifications frameworks. Overcoming differences in the depth and detail of work information from different sources is another challenge.

As I-O psychologists, we are excited by the challenge of developing new multidimensional work information that can meet the needs of major international actors in skills development like the PQA. It is likely that the PQA might seek to develop a "hybrid" approach that combines elements and approaches from sources like O*NET and the European Qualification Framework (EQF; European Commission, 2008). Effectively utilizing insights from research and practice in work analysis, criterion development, performance appraisal, and training, just to name a few relevant areas, will help to facilitate the effectiveness of skills development efforts around the globe. The challenges of skills development in a global context present unique opportunities for I-O psychology to continue to grow, to test its established theories and methods, and to develop new, improved, and more contextualized approaches. Important questions to answer include the following: How can horizontal information about work like that from O*NET be usefully connected to the largely vertical level-based learning outcomes of systems like the EQF? How relevant is information about work from Western sources like O*NET and the EQF to countries of sometimes vastly different cultural, economic, and political conditions like China? How can countries like China use recently but now widely adopted information technologies like mobile phones to meet their skills-development needs?

Conclusion

In general, we feel that there is a need for a greater focus on international skills development within I-O psychology research and practice. By "international skills development" we mean the consideration of the development of work-related capabilities in a global context. We believe that this topic is important because a large number of skill-development actors and initiatives are multinational in their reach, programs, and scope. For example, the World Bank and the Organization for Economic Co-Operation and Development have undertaken major efforts to define, measure, and develop skills across geographic regions and for entire population groups like unemployed youth irrespective of their nationality (OECD & World Bank,

2013; World Bank, 2012). As an additional example, programs carried out in multinational corporations need to conceptualize, measure, and develop skills in an international, multilingual, and cross-cultural context. However, even when skills development activities and the purview of stakeholders do not cross national lines, the people, products, and services affected by skills development efforts do. International coordination on skill definitions and standards is not only an emerging and important frontier for groups like the United Nations and World Bank, it is also an important frontier for I-O psychology.

We hope that this article has provided some insight into the challenges and dynamics of international skills development. In particular, hopefully it has provided a useful window into how the nature of and needs for information about work can vary according to the purposes of various international stakeholders. In closing, we want to thank the Professional Qualifications Authority and the Ministry of Transport of the People's Republic of China for the opportunity to learn about their innovative work and for their generous hospitality.

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International Practice Forum

Lynda Zugec
The Workforce Consultants

What's new in the world of I-O? Recently, the Alliance for Organizational Psychology, Inc. (AOP) announced new officers. **Franco Fraccaroli, Rosalind Searle,** and **Donald Truxillo** have assumed office as president, secretary-general, and treasurer respectively. Each will serve until the 2018 International Congress of Applied Psychology to be held in Montreal, Ontario, Canada.

Fraccaroli, Searle, and Truxillo will now be global proponents of organizational psychology rather than representatives from the Alliance's constituent associations. They lead the Alliance's Board of Delegates, whose current members are Gudela Grote, **Gary Latham, Jose M. Cortina,** Franco Fraccaroli, **Angelo S. DeNisi, Barbara Kożusznik,** Vicente Martinez-Tur, **Jeff McHenry,** and **Frederik Anseel**.

As many of you know, the Alliance is a global federation of organizational psychology associations, composed of members from the European Association of Work and Organizational Psychology, the International Association of Applied Psychology's Division of Work and Organizational Psychology, and the Society for Industrial and Organizational Psychology. By virtue of their membership in one or more of these associations, over 10,000 organizational psychologists are also members of the Alliance!

In the last column on the international practice of I-O psychology, we discussed local work and organizational psychology communities outside the USA. As our field grows, many of these communities are also growing. One example of this growth is the Community of Organizational Sciences in India (COSI). Here to update us on what is happening in India, Indian organizations, and industrial-organizational psychology are COSI members **Neha Singla** and **Subhadra Dutta**.

Educating I-Os (Indian Organizations) About I-O (Industrial-Organizational) Psychology

Neha Singla and Subhadra Dutta with contributions from **Aarti Shyamsundar, Ruchi Sinha, Yoshima Somvanshi,** and **Shreya Sarkar-Barney**

For a long time, the practice of applied psychology in India has been centered on a few domains such as:

1. Coaching and organizational development consultants.

2. Applied behavioral sciences "labs"' and training groups in the vein of t-groups/sensitivity training, often following the outdated Tavistock methodology and even psychoanalytic/psychodynamic principles.

3. Amateur "assessment" developers leveraging economies of scale to sell their testing solutions that lack scientific rigor to large organizations looking for quick ways to screen out job applicants in a booming economy.

In 2010, Dr. Matt Barney and Dr. Shreya Sarkar-Barney wrote a conceptual *TIP* article highlighting the opportunities and challenges for I-O psychologists in India. One of the key challenges highlighted in Matt and Shreya's article was the disproportionately low presence of I-O psychologists in a country of over a billion people. Realizing this opportunity, several global I-O consulting firms have opened offices in India with an intention of capturing market share in a hitherto untapped market.

In addition, despite global or US/Europe-based consulting firms setting up operations in India over the last decade or so, there continues to be heavy reliance on frameworks and tools that lack sufficient evidence to support their use by the majority of HR or OD professionals. It is quite common to find assessment methods such as the Myers-Briggs Type Indicator (Briggs-Myers & Briggs, 1985) and DISC (Marston, 1928) in regard to employee testing, discussions on Maslow's hierarchy of needs when focusing on motivation, and controversial outbound exercises for team training in India. Although well-intentioned, such solutions, which lack sufficient validity, may backfire in application.

For instance, inadequately capturing local contexts while deploying such tools might result in misinterpretation by users, leading to ineffective decision making that ultimately contributes to further de-valuing the role of HR from a business standpoint. In addition, several of these global firms are primarily staffed in India with sales and service delivery professionals who are expected to sell/deliver off-the-shelf products developed and validated elsewhere. Although some of these off-the-shelf tests and solutions can be applied globally because they capture universally accepted and current phenomena, there are unique nuances that are determined by the local context that could benefit from greater attention. For example, a selection test that relies heavily on verbal English skills or reading comprehension may not be as critical for a frontline retail sales job in Delhi as, say, a test of flexibility or tolerance for ambiguity. There are definitely a few exceptions to these broad generalizations as some companies have attempted moving towards evidence-based HR decision making. One such organization has created computer-adaptive 360 degree assessments and developed serious games for leadership development; there also exist a

couple of consulting firms that are focused on popularizing evidence-based talent management practices.

One of the primary reasons for the shortage of sound I-O practices being used in India can be traced back to the lack of concrete training and education in this field as there are very few dedicated I-O programs in the country. The identity of I-O psychology tends to be mixed with other similar programs such as those specializing in more general applied psychology or organizational behavior. A majority of organizational science practitioners obtain their training in business schools, which devote only a small proportion of their teaching to organizational behavior or similar fields. Some key areas of focus in I-O training (e.g., psychometrics, research methods, advanced statistics, data insights) are often overlooked. The emphasis is on rote learning of theories with little emphasis on developing research acumen through the development of conceptual models and translation of theories into scientifically rigorous studies. Qualitative research methods are much more popular in psychology curricula than quantitative studies; however, promisingly, the emphasis on quantitative methods has increased. Undergraduate psychology courses have adopted SPSS as part of their statistics training, something that was absent 10 years ago. Test vendors are now talking knowledgeably about reliability and validity.

What has changed since Matt and Shreya wrote about these issues in 2010? In the past 4 years, there have been two critical movements:

1. Political changes: The recently elected Prime Minister of India, Mr. Narendra Modi, is being touted as a leader who is aggressively focused on India's economic and business development (Hume & Udas, 2014). It is no secret that business success in India is driven by several political factors and the change in the political head of the country offers hope towards future economic developments. India is home to the world's largest number of employable youth and a continuously growing and positive-looking economic future.

2. The movement to evidence-based decision making in the field of HR: There has been a deliberate movement toward using empirical data for making HR decisions to increase credibility and serve as a valuable strategic partner to other business units. The creation of people analytics functions and their equivalents that enable HR leaders to make critical decisions in every phase of the employee lifecycle, from selecting the best candidate to identifying high potentials and emerging leaders and so on, is gradually reducing reliance on intuitive practices. Businesses care about outcomes, and evidence-based methodologies help to meet those expectations.

As I-O psychologists tied to India, we seek to ensure that the influx of I-O consulting into India through global consulting firms retains the trademark integrity and high quality we have come to expect with the practice of I-O elsewhere.

To further the goals of increasing the focus on I-O psychology and upholding its value, approximately 1 year ago, a group of like-minded I-O psychologists came together to promote the use of evidence-based organizational practices in India. The idea was sparked by Dr. Aarti Shyamsunder, an I-O professional currently working in India. Realizing the impact that evidence-based organizational practices can have in a country like India, she and several others created the Community of Organizational Sciences in India (COSI). Along with Aarti, the core committee members of COSI are Drs. Shreya Sarkar-Barney, Subhadra Dutta, Ruchi Sinha, Neha Singla, and Yoshima Somvanshi. Aarti, Ruchi, and Yoshima are based in India, whereas Shreya, Subhadra, and Neha are I-O practitioners working within the US. This core committee is a mix of researchers and practitioners who share a background in I-O psychology and connection to India through education and/or the workplace. All of the members are united in their passion to elevate the standards of people processes and decisions in India.

The COSI mission involves:

- Encouraging the use of evidence-based approaches in organizational practices and decisions in India
- Promoting the use of measurement and scientifically sound HR practices in organizations throughout India
- Increasing "brand" recognition for industrial-organizational psychology and affiliated organizational sciences in India
- Sharing professional insights within the COSI community

COSI welcomes individuals with expertise and interest in fields such as industrial-organizational psychology, organizational behavior, organizational development, or business management who are focused on promoting the use of evidence-based practices in organizational settings. The mission of COSI includes creating awareness and exposure to I-O psychology not only in Indian organizations but also with those in academe who can share I-O principles and current practices.

COSI is gathering momentum, largely due to a successful launch at the 2014 SIOP conference in Hawaii. The COSI Committee is very optimistic and feels COSI can build smarter workplaces for both employees and employers in India. We encourage you to spread the mission of COSI with your Indian and non-Indian friends. We hope small steps by COSI will become a giant leap for India in the field of evidence-based talent management practices!

To learn more about COSI, please send an email to cosi.connect@gmail.com.

WE NEED YOU AND YOUR INPUT! We are calling upon you, the global I-O community, to reach out and submit topic ideas for future columns. Give us your insights from lessons learned in your practice. We are always looking for contributors, and we will be on the lookout!

To provide any feedback or insights on the International Practice Forum, please send an email to the following address: lynda.zugec@theworkforceconsultants.com

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Contents	Editorials	Features	Reports	my.SIOP	TIP Issue Survey

Practitioners' Forum

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Further Integrating Research and Practice: Practitioners Serving as Journal Reviewers

Integration of research and practice has been a long-standing goal within I-O psychology, as well as within other scientific disciplines. As reported by Silzer, Cober, Erickson, and Robinson (2008), practitioners value staying current in the field and having "access to practitioner knowledge and research findings." Practitioners also see opportunities for improved use of research articles as a source of professional knowledge and skills. For example, they would like to see increased focus on the practical application of research in articles. Over the past few years, SIOP has introduced several initiatives to address these opportunities, for example: providing SIOP Research Access service to practitioners, creating white paper series (e.g., SHRM-SIOP Science of HR), and initiating the Practitioner Webinar Series.

Still, opportunities remain to further involve practitioners with I-O research. Suggestions include increasing representation of practitioners on editorial boards, encouraging researchers to address the practical implications of their research by including discussions of practical perspectives and implications in articles, increasing joint research efforts between practitioners and scientists, and having practitioner reviewers for articles (e.g., Brannick, 2011; Cascio & Aguinis, 2008; Silzer & Parson, 2012). In line with some of these ideas, the Professional Practice Committee has, over the past several months, been developing a *Practitioner Reviewer Database* targeted for launch in spring 2015. This tool, which was created with the support and input of various journal reviewers and editors, will be a database that serves as a repository for practitioners who are interested in reviewing. Practitioners will provide relevant background information, and journal editors can access this information to identify those practitioners who have the experience and expertise to review a given article.

As participation in the journal review process is typically a volunteer activity, we thought it was important to provide

interested practitioners with insight into the benefits, value, and challenges that come along with reviewing for journals. To do so, we recruited several SIOP members with experience as reviewers and asked them several questions related to practitioners' involvement in the journal review process. Nine people provided responses to the survey questions. This group comprised current practitioners, researchers, and academics, several of whom are current or former editors of I-O journals. All respondents have served on the editorial board of at least one journal. Questions and key themes that emerged from the answers are presented in the table below, followed by a more detailed discussion of the themes, including specific comments (see Table 1).

We began by asking respondents why they felt practitioners were needed as journal reviewers and what unique perspective they would bring. Several themes emerged. Respondents felt that practitioners were *uniquely positioned to evaluate the importance, practicality, and relevance of research to organizations*. Respondents indicated that practitioners were well suited to provide feedback on the practical implications of the research, how likely a proposed solution will work in an organization, and the consistency of the inferences/conclusions with the context of the workplace. Respondents also suggested practitioners were able to provide a practical perspective on the rationale for hypotheses, research questions, methodology, and findings. By drawing on their knowledge of what is working in organizations and what organizations are actually using, practitioners are able to help ensure research is useful for organizations and fellow practitioners. Respondents further stated that practitioners *can provide a well-rounded view of science and practice when reviewing* and *have the qualifications and abilities to provide effective article reviews*. Specifically, respondents felt that practitioners are ahead of researchers in identifying the issues facing organizations and are in a position to leverage knowledge that comes from both the practice (e.g., technical reports; internal white papers) and science areas (e.g., published journal articles) when providing journal reviews. One respondent noted that without practitioner involvement, there is risk that "published literature will not address current issues. Research will be out of touch with practice and our science will face irrelevance." Finally, multiple respondents recognized that practitioners have the knowledge of research methodology and literature in order to be strong reviewers.

We next asked respondents what potential benefits practitioners receive from reviewing for journals. Several individuals responded that the primary benefit to practitioners is *staying up-to-date on current research*. By having access to cutting edge research, practitioners can stay abreast of what is going on in their area of expertise. Reviewing also serves as a way to motivate practitioners to remain current and continue to grow their expertise in the midst of competing activities. Respondents also suggested that practitioners should be able to *provide better services to clients* by providing evidence-based practice using the latest research. Several respondents

Table 1

Overview of Questions and Themes

Questions	Themes
1. Why are practitioners needed as journal article reviewers? What unique perspectives do practitioners bring?	• Uniquely positioned to evaluate the importance, practicality, and relevance of research to organizations • Able to provide a well-rounded view balancing science and practice • Have the knowledge and capabilities to be strong reviewers
2. What benefits does reviewing for journals provide for the practitioner?	• Learn and stay up-to-date on current research • Provide better services to clients • Personal benefits such as general satisfaction with contribution and increased credentials • Advance the science and contribute to quality of research
3a. What are some of the challenges or difficulties with practitioners serving as journal reviewers?	
From the perspective of the practitioner?	• Finding time to do the review • No direct reward for reviewing • Not feeling qualified or knowledgeable enough to review
From the perspective of the journal/editor?	• Practitioners may be more likely to decline to review or provide later reviews due to time demands • Identifying practitioners who have expertise in a topic area • Practitioners focus more on the implementation of the research
3b. How can these challenges or difficulties be overcome?	
From the perspective of the practitioner?	• Focus on the intangible benefits of giving back to the field • Constructively comment on what you can, and don't comment on the things you aren't qualified to speak about • Effective time management
From the perspective of the journal/editor?	• Let practitioners know what you are expecting from them • Recognize practitioners' capabilities and not make assumptions about what a reviewer can provide • Embrace the different perspectives that practitioners bring
4. What advice or guidance would you provide to a practitioner interested in reviewing for journals?	• Proactively contact editors to volunteer to review and discuss your interests and capabilities • When you get a chance to review: (a) do a good job, (b) be a tough reviewer in terms of quality, but also take a developmental approach, and (c) know the expectations and review within your competence level • Increase visibility by being active in professional organizations and by publishing

noted that reviewing could provide *personal benefits* such as general feelings of satisfaction through engaging more directly in the I-O community, knowledge that their reviews are advancing the field, and additional credentials on one's resumé or vita to help with potential future employment. Finally, respondents commented

that a benefit of reviewing was the ability to *influence the publication process.* Several respondents stated that, because it can often be difficult for practitioners to publish their work, reviewing the work of others is one way to convey ideas and thus impact the field.

Next, we asked respondents to identify challenges associated with practitioners serving as journal reviewers and how these challenges could be overcome. From the practitioner perspective, the prevailing challenge brought up by the respondents was *finding time to review*. Reviewing is not an in-role part of the job so it is typically done during one's free time. Time management was one solution offered, and another respondent stated, "Reviewing as a practitioner ultimately comes down to personal values and the choices we make about where to spend our free time." Although there is typically *no direct reward* for reviewing, one individual suggested to "…focus on the intangible benefits of giving back to the field, allowing your voice to be heard, and staying abreast of current research." A second challenge acknowledged by the respondents was that practitioners *may not feel qualified or knowledgeable enough to provide a comprehensive review.* Suggestions to address this challenge included publishing in the area, acknowledging one's limitations and working to overcome them, and focusing the review on aspects of the paper on which one is qualified to comment. As one respondent observed, no reviewer is an expert on everything, and this is why multiple reviewers are recruited to comment on a paper.

Several challenges from the perspective of the journal/editor were also noted. First, some respondents remarked that practitioners may tend to *submit their reviews late* or may be *more likely to decline to review*, perhaps due to competing priorities. A second challenge for editors is *identifying practitioners who have expertise in a topic area*. Often practitioners' accomplishments and publications (i.e. technical reports and white papers) are not publically available, making it more difficult for editors to recognize practitioners' knowledge of the literature, theory, or methodology. Finally, respondents suggested an additional challenge is that practitioners *address different aspects of the paper than academics, focusing primarily on implementation.* Respondents felt that practitioners tend to concentrate on the applied value of the research, giving reasons why some recommended action will not work and "…jump[ing] to the problems of implementation before challenging the legitimacy of the conclusions**."** Respondents also advised that editors should embrace differences in perspective and not base assumptions about reviewers' capabilities on employment setting. They suggested that editors should let practitioners know what they are hoping to get from them and get to know individual capabilities of the reviewers that are going to be used regularly. Encouragingly, some respondents noted no unique challenges or difficulties using practitioners as reviewers.

Finally, we asked respondents what advice or guidance they could give to a practitioner who was interested in reviewing for journals. Three themes emerged: First,

they suggested the practitioner find a journal that publishes research consistent with his or her expertise and contact the editorial office to *volunteer to be an ad-hoc reviewer*. Second, when one gets a chance to review, it is important to (a) do a good job; (b) be a tough reviewer in terms of the quality of the content and writing in the article, but also take a developmental approach; (c) review within one's realm of competence, (d) ask editors for a sample review that can be used as a model; and (e) seek feedback on one's reviews. Third, respondents suggested that increasing one's visibility would increase the likelihood of being selected as a reviewer. The best way to do so among journal editors is to publish. Respondents offered several suggestions on this front while noting the challenges for practitioners. First, they suggested publishing as a graduate student, when supports are in place to do so, and publishing one's dissertation. One respondent stated "if you work for an organization or consulting firm, seek out projects to work on that are likely to result in something that can be published." Another suggestion was to partner with other practitioners or academics who are already publishing. Besides publishing, a second approach suggested to increase visibility is by being active in professional organizations such as SIOP and Academy of Management.

Summary

Overall, respondents were very encouraging and acknowledged the importance of practitioners being involved in the review process. This sentiment is well summarized in several quotes we received:

- "Applied science works best when it is informed by practice and practice is better when it is based on current scientific evidence."
- "Practitioners' concerns about the relevancy of research for practice will have more impact if we take an active role in reviewing papers and providing detailed feedback on our concerns about the recommendations in papers."
- "If you want the published research to reflect your concerns, you should participate in evaluating the papers submitted for publication."

Respondents provided guidance to practitioners interested in reviewing, outlining several challenges but also providing ways practitioners can overcome these challenges. Essentially, reviewing is an organizational citizen behavior (OCB) for our science. Respondents recognized several intrinsic rewards for reviewing and provided insight on the importance for practitioners to engage in the review process:

- "Good reviews do not take as much time as many people think, and they give practitioners an opportunity to get beyond the boundaries of their particular organization to think about problems important to SIOP members more generally."
- "Just do it! You will get a lot more out of the effort than you put in."

Our hope is that the *Practitioner Reviewer Database* will help to address some of the challenges associated with practitioners expressing their interests and qualifica-

tions and editors being able to identify and secure capable and motivated practitioner reviewers. Therefore, if this article has piqued your interest in getting involved in the journal review process, we encourage you to sign up for the database once it is introduced. For those who are interested, there are several upcoming events and initiatives that can help prepare you for journal reviewing. First, the 2015 SIOP conference will have a theme track session on improving the peer review process. This session is an excellent opportunity for both practitioners and academics to learn more about the review process. The goal of this session is to provide authors and reviewers with information and tools they can use to improve the quality of published research. The session will include break out discussion groups, with one group aimed specifically at practitioners who are interested in getting more involved in reviewing. In addition, next year, the Professional Practice Committee will look for opportunities to provide mentoring opportunities for less experienced reviewers. Finally, as noted by **Jose Cortina** in his closing plenary speech at the 2014 Annual Conference and supplemented with his *TIP* Presidential Column (2014), there may be additional reviewer training and education delivered online and at conferences in the future as part of an overall effort to enhance the quality of the journal review process.

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Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

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Practitioner Perspectives

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SIOP Workshop Attendance: Trends and Popular Workshops From 1999–2014

The SIOP professional development workshops that are offered at the annual conference serve several purposes. The workshops

- Provide important professional development opportunities for SIOP members
- Give members as presenters an opportunity to share current thinking, knowledge, and practice on important topics
- Supply critical revenue to SIOP to help fund other SIOP activities.

Recently we reported on SIOP workshop topics and how they have evolved since SIOP began conducting its own separate conferences in 1986 (Silzer & Parson, 2014). We also identified the SIOP members who had been the most frequent workshop presenters.

We wanted to better understand how well attended these workshops have been, what topics tend to draw a sellout number of participants, and whether those sold out topics have changed over the years. We were able to locate the attendance data for the last 15 years of SIOP workshops (1999–2014[1, 2]). Here we summarize overall workshop attendance, attendance by year, and the most highly attended workshop topics and presenters.

SIOP Workshop Attendance

Each year the SIOP Workshop Committee identifies topics that in its view are the most appropriate for SIOP members' professional development and that represent hotbeds of interest in the field of I-O psychology. The committee decides on how many workshops to offer each year and who they will invite to be presenters on the identified topics. The number of workshops has varied over the last 16 years, with the greatest number of workshops consistently offered each year from 1999–2003 (either 16 or 17 workshops each year at the

SIOP conference) and the smallest number of workshops offered from 2011–2014 (either 10 or 12 workshops each year). This is a significantly reduced number of workshops compared to pre-1999 years. For example in 1987 SIOP offered 35 workshops (21 at the APA conference and 14 at the SIOP conference). The workshops shifted over the years to only being offered at the annual SIOP conference.

Since 1999 there have been a total of 227 workshops offered by SIOP, and there have been more than 6,000 individual workshop registrants in total (with each person typically attending two half-day workshops). All workshop registrants are asked to sign up for two different half-day workshops (registering for just one workshop is usually not an option). In the past the Workshop Committee assigned each registrant to either morning or the afternoon sessions of the two workshops they have selected, trying to evenly distribute participants across the morning and afternoon sessions. Currently however participants pick both the workshops and the sessions when they register online and are notified if each workshop session is still open or fully booked. We combined the morning and afternoon attendance for each workshop to get the total attendance for each workshop. Table 1 summarizes overall attendance and attendance by year.

Overall Attendance

Table 1 shows a declining trend in both the number of workshops offered each year, as well as in the average attendance per workshop over the years. The total workshop attendance by year (keeping in mind that each registrant attended two workshops) and the total number of workshop registrants by year (actual number of individual registrants) can be found in Figure 1.[3]

It is clear that there has been a decline in the number of workshops offered each year as well as the total workshop atten-

Table 1

Workshop Attendance Overall and By Year, 1999-2014

	# of workshops	Attendance per workshop		
		Min	Max	Mean
1999	**16**	43	107	**63.5**
2000	**16**	50	100	**63.8**
2001	**16**	29	100	**64.1**
2002	**17**	17	80	**49.3**
2003	**16**	20	80	**45.7**
2004	**12**	39	94	**67.0**
2005	**14**	24	90	**57.4**
2006	**14**	27	90	**57.4**
2007	**15**	14	100	**59.3**
2008	**15**	28	89	**54.4**
2009	**15**	8	59	**32.7**
2010	**15**	44	80	**56.1**
2011	**12**	5	89	**44.7**
2012	**12**	20	69	**47.7**
2013	**12**	13	71	**39.9**
2014	**10**	22	78	**40.4**
1999-2014	**227**	**5**	**107**	**53.2**

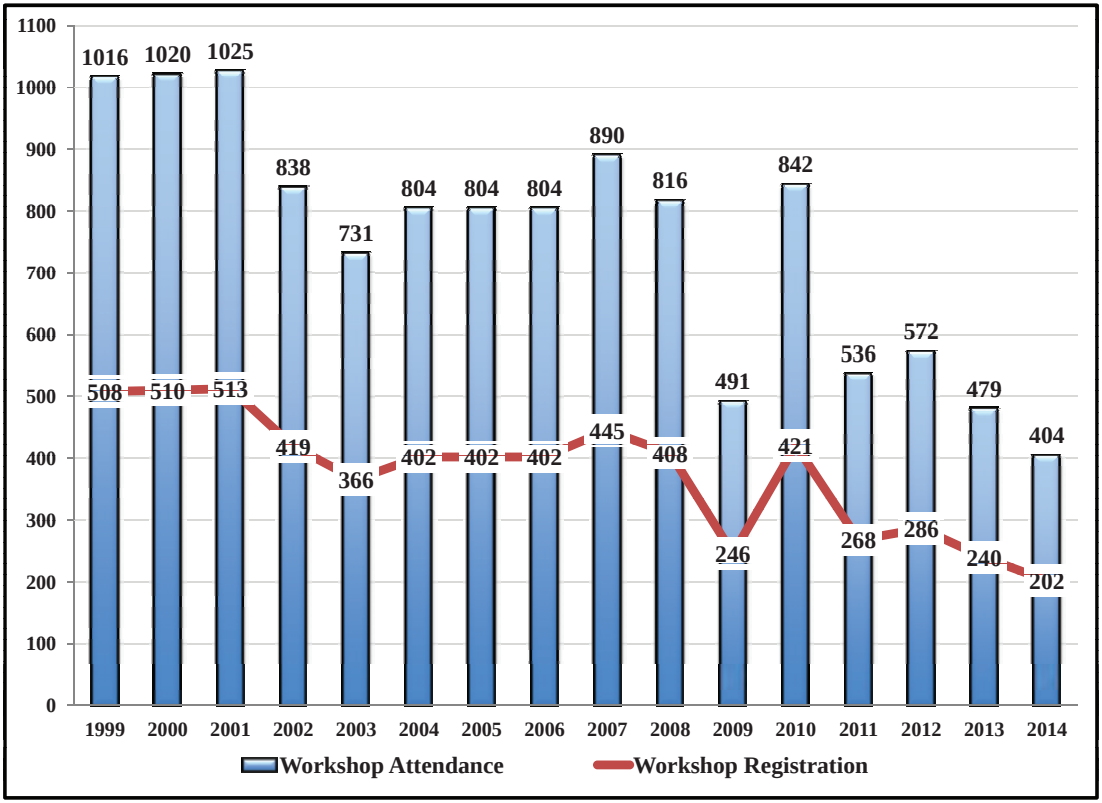

Figure 1. **Total Workshop Registration and Attendance, 1999-2014**

The bar graph represents the total attendance at all workshops for each year. This number is 200% of the registrants since each registrant attended two workshops

The line graph represents the number of people registered for workshops each year (is 50% of the attendance figures)

dance. These trends are likely to have been affected to some degree by external events that occurred in the 2008–2009 time period.

One significant change was the expansion to a 3-day SIOP conference in 2008. This moved the workshops from Thursday to the Wednesday of the conference week. In order to attend the workshops members now had to pay for an extra hotel night and take another day off from work, which might have affected consultants and professionals in organizations (the key workshop registrant groups) more than other members. Both the time commitment and the extra hotel cost no doubt caused some members to not attend workshops as frequently as they had in the past.

The other major event was the worldwide economic collapse that began with the U.S. housing collapse in 2008. This caused many members and their organizations to greatly reduce travel and conference expenditures. Some companies entirely eliminated or severely restricted payments for conferences and associated travel expenses. Workshops fees were an easy target for reduction or elimination. Some of these travel restrictions may still be in place for some organizations.

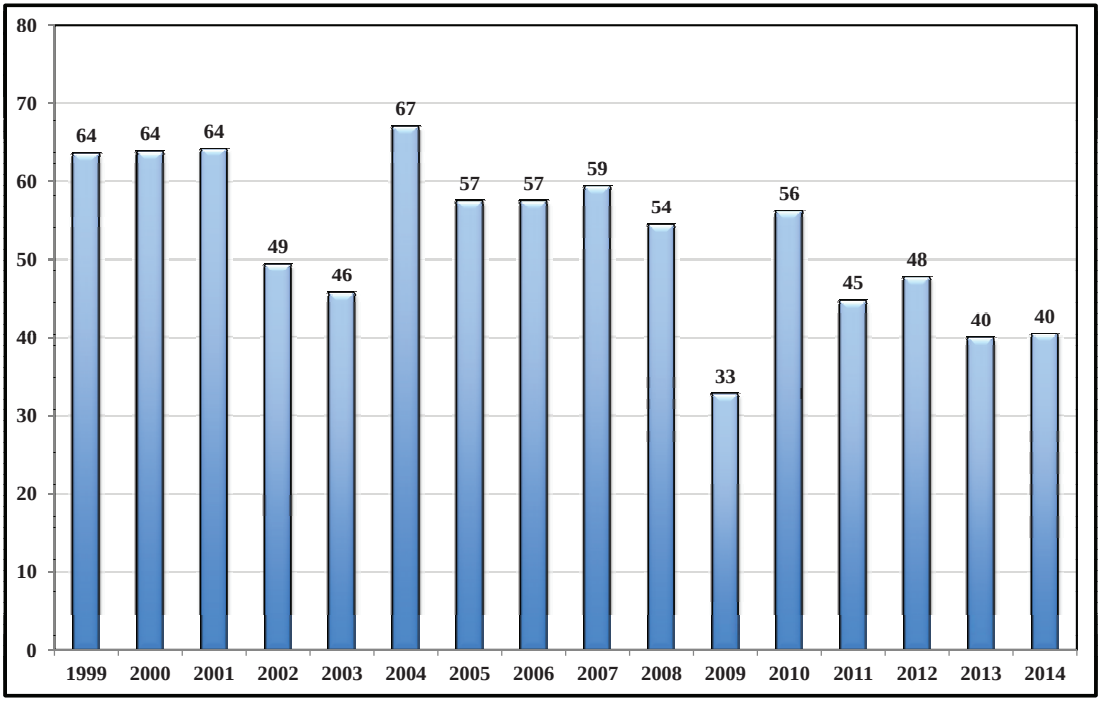

Figure 2. **Average Workshop Attendance 1999-2014**

* Number of participants on average attending each workshop (combines morning and afternon attendance)

As a result the 2009 conference and workshops took a double hit from these two events (down from 816 participants in Spring 2008 to 491 in 2009[4]). Workshops in 2010 bounced back somewhat, possibly due to the Atlanta location with low hotel rates and an easy air travel location. Perhaps the workshop quality was also higher that year. But then overall attendance fell again in 2011 thru 2014. In 2002 the conference was in Toronto amid a "SARS" scare (both a health concern and an out of country destination), and both workshop and conference attendance were down that year. Also the 2014 SIOP conference in Honolulu experienced a drop in both conference attendance and workshop attendance due to the distant location.

No doubt SIOP has been impacted by the significant drop in workshop revenues and margins. It does raise questions of what SIOP could be doing to significantly raise workshop attendance.

Average Workshop Attendance

Figure 2 presents the average attendance per workshop by year for 1999–2014. As might be expected the average number attendees per workshop noticeably declined in 2002 and 2003 (SARS scare and out of country conference location) and again in 2009 (economic collapse and 3-day conference). By 2014 the average number of attendees per workshop had fallen to 40.4 attendees, down 36% from the 63.5 average workshop attendance in 1999.

With a few exceptions, the overall workshop attendance as well as the average attendance per workshop from 1999–2014 have been on the decline. In 2002 the addition of a 17th workshop might have impacted the average workshop attendance, which fell significantly (from 64 to 49). In 2004, when the number of workshops offered was reduced from 16 to 12, the average number of attendees per workshop noticeably increased from 46 to 67. Perhaps this might have been the result of more limited workshop choices and interested registrants being moved into fewer workshops.

However in 2011, when the number of workshops was reduced from 15 to 12, the number of attendees per workshop also declined (from 56 to 46; with a 36% drop in total workshop attendance). This perhaps continued the trend from 2009 (the increase in 2010 may have been an anomaly because low Atlanta hotel and air flight costs). It should be mentioned that by reducing the number of workshops, SIOP also reduced workshop overhead expenses (room rental, presenter honorariums, etc.), which helped to stabilize declining workshop margins. The overall workshop attendance and the attendance per workshop continued to drop in 2013 and 2014 to record lows (except for 2009).

It seems clear that attendance at SIOP workshops is on the decline. There has been a decline in the number of workshops offered, a decline in the total attendance (and the total number of registrants), and a decline in the average number of worship attendees per workshop over the years.

It is possible that the workshops never fully recovered from the twin impact of the economic collapse and the change to a 3-day SIOP conference. But other factors should also be considered, such as whether there was a change in the attractiveness of the workshop topics or the quality of the workshop presenters; perhaps there have also been less attractive conference locations in recent years (such as Hawaii).

Perhaps some SIOP members are now out of the habit of regularly attending workshops, and something dramatic needs to be done to get attendance back on track. This questions whether SIOP is ready to do something about these declining numbers and whether SIOP is willing to consider unique and innovative approaches to addressing the professional development needs of members and the financial needs of SIOP.

Sold-Out Workshops

Between 1999 and 2014 there have been 90 SIOP workshops that have sold out, representing roughly 40% of all workshops during that timeframe. Sold-out workshops give some indication of which topics and presenters attracted the largest number of participants. Workshop participation rates are one indicator of which workshops are the most interesting and valuable to SIOP members.

For many years the Workshop Committee considered a half-day workshop full when they had 30 participants. A workshop was considered sold out when the workshop had 30 participants for each of the morning and afternoon sessions, reaching 60

total participants. In some years and for some workshops, the workshop presenters might allow more that 60 total participants. In some years another higher participation cap was set at 80 (40 in morning plus 40 in the afternoon sessions). In a few cases even greater numbers of participants were allowed into a few workshops with the agreement of the presenters (the highest number reached 107 total participants in one workshop).

The presenters have to agree to the increased number of participants. That decision could be affected by the availability of extra participant workshop materials, the size of the workshop room, and the structure of the workshop itself (interactive exercises, case studies, lectures, etc.) that would accommodate a larger number of participants.

For our analysis, we considered workshops that had at least 60 total participants (combining morning and afternoon sessions) to have been sold out. Table 2 presents the total number of workshops that have sold out each year and the percentage of total workshops that represents. As Table 2 shows, there has been a clear downward trend in the number of sold out workshops each year and the proportion of workshops that have sold out between 1999 and 2014. The most workshops were sold out in 2000 and 2001, with 11 workshops sold out each year, and the least sold- out workshops occurred in 2009 with zero workshops sold out. In the earlier years, 1999–2007 (except for 2003), 50% or more of the workshops were often sold out, typically with 70–80 workshop participants in each sold out workshop.

Table 2
Sold Out Workshops Overall and By Year, 1999-2014

	# of sold-out workshops	% of total workshops*	Attendance per sold-out workshop		
			Min	Max	Mean
1999	**9**	**56%**	62	107	**74**
2000	**11**	**69%**	60	100	**70**
2001	**11**	**69%**	60	100	**76**
2002	**8**	**47%**	67	80	**73**
2003	**6**	**38%**	60	80	**68**
2004	**8**	**67%**	60	94	**76**
2005	**7**	**50%**	67	90	**74**
2006	**7**	**50%**	63	90	**75**
2007	**7**	**47%**	65	100	**84**
2008	**6**	**40%**	65	89	**78**
2009	**0**	**0%**	0	0	**0**
2010	**5**	**33%**	61	80	**71**
2011	**1**	**8%**	89	89	**89**
2012	**1**	**8%**	69	69	**69**
2013	**2**	**17%**	62	71	**67**
2014	**1**	**10%**	78	78	**78**
1999-2014	**90**	**40%**	60	107	**74**

*Percentage of all workshops that were sold out in a specific year

It is apparent that even with a declining total number of workshops offered each year, the proportion of workshops that attract 60 or more total participants has faced a severe decline. The figures from 2009 to 2014 are particularly troubling (with the exception of 2010). This coincides with moving the workshops to Wednesday of conference week in 2008 (to accommodate the switch to a 3-day conference). Now members seem to be hesitant to spend the extra cost and take an additional day off from their work to attend workshops now scheduled a day earlier than in the past.

Sold-Out Workshop Topics

Recently we identified the workshop topics that were most frequently offered by decade from 1986–2015 (Silzer & Parson, 2014). We found that the 11 most frequently offered workshop topics were (1) employment law/ litigation/ EEOC issues, (2) talent management/ high potential talent, (3) consulting (tied), (3) selection/ staffing (tied), (5) leadership & management development (tied), (5) employee surveys (tied), (7) testing/development & use, (8) research methods, (9) performance appraisal & management (tied), (9) coaching (tied), (9) organizational development & change (tied).

However, many workshops are not well attended, some getting as few as five workshop participants. So we wanted to identify those workshops that were the best attended over the last 16 years. Table 3 presents

Table 3
*Most Well Attended Workshops, 1999-2014**

Year	Workshop title	Total attendance
1999	Corporate Renewal: How to Overcome Barriers to Alignment	107
1999	Recent Developments in Employment Litigation	103
2000	Why Should a CEO Listen to You? The Perils and Opportunities of an I-O Practitioner	100
2001	Strategic I-O: Creating and Communicating the Connection Between I-O, Human Capital, and Strategic Success	100
2001	The Impact of the Web on Organization Design and Human Resource Management	100
2007	The State-of-the-Art in Personality Assessment	100
2007	Early Identification and Development of Senior Leadership Talent	100
2007	Talent Management: The Promise and Paradox of Potential	100
2004	Fit to Compete: Developing Strategic Alignment in Organizations	94
2004	Talent Acquisition: New Realities of Attraction, Selection, and Retention	94
2001	Been There, Done That, Wish I Could Have Done It Differently	90
2001	Executive Coaching: How and When to Use It	90
2004	Talent Management: Crae and Feeding of Senior Leaders	90
2005	The High Learner as a High Potential: Implications for Talent Management and Succession Planning	90
2006	High-Impact Leadership Development Systems	90
2008	The Impending Workforce Crisis: What I-O Psychologists Can Do About It	89
2011	Creating Strong Links: Connecting Strategy, Talent Management, and Organizational Outcomes	89
2008	Doing Competencies Well in Applied Settings	88
2008	EEO Update: Adding , Deleting, or Altering Selection Instruments Required, Permitted, or Prohibited?	87
2006	Recent Practical, Methodological, and Statistical Advances in the Detection of Adverse Impact and Test Bias	84
2000	EEO/Legal Update: What You Really Need to Know	80
2001	Testing and The Law - The New Century	80
2002	Organizational Fit: Aligning I-O and OD Interventions With Strategy	80
2002	Innovative Practices for Building 21st Century Executives	80
2003	The Science and Art of Selection and Assessment Tools	80
2004	Recent Developments in Employment Litigation	80
2006	Employment Law: That Was the Year What Was - And What Might Be Next	80
2010	Using HR Data to Make Smarter Organizational Decisions	80

* Workshops with 80 or more total participants (1999-2014)

the individual workshops that were attended by at least 80 total participants (across both morning and afternoon sessions).

The most highly attended workshop in the last 16 years was on Corporate Renewal by **Michael Beer** with 107 attendees. The second most well attended workshop was on Employment Litigation presented by Keith Pyburn and Bill Ruch. Most of the workshops listed in Table 3 are from the earlier years.

To find out which topics were most likely to have sold out over the 1999–2014 time period we content analyzed the topics for the 90 sold out workshops. The results are presented in Table 4.

Table 4 analyzed the content topics of the 90 workshops that were sold out over the last 16 years. Talent Management and High Potential Talent was clearly the most sold out workshop topic with 17 sold out workshops since 1999. This topic has grown significantly in importance and popularity among human resources colleagues and has gained significant traction among I-O psychologists who work in and consult to organizations (see Silzer & Dowell, 2010). It is the only workshop topic that has sold out more than once in the lean economic times of the last 5 years (2010–2014). Other popular workshop topics include Selection/Staffing (11 sold out workshops since 1986) and Employment Law and Litigation (9 sold out workshops since 1986).

Two topics listed in Table 4 that are among the most well attended workshops (each with five sold out workshops) —HR Management & Practices, and Assessment/ Individual Assessment/Assessment Centers—are not among the most frequently offered topics (Silzer & Parson, 2014). Perhaps they need to be offered more often.

Table 4

Topics for Sold Out SIOP Workshops, 1999-2014

Topic	1999-2004	2005-2009	2010-2014	Total
Talent management, high potential talent	8	6	3	**17**
Selection, staffing	6	4	1	**11**
Employment law/EEOC/litigation	6	2	1	**9**
Coaching	5	1	0	**6**
Employee surveys	3	2	0	**5**
HR management & practices	2	2	1	**5**
Assessment, individual assess./assess. centers	3	1	1	**5**
Leadership & mgmt. development	3	1	0	**4**
Organizational development & change	4	0	0	**4**
Consulting	3	1	0	**4**
Employee engagement	2	1	0	**3**
Validation strategies	2	0	1	**3**
Personality & assessment	1	1	0	**2**
Computer technology & applications	2	0	0	**2**
Other (10 other topics)	4	5	1	**10**
Total	**54**	**27**	**9**	**90**

On the other hand, several of the most frequently offered workshop topics are not that well attended (not listed in Table 4): Testing, Development and Use (offered 16 times since 1986 with no sold-out workshops since 1999), Research Methods (offered 15 times since 1986 with no sold-out workshops since 1999), and Performance Appraisal and Management (offered 14 times since 1986 with only one sold-out workshop). Perhaps they might be offered more sparingly as workshop topics.

If SIOP is committed to trying to make the professional development workshops successful again (as measured by attendance), then perhaps more focus should be on topics that have a track record of having sold-out participation.

Sold-Out Workshop Presenters

There has been some sense that certain SIOP members are particularly talented in teaching others and in delivering valuable effective workshops. Recently we (Silzer & Parson, 2014) identified the SIOP members who have delivered the most workshops since 1986: **Wayne Cascio** (13 workshops), Rob Silzer (10 workshops) **Ben Schneider** (10 workshops), **David Peterson** (10 workshops), **Nancy Tippins** (9 workshops), **Frank Landy** (8 workshops), Bill Ruch (7 workshops), **George Hollenbeck** (6 workshops), **Paul Sackett** (6 workshops).

We were interested in finding out which workshop presenters had the most sold out workshops since 1999 as one metric of their effectiveness. The results of that analysis are presented in Table 5 and 6.

As Table 5 shows that the person with the most sold-out SIOP workshops since 1999 is Keith Pyburn, an employment lawyer (and nonmember) who jointly presented workshops with Bill Ruch, a well-known I-O psychologist. Bill Ruch made many valuable contributions to our field and these workshops are only one example.

Wayne Cascio had four sold-out workshops since 1999 and was also the SIOP member who delivered the most workshops since 1986. He remains a popular and highly respected SIOP member on a range of topics such as human resources issues.

Ben Dowell and Rob Silzer, both well-known and respected I-O psychologist practitioners, each had three different sold-out workshops (six sold-out workshops in total), although not together despite their successful joint SIOP book *Strategic Talent Management* (Silzer & Dowell, 2010). Their related workshop topics included high potential talent, talent management, leadership development, and executive assessment.

Kathleen Lundquist (former SIOP Financial Officer) and Lawrence Ashe, an employment lawyer, copresented for three popular sold-out workshops on employment law and legal defensibility. Frank Landy, another highly respected I-O psychologist, also had three sold-out workshops since 1999 on being an expert witness, technology and assessment, and science & practice. Both Frank Landy and Bill Ruch have passed away.

This group of the eight workshop presenters with three or more most sold-out

Table 5

Top Workshop Presenters for Sold Out SIOP Workshops, 1999-2014*

Rank	Presenter	# of sold-out workshops	# of participants*	Years	Topics
1	Keith Pyburn**	5	430	1999-2008	EEO/Legal Update Employment Litigation Testing & the Law Workforce Crisis
2	Wayne Cascio	4	352	2004-2011	Using HR Data Talent Acquisition Strategic Talent Mgmt.
3	William Ruch**	3	263	1999-2001	EEO/Legal Update Employment Litigation Testing & the Law
3	Ben Dowell	3	230	2000-2004	Talent Management Developing Leaders High Potential Talent
3	Kathleen Lundquist** Lawrence Ashe**	3	225	2007-2013	Legal Defensibility Employment Law Assessing Legal Risks
3	Rob Silzer	3	209	2000-2012	High Potential Talent Executive Assessment Building Executives
3	Frank Landy	3	204	2002-2007	Assessment & Tech Expert Testimony Science & Practice

* Presenters with at least three sold out workshops, 1999-2014

* Number of participants in sold out workshops

**Keith Pyburn and Bill Ruch ran the same workshops as co-presenters

**Kathleen Lundquist and Lawrence Ashe ran the same workshops as co-presenters

workshops include four I-O practitioners (50%), two I-O academics (25%), and two nonmembers (25%).

Table 6 identifies the 15 workshop presenters who had two sold-out workshops since 1999. Many of these individuals are well known in I-O psychology such as Mike Beer, **Larry James,** **Rick Guzzo, Andrea Konz, John Scott, Elaine Pulakos, Jeff McHenry, Cal Hoffman, Mort McPhail**, and David Peterson. However, others may not be as well-known and probably should be given more visibility in SIOP including **Eric Elder** and Elaine Sloan. Unfortunately both **Bob Lee** and Larry James have recently passed away. This group of 15 includes 11 I-O practitioners (73%), two I-O academics (13%), one I-O researcher (7%), and one nonmember (7%).

It seems clear that across all 23 top presenters there is a predominance of I-O psychology practitioners:

- 65% are I-O practitioners
- 22% are I-O academics/researchers
- 13% are nonmembers

We hope that SIOP will finally start to appreciate the significant contributions that I-O practitioners have made to the field of

Table 6

Workshop Presenters With Two Sold Out SIOP Workshops, 1999-2014

Presenter	# of sold-out workshops	# of participants*	Years	Topics
Michael Beer	2	201	1999 2004	Corporate Renewal Organizational Fitness
David Peterson	2	178	2003 2007	Coaching Leadership Talent
Lawrence James	2	170	2000 2007	Selection Personality Assessment
Peter Ramstad	2	170	2001 2005	People Investment Strategic I-O
Eric Elder	2	160	2002 2006	Leadership Development High Potential Talent
Andrea Konz	2	159	2001 2005	Great Place to Work Executive Coaching
Rick Guzzo	2	154	2005 2014	Talent Retention Big Data
Wade Gibson	2	144	1999 2004	Validity Employment Litigation
John Scott	2	142	2002 2006	Program Evaluation Assessment Centers
Elaine Pulakos	2	138	2006 2010	Job Analysis Performance Mgmt.
Jeff McHenry	2	134	1999 2012	Succession Planning High Potential Talent
Bob Lee	2	131	2004 2007	Executive Coaching Leadership Coaching
Calvin Hoffman	2	126	1999 2013	Validity Validation Evidence
Mort McPhail	2	126	1999 2013	Validity Validity Evidence
Elaine Sloan	2	124	2000 2003	Managing Succession High Potential Talent

* Number of participants in sold out workshops

industrial-organizational psychology and to equitably recognize them for those contributions. This is long overdue.

These workshop presenters have made important contributions as faculty/teachers for the professional development of their professional colleagues. Yet SIOP does not recognize their contributions. In fact the SIOP award for teaching *explicitly excludes* all I-O practitioners who are not full time academic faculty members (see http://www.siop.org/siopawards/teaching.aspx). This seems to be another example of how

SIOP continues to be biased against I-O practitioners (now the largest membership group in SIOP).

Conclusions

It seems clear that attendance at SIOP workshops has significantly declined over the 1999–2014 period. There has been:

- A decline in the number of workshops offered over the years
- A decline in the total attendance (total number of registrants) over the years
- A decline in the average number of attendees per workshop over the years
- A decline in the number of sold out workshops over the years

At the same time, some workshop topics such as talent management and high potential talent seem to continue to be popular with three sold-out workshops on these topics from 2010–2014. Other once popular (sold out) workshop topics have attracted fewer participants in more recent years (with no sold-out workshops in 1999–2014).

Similarly, some workshop presenters have continued to draw sold out workshop crowds, including four currently active SIOP members: Wayne Cascio, Ben Dowell, Kathleen Lundquist, and Rob Silzer. Other workshop presenters who have given numerous workshops over the years since 1986 attract fewer participants in their workshops.

In general the SIOP workshops have been in decline. This presents a significant problem for SIOP's professional development effort and for a key revenue source for SIOP. It appears that the decision to go to a 3-day conference had a significant negative effect on workshop attendance, along with the 2008 economic collapse. But there may also be other contributing factors. Perhaps the workshop committees have not identified the most appealing workshop topics or signed up the most effective workshop presenters. They may not be reaching broadly into the I-O psychology community but narrowly preferring their own topics and personal connections.

Perhaps the current workshop logistics (conference day, time, length, location) all need to be reconsidered. To make any change, first SIOP needs to provide full support and commitment for the workshops and then a range of innovative and unique solutions need to be considered and implemented. Surely something creative can be done to reenergize the workshops and again make them relevant and valuable to SIOP members.

Recommendations

There has been no public discussion of the workshop attendance issues nor have there been any noticeable changes in the last 5 years in how the workshops are organized and presented. We would like to offer some suggestions that might be considered by the SIOP Workshop Committee and Executive Board.

- Change the day, times and logistics of the workshops.
  - Move the workshops to the Sat-

urday of the annual conference. (Rethink the Saturday conference program to accommodate them).
    - Consider evening workshops or Wednesday afternoon workshops (to allow people to fly in that morning).
    - Allow participants to register for just one workshop.
    - Offer both half-day and full-day workshops.
- Select more popular and relevant workshop topics
    - Rethink how topics are chosen and validate their appeal to SIOP members
    - Draw upon recently well-attended topics
- Rely more on successful presenters who have sold out workshops in the past
    - Identify those presenters who would attract more participants
    - Try to avoid obscure presenters who are largely unknown
- Relaunch the SIOP workshops
    - Reframe and remarket the SIOP workshops
    - Set high attendance goals for 2016 workshops and initiate a focused marketing effort

The SIOP workshops have served a vital professional development need in our profession. They have also provided a terrific way for SIOP members to share their leading edge professional work and been an important revenue source for SIOP. Unfortunately they have been in decline for number of years, for various reasons. The SIOP workshops can be saved and can again fully serve these vital interests. However, the SIOP Executive Board needs to take action to save them. Only with the full support and commitment of the EB can the workshops again meet these critical member needs.

Notes

[1] Many thanks to Dave Nershi and the SIOP Administrative Staff for their help in locating the 1999–2014 workshop attendance data.

[2] We were unable to locate any attendance data for pre-1999 workshops.

[3] We make a distinction between workshop participants, which is the number of people attending each workshop (total of morning and afternoon attendance), and registrants, which is the number of people registered for all the workshops. Each registrant attends two workshops and therefore is counted as two workshop participants, once each in two different workshops.

References

Silzer, R. F., & Dowell, B. E. (Eds.). (2010). *Strategy-driven talent management: A leadership imperative.* San Francisco, CA: Jossey Bass.

Silzer, R. F., & Parson, C. (October, 2014). SIOP workshops: Thirty years of professional development for SIOP members. *The Industrial-Organizational Psychologist,* 52(2) 37–46.

Errata: In the October issue of *TIP* there were readability issues with table 5 in the Practitioner Perspectives article; therefore, we are presenting the table here in a more readable size. SIOP regrets any inconveneience.

Table 5

Top 10 Workshop Presenters From 1986-2015 in Rank Order

Rank	Presenter name	# of Workshops	Years	Topics
1	**Wayne Cascio**	**13**	1986*-2015	Utility analysis, workforce, human resources, selection research, downsizing, business acumen, etc.
2	**Rob Silzer**	**10**	1987-2012	Individual & executive assessment, executive & leadership development, talent management, selection, high potential talent, ethics, etc.
2	**Ben Schneider**	**10**	1988-2013	Customer service, organizational climate, organizational fit, job analysis, survey research, etc.
2	**David Peterson**	**10**	1993-2014	Coaching, leadership development, consulting, etc.
5	**Nancy Tippins**	**9**	1997-2013	Selection, fit, ethics, validity, research developments, internet testing, etc.
6	**Frank Landy**	**8**	1998*-2007	EEO, consulting, selection, expert witness, technology, science and practice, etc.
6	**Keith Pyburn, Jr.**[1]	**8**	1988-2008	EEO, validity generalization, employment litigation, etc.
6	**Peter Ramstad**[2]	**8**	1998-2015	Finance and accounting, business knowledge and strategy, etc.
9	**William Ruch**	**7**	1988-2001	EEO, employment litigation, testing, validity generalization, etc.
10	**George Hollenbeck**	**6**	1988*-2003	Executive assessment and development, leadership development, 360 feedback, etc.
10	**Paul Sackett**	**6**	1987-2013	Testing, integrity testing, research developments, etc.

*In addition Wayne Cascio, Frank Landy and George Hollenbeck all presented workshops prior to 1986. Those workshops are not included in this 30 year summary and will be included in future articles.

[1]Non-member lawyer, [2]Non-member accountant, finance manager

Personnel Selection, Credit and Criminal History, and the Law

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Author's Note: The views expressed here are those of the author and do not necessarily reflect the views of any agency of the U.S. government nor are they to be construed as legal advice.

Recent History

The U.S. Equal Employment Opportunity Commission (EEOC) has had guidance on background checks for years. But the five commissioners held a meeting at which various parties presented on use of credit[1] in 2010; a similar meeting in 2011considered criminal history.[2] In 2012 the agency obtained a settlement with Pepsi Beverages for over $3M regarding race discrimination due to use of criminal history. That same year it issued a 52-page criminal history guidance document,[3] with additional shorter summaries.[4] No corresponding guidance on credit history was issued. In 2014 guidance on background checks in general[5] was published jointly by EEOC and the Federal Trade Commission. EEOC filed several lawsuits, with three (*Peoplemark, Kaplan, Freeman*) being decided on summary judgment against the agency. EEOC appealed its loss in *Kaplan*, a credit history case, and lost again (*EEOC v. Kaplan, 2014*). See Dunleavy and Gutman (2013) for more detail on events prior to 2014.

What's Happening

There is some indication that use of credit history in employment selection has become less of an issue. The financial turmoil caused by the Great Recession has been mostly resolved, numerous states and municipalities had taken action to restrict credit history use for employment, and major employers either were or became circumspect in using credit history. The latter may have been motivated in part to maintain uniform policies across jurisdiction with different credit history restrictions and the realization that the information had little job-related value (Rosen, 2014). Recently there has been a rash of suits alleging violations of the Fair Credit Reporting Act (FCRA) regarding notice to applicants regarding background checks. The law covers employers who use background check services and includes credit and criminal history. Publix supermarkets in Tennessee settled for $6.8M, the largest settlement so far (Jodka, 2014). There is a FCRA case involving LinkedIn as a provider of background information without consent (*Sweet v. LinkedIn,* 2014). There

are allegations that some banks hold credit reports hostage until debts voided in bankruptcy proceedings are paid off, an issue that could result in criminal charges (Silver-Greenberg, 2014). But these matters speak more to shoddy and shady practice than to the appropriateness of credit history use itself.

Criminal history use is still a hot topic. Employers generally use it at some point in the hiring process. There is still an active movement to "ban the box" on employment application forms indicating criminal history (Maurer, 2014b), thus deferring consideration until later in the hiring process, after the applicant has had opportunity to present qualifications. As with restrictions on credit history, this activity has been at the state and local level, producing a patchwork of laws. These laws apply mostly to hiring by the jurisdictions themselves, but a few cover contractors doing business with the jurisdiction or all employers.

Nine state attorneys general turned up the heat in expressing their concerns with EEOC guidance and potential conflict with state law bright-line hiring bans. Texas filed suit to get the guidance rescinded, but a federal court did not see an issue. The Texas attorney general then filed an appeal brief naming both EEOC and the U.S. Department of Justice (DOJ)[6] in its attack on the "Felon-Hiring Rule."

Several other cases of interest are currently live. EEOC appealed summary judgment in *Freeman* (2013); the court was still out as of this writing. Freeman and its supporters would like the court to affirm undercutting of EEOC's legal and statistical arguments, some of which are discussed below. EEOC had also sued BMW and Dollar General; discovery is ongoing. There is *Houser v. Prizker,*[7] involving criminal background checks for temporary workers for the 2010 Census. The case was certified as a class action on July 1, 2014. The class included an estimated 250,000 African-Americans, to which were added about 200,000 Hispanics on October 2.

Some interesting issues regarding EEO law and professional practice are coming out of these cases:

Unified process or multiple hurdles? The Fourth Circuit is being asked to uphold Freeman's victory and to confirm (among other things) that application of criminal history checks is not a "particular, functionally integrated practice" (Paetzold & Willborn, 2014, citing the phrase in the interpretive memorandum of the 1991 Civil Rights Act) but multiple hurdles. That is, the applicant is evaluated pass/fail against a number of different aspects of credit or criminal history standards (e.g., no violent felony in the last 7 years is one hurdle; no misdemeanor or felony theft conviction in the last 3 years is another). Issues of job relatedness and adverse impact apply to each standard separately, because each standard involves a separate decision. The plaintiff must identify the particular practice causing adverse impact unless the practice cannot be disaggregated; the argument against EEOC is that each practice (hurdle) could easily be identified. But employers generally do not implement single-crime restrictions in isolation of each other, less so when the number of crimes across categories can be a factor.
Statistics base. Another item to watch in Freeman is whether the court affirms that

reliance on broad-based conviction and race statistics to establish a "colorable" adverse impact case is improper. Connor and White (2013) present numbers indicating that proportions of race of offenders can differ markedly by crime and location. Of course, a policy could be so inclusive of criminal activity with known racial disparities that adverse impact based on workforce availability and the employer's policy could be anticipated.

Bifurcation of "job related" and "consistent with business necessity" defenses. Some courts have been explicit that the two phrases mean essentially the same thing. But a distinction got some mention in *El v. SEPTA* (2007); *El v. SEPTA* and *Green v. Missouri Pacific Railroad Company* (1975) are the two main federal appellate cases regarding criminal history. In *El*, the Third Circuit noted that "successful performance of the job" was awkward regarding the case at hand.[8] The court found *Green* unhelpful; that case involved an office job and the sweeping "no conviction, never" policy there was broader than SEPTA's exclusions. The court seems to have followed the traditional distinction between qualifications and suitability. Qualifications are the competence to get the job done. Suitability is whether a (presumably) qualified applicant should not be selected, for compelling business reasons. EEOC's current guidance provides two means of staying out of trouble: validating the use of criminal history according to UGESP or individualized assessment. The relationship of the two is not described. The first seems to fit the usual notion of establishing job relatedness of a selection procedure. The second presumably is not a fourth type of validity to add to UGESP or a substitute for validity where validity is needed. It seems congruent with suitability.

Less discriminatory alternatives (LDAs). A fundamental issue is the purpose of the employer's policy. The court was unhappy with "SEPTA's apparent loose manner in formulating and defending its policy." It noted that in reading through eight depositions of SEPTA employees on the business necessity of the company's use of criminal history, "it is striking that not one of the witnesses that SEPTA named was able to explain—beyond a general concern for passenger safety—why this particular policy was chosen from among myriad possibilities." Given unrebutted expert testimony on the need to use criminal history, the court affirmed summary judgment for SEPTA. A more forceful attack on the policy's underpinnings could have changed the result. Another issue raised in Houser is what is the LDA for suitability. "Trust" in the Census worker was essential to get cooperation from residents and the reason for using criminal history, but "trust" is not a characteristic of the applicants. Defendant's argument is that LDAs that address applicant qualifications are irrelevant.

The Bigger Picture

Perhaps the most interesting issue of all is whether EEOC, having lost successive legal battles, is winning the war for more nuanced use of credit and criminal history. The decline of credit history as an issue was discussed above. Aamodt (in press) thinks that EEOC criminal history guidance can serve as the basis for a feasible and professionally acceptable best practice[9]; so do some

advocates for employers and ex-offenders (Devata, Kehoe, & Maltby, 2014). A survey by a background check organization (Fishman, 2014) showed 88% of HR respondents indicating application of EEOC guidance, up from 32% the year before. About 64% performed individualized assessments. Only 8% indicated that they rejected applicants when they self-disclosed a conviction prior to a background check.

Four sticking points regarding individualized assessment complicate resolution:

Second-guessing. Not all knowledgeable people will necessarily agree on the amount of risk involved for a given situation, a problem that underlies the following three points. Employers want a modicum of certainty that when they adopt "reasonable" policies they will not be liable to variations proposed by plaintiffs. It is not clear how LDAs or some other standard apply when suitability is at issue.

Consistency. "Individualized assessment" hearkens back to disability accommodations, the extent of an otherwise-able person's limitations and ways to get around them. Suitability determination is an assessment of future risk given the person's past. The nature of the crime and of the job might be expected to impose some standardization in outcome. The "pedophiles in a daycare center" situation may be unlikely to have individualized risk-mitigating circumstances, but it will be more complicated when applicants present all kinds of circumstances for other situations that purportedly mitigate the employer's risk. The problem for the employer is to maintain a flexible but consistent policy, without the added risk of having more exceptions than policy or finding exceptional circumstances for some demographic groups more often than for others. A solution is a "matrix" of which factors are considered for what positions, but there is no universally accepted way to do this (Maurer, 2014a).

Negligent hiring liability. The employer might restrict inquiry to those crimes that are clearly related to the job at issue. But if a person is hired and subsequently harms customers or other employees, and there was a crime related to the incident ignored because it was not related to the job, the employer could have a problem. It may be a problem that varies with local law regarding foreseeable consequences. As such, it is a bigger issue than employers, EEO enforcement agencies, or advocacy groups can address on their own, although they are all stakeholders.

State law restrictions. Presumably there are good reasons behind hiring bans enacted by states and municipalities. For employers, adhering to state and local law is business necessity. For EEOC, Title VII as federal law trumps overly restrictive non-federal law and regulation. The employer could be left holding the litigation bag. Texas (2014) addresses this, but has not gained traction in court. A related matter is adopting as employer policy a law or regulation for similar jobs, but where those jobs are not actually covered.[10]

Implications for I-O Psychologists

To argue the efficacy of credit and criminal history, we need to be clear on efficacy

for what. If it is for job qualifications, likely a test validation approach is needed. Research has been scarce, which of course is a shallow foundation for future work. Suitability is a different matter. The El appellate court pointed to what seems to be a problem more generally, poorly articulated safety and security arguments. If the concern, for example, is prevention of violence in the workplace, then presumably the selection procedure would address that criminal history associated with that concern. Whether public perceptions of ex-offenders constitutes a viable business necessity argument remains to be seen. If it is, then there is a need for evaluate both the problem and the criminal history solution.

But if the political and scientific Zeitgeist has turned away from broad use of credit and criminal history, if placing use of such history later in the selection process obviates adverse impact because the applicant numbers are then small, and if simple precautions such as proper notification to applicants and opportunity to dispute false or incomplete findings are part of the process, then the task is to implement a well-founded and reliable decision-making process to minimize risk based on some relationship between the job and criminal history. Apart from conceptual differences between qualification and suitability, is establishing a suitability procedure a variation on content validation strategy, with perceived risk rather than job relatedness to be determined? In any event, such a procedure would require reliable and unbiased judgment job-knowledgeable people. I-Os know something about this and can further help to inform that judgment with findings from fields such as criminology. Beyond this lies how the enforcement agencies will respond to evolving professional practice and the thorny issue of ex-offender reentry into society. As indicated above, there are many stakeholders involved and the solution may require appropriate legislation to protect the interest of all concerned, including the public. Perhaps it's an opportunity to practice some "prosocial I-O"?

Notes

[1] Statements and transcript are available at http://www.eeoc.gov/eeoc/meetings/10-20-10/index.cfm.

[2] Statements and transcript are available at http://www.eeoc.gov/eeoc/meetings/7-26-11/index.cfm.

[3] This is available at http://www.eeoc.gov/laws/guidance/arrest_conviction.cfm.

[4] These are at http://www.eeoc.gov/eeoc/newsroom/wysk/arrest_conviction_records.cfm and http://www.eeoc.gov/laws/guidance/qa_arrest_conviction.cfm.

[5] The employee-oriented document is at http://www.eeoc.gov/eeoc/publications/ background_checks_employees.cfm. The employer version is at http://www.eeoc.gov/eeoc/publications/background_checks_employers.cfm.

[6] DOJ became involved because it defended EEOC and noted that it, not EEOC, had jurisdiction regarding EEO suits against state agencies. The latter seems to have made it a codefendant.

[7] Penny Pritzker was Secretary of Commerce, named since the Commerce Department is the parent agency of the Bureau of the Census. Rebecca Blank also gets mentioned in some documents because of her tenure as acting Secretary. The U.S. Department of Justice is handling the defense as well as defending in Texas v. *EEOC* (2014).

[8] The court upheld the lifetime ban regarding conviction for violent crime, although the conviction in this case had occurred 47 years previous-

ly. The job involved unsupervised transporting of the elderly and people with disabilities. The court understood that "successful performance" could be stretched to include not attacking the customers. But the usual standards for selection practices address ability not risk that includes actions the employer never intended.

[9] Disclosure: Mike Aamodt and I are doing a master tutorial presentation on this at the 2015 SIOP conference.

[10] Cf. EEOC v. Exxon (2014). The company applied federal commercial pilot age restrictions to corporate pilots who technically are not commercial pilots under those regulations. EEOC sued; Exxon prevailed.

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Virtual Workplaces: Technological Functions Can Address Common Challenges

Virtual work is becoming more prevalent and is changing the workplace; employees can work "anytime, anywhere, in real space or in cyberspace" on interdependent tasks (Cascio, 1998; Geller, 2014). In 1997, roughly 11 million U.S. workers telecommuted (Jackson, 1997), whereas in 2012 approximately 64 million workers telecommuted according to Global Workplace Analytics (2013).

Organizations can benefit from allowing employees to work virtually. These benefits include reduced travel expenses, staffing accessibility to experts in the field, time saving, and an expanded talent pipeline (Kirkman, Gibson, & Kim, 2012). However, there can be disadvantages such as lower levels of team cohesion, reduced commitment to team goals, lower satisfaction, and a reduction in cooperative behavior.

In order to support virtual work while maintaining productivity and satisfaction, organizations are investing in new collaborative technologies and online tools. These new technologies enable employees to interact with team members around the world in a variety of capacities that more closely mirror face-to-face interactions.

In this article, we will highlight a few of the major challenges that virtual work presents, provide examples of technological attributes and tools that can address these challenges, and provide suggestions for increasing productivity when working virtually.

Challenges of Virtual Work

There is an overall consensus that managing virtual teams can be more difficult than face-to-face teams (Bell & Kozlowski, 2002; Cascio, 1998; Hoch & Kozlowski, 2014). Below are some common challenges.

1. *Recognizing patterns of cultural communication.* Increases in virtual work can lead to increases in opportu-

nities for members to communicate cross-culturally (Gajendran & Joshi, 2012). However, cross-cultural communication can be difficult for many reasons such as language barriers, different workplace assumptions, and different communication norms.

2. *Developing cohesion among teams.* When employees have less time to interact and get to know each other, it can become more difficult to develop cohesion among team members (Hoch & Kozlowski, 2014). In addition, virtual work has shown to decrease team member satisfaction (Driskel, Radke, & Salas, 2003).

3. *Motivating and managing employees.* Managing the performance of an individual or group can become challenging in virtual work. Frequency of communication that is necessary for leaders to build relationships with employees is critical for virtual employees. Finally, the ability to monitor performance of each team member is also restricted (Bell & Kozlowski, 2002).

4. *Maintaining productivity and effectiveness.* Virtual work has been shown to negatively impact the productivity and effectiveness of teams (Cramton & Webber, 2003). The nonoverlapping work times and physical distance between employees can make it difficult to coordinate work efforts (Driskel et al., 2003).

Virtual work can impede the effectiveness and productivity of teams. However, the type of technologically mediated environment can moderate this relationship. Not all communication technologies are the same; some improve team efforts while some may hinder efforts.

Technological Attributes as Moderators

Technologies are being increasingly designed to support virtual teamwork by allowing interactions to be more cooperative and collaborative (Ishii, Kobayashi, & Arita, 1994). The attributes and quality of the technologies can enhance computer-mediated communication and combat some of the challenges of virtual work (Driskel et al., 2003). Below we have listed some attributes of technology that can improve the communication and collaboration between virtual team members:

Share one's desktop and workspace so everyone can see the same information at the same time! Product examples include join.me and webex. Other virtual telecommunication tools like Google Hangouts are also enabled with the ability to share one's screen.

Quickly manage schedules and tasks with others virtually. Tools that are handy for this include Doodle and Trello. Not only do these tools allow you to assign tasks to team members, but they provide a great format for everyone to stay on the same page with regards to shared action items and working timelines! Most workplaces also have the ability to share calendars, which provides ease of scheduling meetings by sharing real-time information on one's availability during the workday.

Collaboratively editing documents in real-time is now possible with tools like Google Docs and Microsoft Office Online. In the past, when writing manuscripts with coauthors, documents needed to be sent over email, and it was difficult and tedious to deal with version conflicts and coordinating changes. However, many programs are now creating features where several individuals can edit the same document simultaneously. The benefits of such are that live collaboration may increase cohesion among teams by allowing members to physically work together at the same time.

Converse synchronously from anywhere in the world. Whether employees are located in New York or Hong Kong, it is much easier for them to chat with anyone, anywhere. Skype and Google Chat are both free services that allow you to sign up and have online chat conversations with colleagues. In addition, other free text options like Tango continue to emerge making it easy to stay connected!

Access and exchange resources in jointly shared locations instead of emailing documents back and forth. Today, services like Google Drive and Dropbox are paving the way for people to share information in one place and access it from anywhere (even without Internet!).

Visual presence of others is becoming more and more common for today's workforce as many organizations now have access to virtual telecommunication tools such as GoToMeeting, Skype and Google Hangouts.

Get creative and whiteboard in real-time by leveraging online virtual whiteboards with your team members or customers. Product examples include Boardthing and RealtimeBoard, which allows you to simulate the capability of whiteboarding ideas or thoughts on cards.

These attributes may account for some of the variation and conflicting findings we see across the virtuality research. By understanding the specific advancements in technology used in virtual work, we can improve measurement and advance literature.

Practical Solutions for Adapting to Virtual Work

Although technology is changing the way we work, it cannot replace the value of face-to-face time where group members share the same physical location, see and hear one-another, receive facial indicators, and engage in comradery in person. For those I-O psychologists who find themselves working within virtual teams, below are a few key recommendations:

Open information sharing is key. When working remotely or working within virtual teams, we encourage you to remain diligent and share your knowledge and weekly progress with others. Sharing and integrating information across teams allows everyone to gain from each other's inputs and improves team processes. To do this, make sure content is in a shared location, like Dropbox, and all team members are aware of what others are doing by using a tool such as Trello.

Be open and clear with your manager. It's important that you are open about your goals and expectations surrounding your role, current projects, and future growth areas. Also, suggest video-based conversations to foster a stronger personal connection. By ensuring you are open and clear and physically in sight, you remain present and visible to your manager. It's worth the time and effort, we promise!

Be mindful when scheduling meetings. If you and your team are working across various time zones, ensure you are respectful by scheduling meetings within their work hours. Try tools like Doodle that can account for time-zone differences automatically. Also, do not assume they have the proper technology access wherever they are: Be sure to ask which medium they prefer. By being considerate to others, they will be thoughtful about your schedule and needs as well.

Consider the tasking that you assign to others. As organizations globalize, and team members work at different times of the day, organizations must take into account how to allocate the time of each member but also ensure they have effective work patterns (Cummings & Haas, 2012). Ensure that you remain thoughtful about the team work tasks you are assigned or that you assign to others so that no one serves as the bottleneck for the particular task within the project timeline. If someone is 10+ hours apart from another person, ensure that whatever assignment they are doing is one that doesn't hold up others who are working at different hours. Use the time difference in your favor!

Eliminate distractions when working virtually. Given that we find distractions all around us at work and wherever we go, it is great to be mindful of how to get the most out of your work day! It's so easy to pick up your cell phone while on a conference call, so try suggesting video-based meetings so you have more accountability for paying attention. Other technological tools such as SelfControl can block distracting nonwork related websites as well.

Develop a tolerance for ambiguity. It's best for managers to ensure virtual team members have a high tolerance for ambiguity. Compared to face-to-face teams who have some frequent team contact, virtual teams tend to have the most uncertainty and least visibility to their teams. Instead of trying to describe a model or diagram, use visual whiteboards such as BoardThing or Realtime Board. The addition of technology to the communication process can help avoid misunderstandings or ambiguity.

As Cascio (1998) stated it so eloquently, we will restate the same testament to I-O psychologists:

> *Always look ahead; learn from the past, but don't live in it. By embracing these emerging changes in the world of work, we in I-O psychology can lead change, not just react to it. This will be the greatest challenge of all.*

Do you have other examples of virtual collaboration tools or tips that you recom-

mend to other I-O psychologists? Please let us know what you think! Also, we always encourage tips for future issue topics (pun intended), so let us know what you'd like to read about or what is cutting edge in your world of work! Feel free to tweet at us @themodernapp or email us at themodernapp@gmail.com.

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2014 Human Resource Management Impact Award Winners

HRM IMPACT AWARD

The Human Resource Management Impact Awards program was launched just over a year ago by SIOP and SHRM and their charitable Foundations. The program serves to bestow recognition on exemplary, evidence-based human resource management practices. The 2014 winners are:

Cargill - Everyday Performance Management

In 2010, Cargill's complex external environment was changing rapidly, requiring the company to become more agile, reduce complexity, and simplify processes in order to focus on creating value to its customers. In response to these business priorities, Cargill implemented Everyday Performance Management (PM), an evidence-based practice that leveraged extensive internal and external research that pointed at the opportunity to simplify PM, adopt a new mindset, and focus on what really matters.

The design and implementation of Cargill's Everyday PM followed three key principles: (1) Focus on Everyday PM. The central premise was that day-to-day manager and employee practices are more critical to effective PM than are annual, event-based procedures. (2) Strengthen employee and manager capabilities. Investing in strengthening PM-related capabilities of both managers and employees enables Everyday PM. These include building trust, effective communication, and effectively delivering and receiving feedback. (3) Simplify PM Requirements. This principle is meant not only to save time and labor costs but also to reduce the extent to which PM is viewed as an annual administratively complex event that contributes very little to individual and organizational performance. The primary focus of Everyday PM is more frequent manager-employee one-on-one discussions throughout the year. The simplified

Milton D. Hakel
SIOP Foundation
President

process has fewer system requirements in order to dedicate more time for collaboration between the manager and employee to strengthen the relationship, build trust, and increase employee engagement.

After one full year, an evaluation of the employee experience and engagement with Everyday performance Management showed that Cargill successfully streamlined and simplified its PM process by focusing on ongoing employee-manager discussions, reducing administrative requirements and removing ratings. These changes have resulted in increases in both manager and employee satisfaction and engagement.

Federal Bureau of Investigation - The Leadership Skills Assessment (LSA)

As part of a consent decree stemming from a race-based discrimination class action lawsuit, the FBI was required to overhaul its promotion process for mid-level special agent management positions, to include a role-play assessment that was blind to race and gender. With the goal of emphasizing and promoting for leadership, factors such as the post-9/11 rebalance of mission for the FBI, the logistical challenges with filling 1,500 global jobs from a pool of nearly 12,000 candidates annually, and acceptability and transparency for candidates led to this complex challenge and ultimate design of the telephonically administered Leadership Skills Assessment.

The Leadership Skills Assessment is a customized, live, day-in-the-life role play telephonic job situation designed by the FBI in partnership with Aon Hewitt Consulting, who continues to administer the assessment. After a review of materials to set the stage, candidates interact with trained assessors who role play scenarios designed by the FBI. Assessors electronically capture notes and ratings based on the behavioral descriptors prescribed by the FBI to reflect its eight core leadership competencies. All leadership dimensions and subdimensions are scored multiple times within the assessment. A final overall composite score, as well as scores on the separate competencies, are calculated for use in promotion decisions, and a comprehensive feedback report that includes developmental recommendations is provided to each candidate.

This first hurdle of the midlevel management promotion process has had measureable impact to the leadership of the FBI; not only did the targeted midlevel leadership positions increase in leadership skill (based on employee ratings), but the executive population later in the pipeline demonstrated twice the increase in leadership skill than the targeted position. This emphasizes both the short-term and long-term utility of the Leadership Skills Assessment for the identification of leadership talent at multiple points within the leadership pipeline.

Sears Holding Company - Selecting Successful Leaders With Sears Holdings Corporation's Executive Assessment

With increased competition, heightened shareholder expectations, varying market conditions, and rapidly changing and improving technology, Sears Holdings Corporation (SHC) is challenged with selecting executive leaders who have the desired attri-

butes and competencies to take advantage of the many future opportunities awaiting the company. As part of its strategy, Sears is placing a heavy emphasis on its Shop Your Way (SYW) Rewards program members and Integrated Retail initiative while also focusing on the development of internal technology that will enhance associate performance. Highly capable leaders within its 30+ business units (BUs) are needed to support this transformational strategy.

In support of this search for top leaders, SHC partnered with Select International to develop and refine its Leadership Competency Model over the years and to create an Executive Assessment (EA) process to measure these critical competencies. This process contains a 4-hour assessment battery, review of the executive's resume and background, plus a 1-hour interview with an assessor (PhD psychologist), who further explores a candidate's experience, motivation, and fit with the organization, BU, and role.

In a recent validation study, EA data was collected between 2010 and early 2013. Results indicated that EA results do an excellent job of correlating with executive performance, including overall performance ratings across all 4 years, executives' nine-box ratings, engagement metrics of their teams, number of succession nominations, retention of top talent in one's organization, and actual and forecasted revenues for their organization.

Overall, empirical evidence supports the utility of SHC's EA process on important financial-related (e.g., actual revenue) and people-related (e.g., actual retention) outcomes, at both the individual and BU level. Based on these results, SHC uses the Executive Assessment as a key component in selecting the right leaders for key roles, leaders who we are expected to play a critical part in SHC's transformation.

About the SIOP Foundation

The SIOP Foundation provides support for the advancement of the field of industrial-organizational psychology. It is a structure through which members of SIOP and other donors can express their tangible support for the field with tax-deductible gifts. Its resources further the outreach of both the practice and the science of I-O psychology so that those in this field can play an increasingly vital role in fostering a productive and prosperous workplace, in the ways illustrated above by the HRM Impact Award winning projects.

Information about the current and previous HRM Impact Award winners is online at http://www.hrmimpactawards.org/. Think about exemplary HR management practices, and submit a nomination or application when the 2015 award cycle opens February 1 and closes April 30.

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Serious Games for Talent Selection and Development

Michael Fetzer
CEB

Introduction

The use of serious games is quickly becoming a more mainstream method for achieving key objectives in a variety of business initiatives. Having produced many positive outcomes as a result of applications designed for the military, education, healthcare, and the government, serious games have infiltrated the corporate world on a large scale. Programs such as customer attraction and retention, employee recruitment and training, marketing, performance management, and talent measurement (just to name a few) are quickly realizing the benefits of serious games and the broader trend of gamification (see DuVernet & Popp, 2014). In fact, analysts have posited that this trend will be a part of 25% of business processes by 2015 (Gartner, 2011a), will expand to more than a $2.8 billion business by 2016, and will see 70% of global businesses utilizing at least one "gamified" application by 2014 (Gartner, 2011b). If these predictions materialize, we will be sitting on the verge of a revolution in the way the corporate world approaches traditional business challenges.

Serious games, defined here as games utilized for purposes other than pure entertainment, incorporate elements of game design in order to enhance the level of engagement of the target audience. This increased level of engagement then leads to subsequent gains in important business outcomes such as customer acquisition and retention, employee knowledge retention, market penetration, product awareness, employee performance enhancement, and talent measurement. It is these gains that have captured the interest of the corporate world, where the drive for continuous improvement and innovative approaches is now the norm.

The term "serious game" has been traced back to the Renaissance, but it wasn't until 1970 that the term was used with a meaning more closely aligned with today's notion of serious games. In his book titled Serious Games, Clark Abt used the term to describe computer games that were developed for military training purposes, including T.E.M.P.E.R (Abt, 1970). Some say that the term was leveraged to provide a euphemism for the term "war games," which was falling out of favor for those seeking federal funding (Ambrose, et al., 2005).

In the 1990s, several concepts emerged that overlapped (to varying degrees) with serious games. Domains such as e-learning, edutainment, game-based learning, and digital game-based learning are clearly focused on the benefits of applying technology and/or game mechanics to enhance learning outcomes. E-learning emerged in the early 1990s as a very broad domain that encompassed any sort of computer-based learning, whether or not any game mechanics are utilized. On the

other hand, digital game-based learning is a more recent evolution of e-learning that incorporates digital (video) game technologies to enhance educational outcomes.

Although not primarily designed for training purposes, many consider the U.S. Army's release of the video game America's Army (http://www.americasarmy.com) to be the start of today's serious gaming era. Toward the end of the 1990s, army recruitment numbers were dwindling, and the Army needed a new tool to attract and engage its target demographic of 18–25 year-old males. Given the popularity of "first person shooter" console video games such as Halo and Call of Duty, the U.S. Army hoped to capitalize on the potential to increase their recruitment numbers through a serious games approach (Gudmundsen, 2006). America's Army was (and continues to be) an incredibly useful recruitment tool, enabling potential recruits to try their hand in various specialties and gain a somewhat first-hand experience of what it's like to be a soldier by playing a game that is very similar to popular entertainment games (Grossman, 2005).

Serious games can come in various forms, many of which incorporate technologies used in today's entertainment gaming industry. Computer-generated animation (2D or 3D), branching storylines, adaptive gameplay, level progression, and immersive environments are all tools that can be leveraged to further enhance players' engagement and user experience. Although not a requirement to be classified as a serious game, the same technologies used in high-end video games are becoming more accessible to serious game developers. In fact, many companies engaged in serious games development are using the same resources (staff, hardware, software) found in the entertainment gaming industry.

Characteristics of Serious Games

There is no universally agreed upon set of characteristics that define a serious game. In fact, even the definition of "serious game" is often the source of debate (Susi, Johannesson, & Backlund, 2007). However, by using a combination of approaches (e.g., Bedwell, Paylas, Heyne, Lazzara, & Salas, 2012; Shute & Ke, 2012), the set of characteristics below should help clarify what qualifies as a serious game in the current environment. Certain attributes you might expect when describing a game (e.g., engaging, fun) are not included due to their subjective nature; rather, the focus is on objective characteristics. It is important to note that the extent to which each of the following characteristics are represented within a serious game can vary, but a true serious game should incorporate all characteristics below to some degree.

- *Interactive problem solving*: Ongoing interaction between the player and the serious game is a key characteristic. This interactivity usually involves solving a series of problems or completing a series of tasks, but it can also take other forms such as responding to in-game characters, choosing appropriate paths (literal or figurative) to reach the goal, or collecting items or pieces of information that impact the outcome.

- *Specific goal(s):* Every game should have one or more goals the player is required to accomplish. This may simply be gaining as many "points" as possible or successfully completing the game. Some games are designed with competing goals in order to enhance the level of challenge (e.g., achieve the right balance between earning money and keeping your business running). Goals in games may be implicit or explicit.
- *Rules*: Without some rules, a game would essentially be pointless. Rules may take the form of limiting certain actions or movements, requiring certain items to be obtained before being able to accomplish certain tasks, or completing a series of tasks successfully in order to advance to the next level. A good game contains enough rules to make the game challenging but not have too many rules that lead to player frustration.
- *Adaptive or branching gameplay:* Games incorporate some form of adaptive or branching process to allow for multiple possible outcomes and/or game experiences. Some extremely complex games can give the impression of some form of artificial intelligence built in (although this has yet to be fully achieved), whereas other games leverage branching methods to increase the number of potential outcomes within a finite number of possible paths. Allowing multiple players to participate in the same game can greatly enhance this characteristic, as long as the actions of the other players can influence the experience/outcome.
- *Control*: Players need to be able to influence the game play to some extent. Having complete control would detract from the challenging aspect(s) of the game, but having no control would result in frustration or boredom. Games should encourage players to explore alternate paths to achieving the goal(s) by manipulating the game environment, characters or objects within the game, or the sequence in which they complete certain tasks or activities.
- *Ongoing feedback:* Feedback on a player's performance during the game provides the player with information on the degree of success (or failure) of their actions in order to direct them toward achieving a positive or desired outcome. Feedback can be explicit or implicit. Explicit feedback can take the form of points displayed on screen, noting achievement of certain objectives, audio/visual cues when certain actions are taken, or progression on to subsequent levels. Implicit feedback can be expressed by characters within the game or other "subtle" cues in the game environment.
- *Uncertainty*: Similar to the characteristic of adaptive or branching game play, the use of uncertainty in a game evokes suspense and increases player engagement. The right move/action/decision should not be transparent, otherwise the game would be too easy and players would quickly lose interest. There does, however, need to be some rationale behind the uncertainty so that players will understand the reason for the outcome once the move/action/decision has been made.

- *Sensory stimuli:* Sensory stimuli can refer to graphics (static or animated), video, sounds, and/or storylines used to excite the senses and increase immersion in the game. Stimuli should be used in the right amount, as too much will overwhelm the player but not enough stimuli will result in decreased engagement.
- *Purpose* (beyond pure entertainment): As noted above, the characteristic that separates serious games from "traditional" games is being utilized for a purpose other than pure entertainment. This "other" purpose can vary widely, and of course serious games should also be entertaining to some degree.
- *Technology enabled:* Although this characteristic is not typically found in most definitions of serious games, today's high-tech environment and the penetration of all things technology in our daily lives almost demands that serious games utilize some form of technology. This can take the form of computer/online games, smart phone apps, or even popular gaming consoles.

Serious games will evolve, and new elements will be leveraged in the design and delivery of serious games, but the characteristics described above should serve as a strong basis for determining what is (and is not) a serious game.

Current Users (and Uses) of Serious Games

The number of ways serious games can be used is increasing and expanding beyond the areas where serious games have initially proven successful. According to a collaborative online database of serious games, over 3,000 games have been classified (see http://serious.gameclassification.com for a searchable database as well as games available to the public). This is likely just the veritable tip of the iceberg as the database doesn't include many custom or proprietary games. Today, serious games users can be found in the following environments:

- Healthcare
- Education
- Government
- Military
- Corporate

In healthcare, serious games have been used in such diverse areas as physical fitness, patient education, rehabilitation, clinical training, diagnosis of mental disorders, improvement of cognitive functioning, and biofeedback control (Michael & Chen, 2006; Susi et al., 2007). In education, games have been used at all levels (pre-K through postgraduate) to enhance learning and skill development across a wide variety of subjects (Vogel, et al., 2006; Wouters, van Nimwegen, van Oostendorp, & van der Spek, 2013). These days, it would be rare to find a student in most developed countries who has not played at least one serious game during the course of their education (Michael & Chen, 2006).

The government has utilized serious games across municipal, state, and federal levels mainly for training employees in areas such as pandemics, biohazards, disaster management, city planning, police and

firefighter training, ethics and policy training, and even defensive driving (Michael & Chen, 2006; Squire & Jenkins, 2003). The military is by far the largest developer and consumer of serious games (Susi et al., 2007). Primarily used for training purposes, serious games offer the military a method to train its members on complex and/or dangerous situations that would otherwise be cost prohibitive or too risky to accomplish in a real-world situation. As noted above, another use of serious games by the military is to attract new recruits (i.e., America's Army).

In the corporate world, the use of serious games has increased exponentially over the past decade, and additional applications are currently being developed (e.g., Dale, 2014). Like the military, the most prevalent use of serious games in corporate environments is for training. Serious games used for corporate training purposes range from teamwork, leadership, time and project management, communication skills, strategic planning, customer service, sales, onboarding, and of course job-specific skill development (Greco, Baldissin, & Nonino, 2013; Lopes, Fialho, Cunha, & Niveiros, 2013; Michael & Chen, 2006). In addition to training, serious games have also been used to attract and retain customers, launch new products, enhance job performance, and attract potential job candidates. One promising new area for serious games in the corporate arena involves the use of serious games for personnel selection, which will be covered in the following section.

Moving Forward: Serious Games for Personnel Selection

The use of simulations and other multimedia-rich applications for the purposes of evaluating the qualifications of potential new hires has increased dramatically over the past decade. These assessments are used to evaluate a wide variety of knowledge, skills, abilities, and other characteristics (KSAOs) of candidates seeking employment and provide unique methods for determining employment suitability. Simulations and multimedia-based assessments are currently used to measure KSAOS that are critical for managers, customer service and sales representatives, clerical and administrative personnel, contact center and collections agents, bank tellers, cashiers, manufacturing workers, professional staff, and many others (for a comprehensive review, see Fetzer & Tuzinski, 2013). These types of talent measurement tools are not only highly predictive of on-the-job performance (e.g., Schmidt & Hunter, 1998), but they also provide opportunities for the hiring organization to enhance their brand awareness, increase candidate engagement, enhance perceptions of being on the leading-edge of technology, and provide a competitive advantage in the war for talent.

Given the relative success of simulations in the selection arena, one may question the need for using serious games. The rationale lies in a concept called stealth assessment, which refers to embedding assessments in a game environment (Shute, 2011; Shute & Ventura, 2013; Shute, Ventura, bauer, & Zapata-Rivera, 2009). When players become engaged in playing the game, atten-

tiveness to the fact they are being assessed is reduced and/or eliminated, due in part to a level of engagement not unlike Csikszentmihalyi's concept of flow (Csikszentmihalyi, 1990). This is a point where true behaviors emerge, which serves to increase the accuracy of assessment by reducing measurement error, bias due to social desirability, and the propensity of candidates to "second guess" their actions (responses).

Developing and implementing serious games for personnel selection requires special considerations. There are a few fundamental differences between traditional serious games and those that may be used for hiring purposes. First, as opposed to games used in training environments, selection games would likely be played only once. Because the purpose would be to evaluate current candidate skills, there is a strong need to avoid contaminating the scores obtained with practice effects. In other words, candidates should not be given the opportunity to play the game multiple times, as doing so would enable the candidates to artificially inflate their scores. Similarly, it would not be advantageous to provide ongoing feedback, especially explicit feedback, as the player would then adjust his/her approach and potentially increase measurement error. Second, there is a greater need for security when it comes to serious games used for hiring purposes. In a training environment, players who cheats (e.g., by attempting to get the "right answers" from others) are only cheating themselves out of a learning opportunity, so the risk of cheating is small. In a hiring situation, especially one that is high stakes, there can be a larger proportion of the players who might attempt to "game the game."

Security considerations should not be taken lightly as serious games are developed and implemented in a personnel selection context. As with any form of assessment for selection purposes, care should be exercised in the development and implementation of the game to protect it from being compromised, especially if the game is accessible from an unproctored environment. The use of adaptive or branching methods within the game is one way to increase security, as is limiting access and only allowing candidates to play the game once. Other characteristics of serious games (e.g., uncertainty, nonlinear design, gameplay rules, etc.) should be maximized in order to reduce the potential for cheating. In addition, ongoing monitoring is recommended in order to detect suspicious data trends and/or outright content breaches.

Finally, serious games used for personnel selection must meet certain legal criteria. Primarily, the game must have evidence that it is valid for its intended use (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999; Equal Employment Opportunity Commission, 1978; Society for Industrial and Organizational Psychology, 2003). In other words, research is required to show the job relatedness of the score(s) produced by the game that are to be used for making employment decisions. Evidence is also required to show that the game is a reliable (consistently accurate) measure of whatever KSAO(s) it is claiming to measure. In ad-

dition, games used for selection should not result in adverse impact against protected classes (e.g., racial/ethnic groups, gender, age). However, if the validation evidence clearly supports the use of the game, then the concern for adverse impact is mitigated from a legal perspective.

These considerations should not be taken lightly as serious games are developed and implemented in a personnel selection context. Care should be exercised in the development and implementation of the game to protect it from being compromised. The use of adaptive or branching methods within the game is one way to increase security, as is limiting access and only allowing candidates to play the game once. Other characteristics of serious games (e.g., uncertainty, interactive problem solving, rules) should be maximized in order to reduce the potential for cheating. Like any other test or assessment, gathering evidence of the game's validity and reliability should be incorporated into any development and implementation process. In short, the use of serious games for personnel selection purposes is not that different from using any other method to evaluate candidate qualifications and can result in some incremental benefits to the hiring organization.

Future Research

Given the relative infancy of serious games as a selection method, there is no shortage of future research needs. At this point, the following three categories are the most important: validity, scoring methods, and adverse impact. Aside from simulations, very little evidence exists regarding the validity of serious games when used for selection purposes. Criterion-related validity studies, especially those examining incremental validity compared to other (traditional) predictors of job performance have yet to be published. Beyond that, comparative validity studies examining different game genres, job performance criteria, multimedia styles, and other characteristics would lead to further advancements.

Serious games also represent an opportunity to develop and refine new forms of scoring methods, beyond the traditional question/answer approaches. Even in a relatively short game, hundreds or even thousands of potentially "scoreable" events can be captured. Similar to consumers of other forms of "big data," the challenge lies not in capturing the data but rather making sense of all the data that are available. Of course, from a theoretical standpoint, the question of which data should be captured and scored in the first place is always paramount. However, there are sure to be advocates for the merits of dustbowl empiricism when the practicalities of traditional approaches are stretched to their limits.

Despite the shrinking gaps among gamer demographic groups, little is known about relative game performance across these groups. More importantly, which types of games have more (or less) adverse impact? What game characteristics can be modified in order to reduce adverse impact? Are their expected differences based on KSAOs measured? Or, better yet, do games result in little to no adverse impact in general, given their engaging and immersive nature?

On a broader level, leveraging ongoing research in other fields (e.g., education, training & development) is highly recommended, to the extent it is relevant in a selection context. As the use of serious games for selection becomes more prevalent, future research needs will get broader and deeper, assuming the relatively fundamental directions noted above are covered appropriately. Finally, as gaming technology advances into more immersive experiences such as Oculus Rift and Magic Leap, new research opportunities will evolve.

Conclusion

Serious games are becoming more prevalent as useful and effective methods for accomplishing many different objectives across a wide variety of fields. Increasing engagement through the use of game design techniques has resulted in benefits that are not achievable using nongame approaches. As the use of serious games continues to expand both in terms of purpose and application, the reader is encouraged to consider how this innovative methodology could address current business challenges. For those in the talent management space, exploration of serious games for training and personnel selection purposes would be a worthwhile endeavor.

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FEATURE

Connections Past and Present: Bringing our Scientific Influence Into Focus[1]

Tammy D. Allen

Over the past several years, SIOP has directed considerable attention toward efforts intended to increase the visibility of I-O psychology. For example, our new brand logo and tagline are ways to better connect us with the outside world and a tool by which we can build and strengthen our influence. Our efforts to become more visible are related to our desire to increase opportunities for our members and to make an impact. This morning I want to talk about impact and visibility in a way I think is different from the usual conversation. I want to consider a different form of connection, the connection between our science and other science domains.

When we discuss impact, it is commonly addressed from an applied perspective. Are we visible to the business community and decision makers within organizations? Are we conducting research that helps to bridge science and practice? These are important questions and we need to continue to do the work that ensures the answer is yes.

However, another question is what is the impact of our research on science? What science domains are drawing from our work? Are we visible to other areas of science?

Through an analysis and visualization of our science, we should be able to identify patterns and better understand where our influence lies. A tool for doing such work is scientometrics. Scientometrics is the study of measuring and analyzing science research, which includes citation analyses. Citations serve as a common barometer of scientific impact.

With support from the SIOP Foundation and partnership with Innovacer, a scientometric I-O science mapping project has been completed over the last year. To center the study on I-O, I first identified 20 journals in which I-O psychologists publish (see Table 1).

We could argue about the list, but these are the journals that underlie the data. To conduct the study, each article published

Table 1

I-O Journals Included in Science Mapping Project

Academy of Management Journal	*Journal of Occupational Health Psychology*
Applied Psychology: International Review	*Journal of Occupational & Organizational Psychology*
European Journal of Work and Psychology	*Journal of Organizational Behavior*
Group & Organization Management	*Journal of Management*
Human Performance	*Journal Managerial Psychology*
Human Resource Management Review	*Journal of Vocational Behavior*
Industrial and Organizational Psychology: Perspectives on Science and Practice	*Leadership Quarterly*
International Journal of Selection and Assessment	*Organizational Behavior and Human Decision Processes*
Journal of Applied Psychology	*Organizational Research Methods*
Journal of Business & Psychology	*Personnel Psychology*

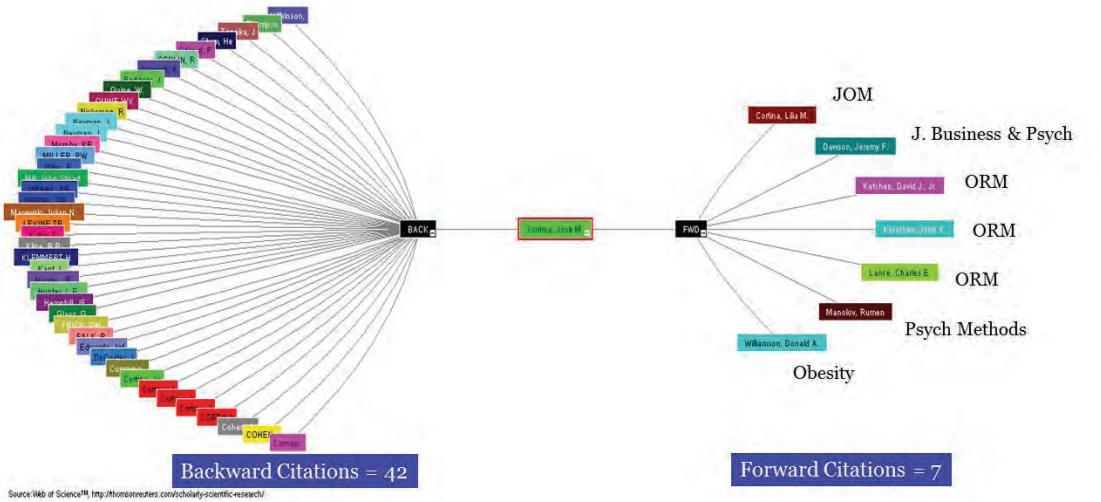

Figure 1. *Example Backward and Forward Citation Analysis for Single Study*

in these 20 journals was extracted, as were the backward and forward citations.

To try to provide a clear understanding of how this works, Figure 1 is an example from a single article published by Jose Cortina in 2011.[2] The 2011 article cited 42 articles. Those are *backward citations*. The 2011 article has been cited by seven other articles. Those are *forward citations*. Each citing article can be categorized into one or more scientific domains (e.g., management, psychology, nursing).

The science mapping project is based on publications that began in 1917, which was when the first issue of the *Journal of Applied Psychology* was published, through early 2014. It includes 33,396 published articles, 662,971 backward citations/1,631,984 citation categories, and 809,109 forward citations/1,417,007 citation categories.

A total of six different visualization maps have been created: one backward and forward set that connects I-O with other science domains, a second that breaks I-O out from the rest of psychology across all science domains, and a third set that looks at the connection between I-O and other areas of psychology. Here is the link to all six maps http://innovaccer-demo.appspot.com/map-of-science.

Figure 2 is a snapshot of the map of forward citations from I-O to all science domains. The number in the middle (19,397) shows the total number of forward citations from articles published in 2010 in our 20 I-O journals. Those citations are distributed across one or more science domains and appear in order of proportion from left to right. You can see here that we are primarily cited by psychology, followed by management, and then business.

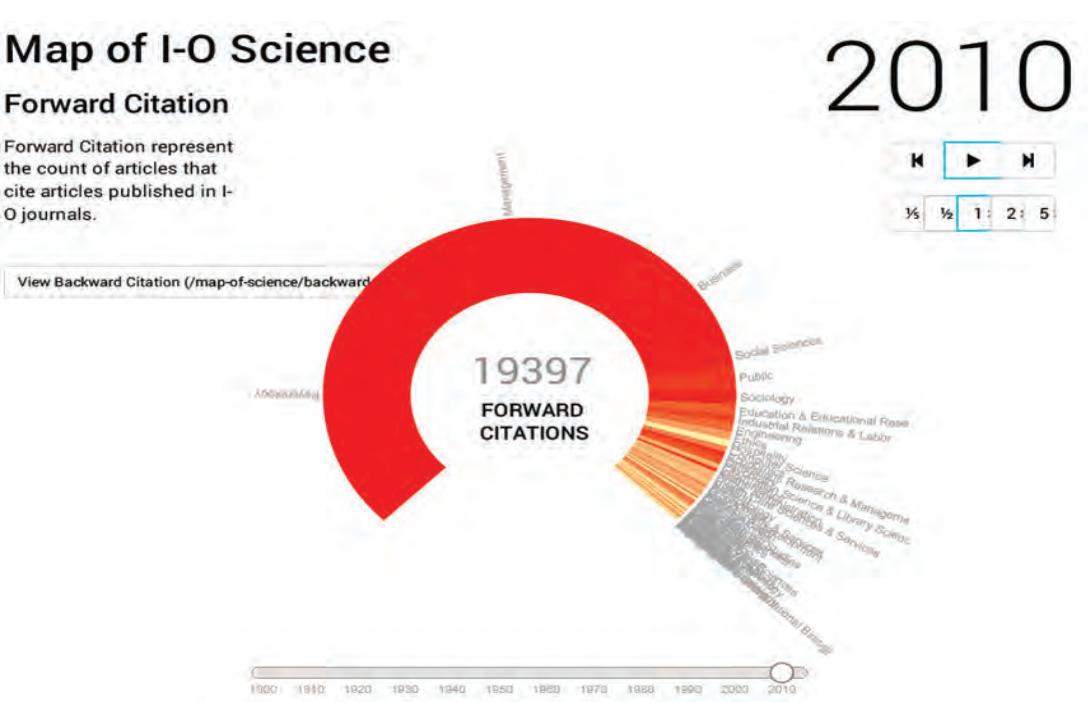

Figure 2. *Map of Science Snapshot*

The map is dynamic and interactive with the user. You can hover over any slice to get the specific number of citations from that domain. If you click on the slice, you will find the specific journals from that domain. The slider at bottom can be used to quickly to go a specific year, you can control speed, and you can toggle between the backward and forward data.

To begin to summarize some of the trends across time I created figures based on specific time periods. Figure 3 shows the relative contributions of citations coming to and from psychology, management, and business across all science.

What these data show is that with regard to the literature that we are citing, we remain primarily rooted in psychology but are increasingly drawing from management and business. What has markedly changed is the trend with regard to forward citations. Across time, our science is contributing less to psychology and more to management and business.

Figure 4 summarizes citation trends from and to science domains other than psychology, management, and business.

The first thing to notice is that percentages are rather small across the board, underscoring the insularity of our science. We are not connecting very frequently to science domains outside of psychology/management/business. Although there appears to be a substantial increase in forward citations in 2010, a review of 2009 and 2011 show values close to those of 1990, so there does not appear to be real growth.

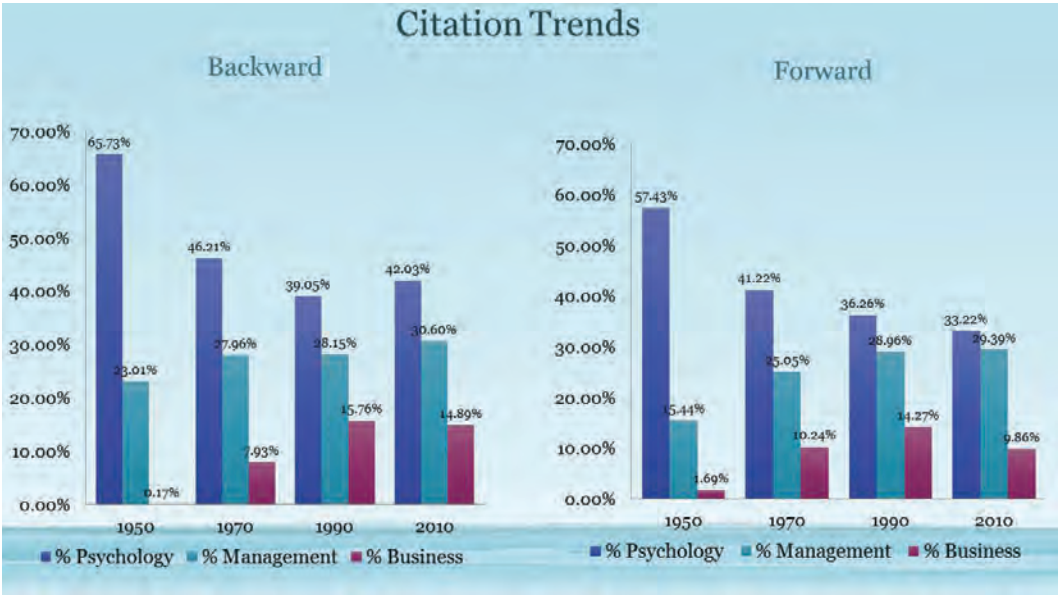

Figure 3. *Citation Trends: Relative Contributions Across Psychology, Management, and Business*

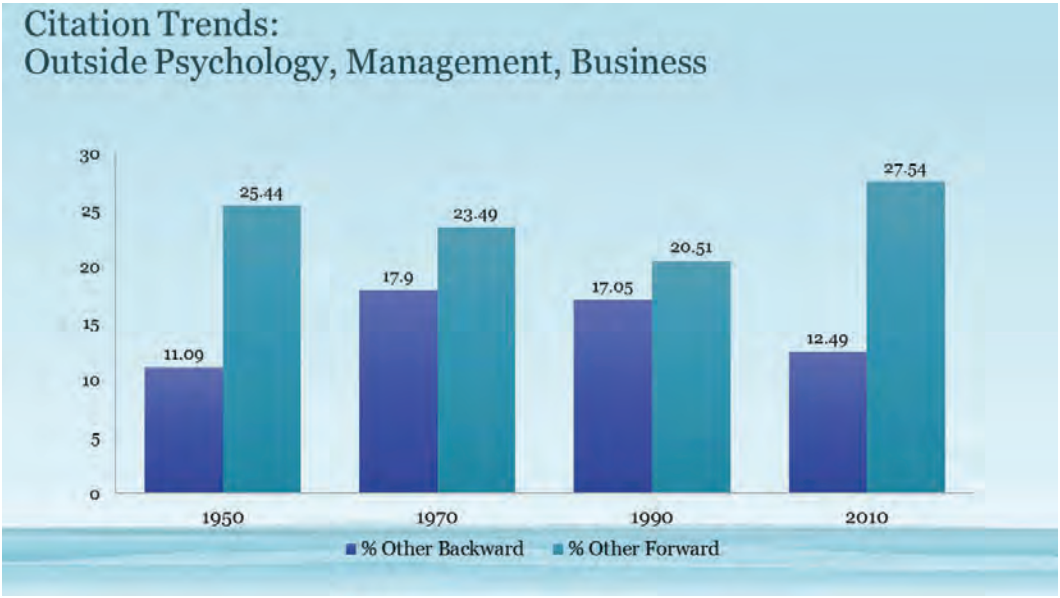

Figure 4. *Citation Trends: Outside Psychology, Management, and Business*

Figure 5 illustrates how I-O is connecting with other areas within psychology across time. I-O is referenced as "applied." The data show that in terms of backward citations we generally cite from our own literature. The next highest values come from

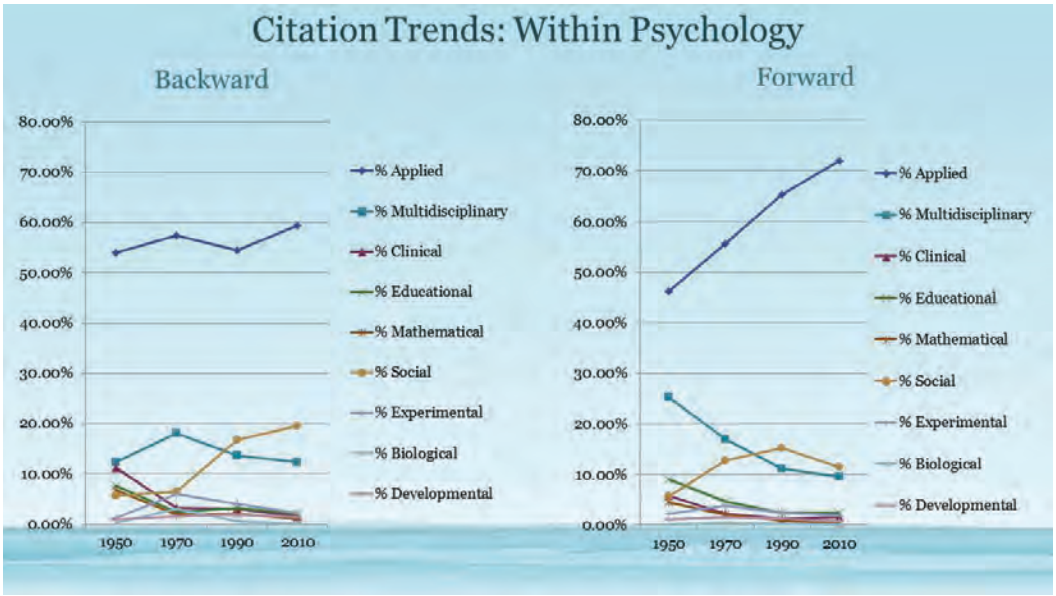

Figure 5. *Citation Trends: Within Psychology*

multidisciplinary psychology and from social psychology, which has been increasing. With regard to forward citations, there is a pronounced trend indicating we are increasingly only being cited by ourselves.

Those are a few initial patterns that pertain to our scientific influence revealed from the project. These data give us a lot to think about in terms of the future of our science. One of the key questions that emerges is why does I-O research have limited scientific impact outside of I-O psychology and management?

There are several potential causes. It could be that what we are publishing has little **perceived** value beyond ourselves. Or it could be that what we are publishing would be perceived as valuable, but we have not communicated it or found ways to make it visible to others. We need to address both possibilities.

Next are some thoughts on ways we can continue or begin to either directly or indirectly enhance the visibility and/or value of our science.

1. Continue to build our science advocacy efforts – internally and externally
2. Increase recognition of and support of I-O in psychology departments
3. Broaden the way we view impact

1. Continue to Build Our Science Advocacy Efforts—Internally and Externally

Science advocacy has been one of our strategic objectives since they were formulated in 2006. It has been difficult however to gain traction in that arena. Table 2 shows some of the key milestones.

There have been two key turning points. The first was the taskforce report chaired by Steve Kozlowski.[3] The recommendations

Table 2
Science Advocacy Milestones

Year	Activity
2006	Strategic planning meeting identified "Advocate and champion of I-O psychology to policy makers" as 1 of 4 strategic objectives
2008	Science Forum with FABBS in DC on work and aging (Kanfer, Chair)
	EB approves formation of Science Advocacy Taskforce (Kozlowski, Chair)
2009	External Relations ad hoc committee formed (Knapp, Chair)
2011	Taskforce report issued and approved by EB
	Scientific Affairs conducts first science advocacy survey (Allen, Chair)
2012	Various options for non-volunteer advocacy assistance considered (Rogelberg, Chair)
	Metrics developed
2013	EB approves contract with Lewis-Burke
	First set of meetings on the Hill
	Government Relations Advocacy Team chartered (Kaplan, Chair)

issued in that report have been instrumental to our current efforts. The second was the hiring of government relations firm Lewis-Burke in July of 2013.

Our overarching objective is to build our internal and external infrastructure for science advocacy. We are guided by three goals: (a) create opportunities to engage federal and congressional support for I-O research; (b) engage in activities to enhance SIOP members' understanding of federal policies, funding, and process; and (c) increase external visibility of I-O with federal decision makers. Our work with Lewis-Burke is helping to shape our advocacy agenda and increase our visibility with policy makers and government officials.

We are also developing our internal infrastructure. These efforts include the creation of opportunities to strengthen the scientific capabilities of our members, a *TIP* column on external funding, a *TIP* column with updates on advocacy efforts, and our first science funding speed mentoring event at this conference. Right or wrong, funded science is perceived as important science and helps to connect us with other science domains. By increasing our science funding and advocacy, we increase both the visibility and the perceived value of our research.

2. Increase Recognition of and Support of I-O in Psychology Departments

There are two channels I propose this morning. The first is through education and the second is through endowments.

The importance of our science is communicated through what is taught. A few weeks ago, I received an email from a colleague in a psychology department that included the following text, "I know that it is shameful, but I have never covered I-O in my intro psych class. I want to do this… this year." When I-O psych is not included in Intro to Psych, the message is that it is not important. A metrics study conducted as part of our branding effort showed that students were the least likely group to be familiar with I-O psych and that one of the

best channels for familiarizing individuals with I-O is through course-related material. A commitment that everyone can make is to do what you can to see that I-O is included in introductory psychology courses.

The importance of our science and our grounding in psychology is also communicated through what is financially supported. We are all aware that many I-Os choose to work in business schools. This no doubt is a factor in the citation trends shown earlier. It is also no secret that a primary driver of that move is that business schools pay higher salaries than psychology departments. So why not make an effort to create more endowed chairs in I-O psychology?

Endowed psychology professorships can be used to attract, reward, and retain the best faculty in I-O. On the surface this may seem like an issue just for the academics, but when you consider that I-O practitioners in the U.S. are trained in psychology departments and not business schools, the significance to practice becomes clear.

I have identified four different models of endowed professorships in I-O: (a) endowments made by SIOP members, (b) endowments made by alumni/family members in honor of a faculty member, (c) endowments made to the university obtained by an I-O professor, and (d) university endowment created specifically for an I-O position. **Bill Byham**, the president and founder of DDI has generously endowed two professorships in I-O psych, one at Purdue and one at Ohio University. I asked Bill if would comment on his motivation for creating these endowments. Here is part of what he said,

> I did this to pay back to I-O psychology for the wonderful life that it has provided for me and my family. I'm disappointed that we have not increased the output of I-O psychologists, particularly those interested in working in a business environment. It is my hope that my chairs **will** go a small way toward increasing the number of I-O psychologists in general and particularly those interested in working outside academia.

Minnesota has been successful at securing several endowments for their IO faculty including one initiated by the students of **Marv Dunnette**. As stated by **Paul Sackett**, "At Minnesota, we view endowed positions as essential; not sure we could recruit successfully without them."

Endowed professorships keep top scholars in psychology, signal our relevance to others, and help ensure the continued training of I-O psychologists for careers outside of university settings.

3. Broaden the Way We View Impact

It was my goal that the science mapping project would be used to start a conversation about how I-O science is connected to and is contributing to the broader discipline of psychology and to other domains of science.

The question now is where is the field going? What is it that we want our science to do or to be known for? Undeniably, one of the key strengths of our profession IS the impact we have on organizations. Our research and practice has contributed significantly toward enhancing the quality of

work life for employees. Similarly for organizations, we help to improve their results and effectiveness in a multitude of ways.

However, by evaluating and valuing our impact along these lines, we may have inadvertently boxed ourselves into a relatively narrow line of thinking, research, and practice. So often we ask ourselves, as academics or practitioners, the "so what" question. More often than not, implied or directly stated, the "so what" question is focused on the effects or applicability of our work to organizations: the bottom line, the culture, employee retention, employee satisfaction. Perhaps as a result of this kind of narrow thinking, our attention focuses internally and we become consumed with psychology versus management, science versus practice. Is it any wonder then why so few outside of those directly engaged in our profession know what we do?

I'm not suggesting that we abandon practical application as a context for our science. Rather, I'm proposing is a shift in the conversation about impact, a reconsideration and expansion of how we see ourselves impacting the psychology of work.

For example, could we accept as worthy of our attention I-O research that endeavors to understand not only the impact of work on employee outcomes but how employee's work affects family member outcomes? Could research be considered impactful whose main goal is to increase our understanding of the human condition at work, without any clear or immediate notion of how results can be applied to the work setting—as Weiss and Rupp have described it, a more personcentric work psychology.[4] Could we endeavor to understand the work experiences of individuals on the periphery of society and outside of organizations such as migrant farm workers?

By broadening our scope and forming a more in-depth understanding of the individual at work, we then open up more opportunities to increase our connection with other areas of psychology and other sciences. With greater connections to and impact on other sciences, we then increase our reach to and impact on society in general. As we become less parochial, and less self-referential, people will know what we do, how we do it, and what our science can do for them.

In essence, what I'm proposing is a three-pronged definition of impact. Certainly we need to have impact on the organizations, but just as important is our impact on the psychological knowledge and understanding that we gain about the human being at work, as well as our impact on science and society.

Notes

[1] This article is based on a portion of the presidential address that was given at the Annual Conference of the Society for Industrial-Organizational Psychology, Honolulu, HI, May 2013.

[2] Cortina, J. M., & Landis, R. S. (2011). The earth is not round (p = .00). *Organizational Research Methods, 14*, 332-349.

[3] Kozlowski, S. W. J., Kanfer, R., Major, D. A., & Weiss, H. M. (2011). *A strategy to build an infrastructure for SIOP science advocacy.* Society for Industrial and Organizational Psychology Scientific Affairs Task Force on Science Advocacy.

[4] Weiss, H. M., & Rupp, D. E. (2011). Experiencing work: An essay on a person- centric work psychology. *Industrial and Organizational Psychology: Perspectives on Science and Practice, 4,* 83–97.

FEATURE

Reasons for Enthusiasm and Caution Regarding Big Data in Applied Selection Research

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PSI Services LLC

Big Data and Big Data Analytics (BD and BDA, respectively) have burst onto the scene in the popular culture in recent years, perhaps most notably in the form of Nate Silver's high profile predictions in the political and professional sports arenas. According to futurist Tyler Cowen, modern society will soon be reordered, with creators and tenders of incredibly complex datasets and the artificial intelligences mining those datasets at the top and the remaining humans relegated to a vast underclass (Cowen, 2013). SIOP's interest in BD and BDA's potential talent management applications has increased as well. Case in point, this article is the third on the topic to be published in TIP in the last five issues. Whereas the previous articles (Maurath, 2014; Poeppelman, Blacksmith, & Yang, 2013) viewed BD and BDA through a wide-angle lens, we focus more narrowly on their applied selection research applications. Although we see the potential for BD and BDA to provide considerable incremental value, the current article can be considered a cautionary editorial on their merits in this context. We focus particularly on assessment design and validation, highlighting areas where BD and BDA can contribute (and are already doing so) while also identifying areas where they are unlikely to bear fruit, may pose risks, or are potentially unnecessary.

The article is organized in terms of recent definitions of Big Data (Laney, 2001; Maurath, 2014). Specifically, Big Data is defined in terms of "three Vs" —volume, velocity, and variety—and we discuss each of these aspects in turn. In preparing for this article, we spoke with A. James Illingworth and Michael Lippstreu, two of the authors of the selection and assessment chapter in the forthcoming SIOP Organizational Frontiers Series book Big Data at work: The Data Science Revolution and Organizational Psychology (Illingworth, Lippstreu, & Deprez-Sims, 2015). At appropriate points throughout, we share their perspectives on Big Data's role in applied selection research and talent acquisition/management.

Volume

According to the 3Vs definition, for data to meet this condition for "bigness" it must be so vast that it cannot be stored on a single computer's hard drive or manipulated using typical statistical software packages (Maurath, 2014). In applied selection research, the most likely reason for a dataset to become that large is sample size. Lippstreu and Illingworth, among others, have correctly pointed out that the talent acquisition systems of large employers can easily accumulate millions of new applicant

records per year at the beginning stages of a multihurdle applicant screening process.

When it comes to big volume due to large sample sizes, the amount of data this definition describes is unnecessary for almost any purpose related to assessment design and validation. Modern computer hard drives can accommodate very large data sets. As of October 2014, $1,200 USD would buy a laptop with 16 gigabytes of RAM and a 1 terabyte internal hard drive—easily enough processing speed and storage capacity to handle datasets with tens or even hundreds of thousands of cases containing a handful of relatively simple variables. But the more important issue is related to sample sizes necessary to detect meaningful relationships between predictors and criteria. Cohen (1988) has proposed what are likely the best known rules of thumb for the interpretation of effect size magnitude in the social sciences, with suggested classifications of Pearson r values as small (.10), medium (.30), and large (.50). The Employment and Training Administration of the Department of Labor's Testing and Assessment: An Employer's Guide to Good Practices (2000) guidelines for the likely usefulness of selection instruments are generally aligned with Cohen's rules of thumb. A sample consisting 1,300 participants is sufficient to detect a correlation with an absolute value of .10 (Cohen's example of a "small" effect) when alpha = .05 (two tailed) and power = .95 (as computed using standard power analysis techniques). This is a large sample certainly but not "big" per the Big Data volume definition.

Of course, larger or smaller samples may be appropriate for applied selection research, depending on the study's objective and its practical constraints. Beyond examining test validity, researchers are sometimes interested in investigating topics requiring large samples, such as measurement invariance, measurement bias, or differential validity (e.g., Berry, Cullen, & Meyer, 2014; Meade, 2008; Meade, Johnson, & Braddy, 2008; Roth, Bobko, & Switzer, 2006; Roth et al., 2014). Yet even in cases where large amounts of data can be persuasive, existing sources and analytical methods could be sufficient and arguably preferable. It is worth keeping in mind, as Poeppelman et al. (2013) mentioned, that working with large amounts of data is not new to I-O psychology. Over the last quarter century, for example, I-O practitioners have been utilizing large aggregates of data in the form of meta-analyses to evaluate the extent to which a predictor's validity generalizes for multiple jobs or job families across different settings. The Principles for the Validation and Use of Personnel Selection Procedures (SIOP, 2003) endorses their use for this purpose. Thus, in terms of volume, BD's contribution to these areas of applied selection research seems to be incremental at best and likely to reach an asymptote well before challenging a modern computer's storage or processing capacity.

Velocity

Another key attribute of Big Data is that it accumulates very rapidly. In the contexts of talent acquisition analytics and applied selection research, it is worth distinguishing between what we have termed between-subjects velocity and within-subjects velocity. Between-subjects velocity is the rapid collection of measurements obtained once

on many individuals. Illingworth et al. (2015) talk about the value of velocity in talent acquisition systems in their upcoming chapter on Big Data selection and assessment, focusing on what we refer to as between-subjects velocity. Specifically, at the beginning stages of a large-scale applicant screening process, many thousands of new job seekers across multiple geographic areas may view a realistic job preview video or start a job application each day. This kind of between-subjects velocity decelerates as the qualified applicant pool is winnowed at later stages. Still, within the realm of applied selection, useful data on the amount of time people are spending reviewing each assessment question, for example, will accumulate quite rapidly. Because the volume levels needed are relatively modest compared to the system's capabilities, selection practitioners are often able to evaluate item and test-level psychometric properties of assessments very soon after implementation and monitor for changes over time. Such analyses are useful for test security purposes, as well as for ongoing monitoring of system effectiveness.

Within-subjects velocity is the rapid collection of multiple measurements on the same variable(s) on a single individual over time. In other fields where BD is utilized, several kinds of measurements are taken within fractions of a second. Maurath (2014) used the example of Google's self-driving car, in which repeated measurements on the same variables accrue at 750 megabytes per second in order for it to stay on the road. But this is rarely if ever necessary in the vast majority of applied selection settings, where the goal is to assess stable, job-related characteristics (predictors) expected to change very little over short time periods. When we can be confident in the reliability of our tools, retesting trajectory information from within-subjects study designs can provide useful information on how response distortion/test taking strategies evolve across administrations (Schleicher, Van Iddekinge, Morgeson, & Campion, 2010). The within-subjects administration intervals in retest trajectory studies typically range from same day to a number of months. So although talent acquisition systems make it easier to collect the information needed for studies evaluating a tool's operational performance, the required intervals fall short of Big Data velocity standards. Retesting studies involve readministering the entire assessment over time. Alternatively, within-subjects high velocity data acquisition can also take the form of repeated measures obtained on an individual during a single assessment administration. This kind of high-velocity data collection is likely to be useful in simulation assessments, particularly for jobs with a heavy psychomotor component (e.g. tracking real-time rudder adjustments made by pilots during flight simulations). But, at least for now, its usefulness in selection assessments is probably limited to such narrow applications.

The same holds for criterion measurement. Many of us have trip computers as standard features in our cars. Set accordingly, they can present a continuous real-time indicator of the car's fuel efficiency. The values fluctuate wildly, from unnervingly low single-digit miles-per-gallon readings when accelerating from a stop or maintaining speed on an incline, to impressive, overly comforting double digits after

reaching high gear cruising speed on level roads. But when evaluating a car's overall fuel efficiency, this information is inferior to the summary-level values provided on the sticker or the information a driver can obtain by simply dividing distance driven by fuel usage. Likewise, when practitioners need to evaluate the job performance of commercial truck drivers or pilots for use as criteria in validation research, more global indicators will typically be preferred over minute bits of data collected at infinitesimal time intervals. There are some exceptions in which performance data are collected at much tighter intervals in specific industries (e.g. call centers, manufacturing), and the practice may become more prevalent with advances in monitoring technology. However, at present, the most psychologically meaningful, valid job performance criteria will usually be more global in nature than the kinds of measures that would put one in Big Data territory.

Variety

The third element of the 3Vs definition refers to the tremendous numbers and diversity of variables available for evaluating individuals as a result of their activity in social media, elsewhere on the Internet, and from other large data sources. For the most part, this element's benefit is to applied selection research centers on postimplementation consulting opportunities. In discussing their upcoming book chapter, Lippstreu and Illingworth mentioned the potential benefits of the variety of information available through integrated talent acquisition and management systems. Everything from application zip code to key stroke characteristics to point-of-sale systems training results for new hires are housed together along with assessment results and a host of other details. This information can be extremely useful to practitioners, providing postimplementation consulting opportunities throughout the process (e.g. making adjustments to candidate sourcing practices, managing assessment content, modifying bands or cut scores, and demonstrating the assessment's business impact).

Two related postimplementation applications of BD methods—predictor optimization and identification—are worth mentioning here as well. Some proponents see promise in applying data mining techniques to identify new ways to use existing predictors to enhance validity and to identify previously unknown or unexpected predictors. These methods have been put to good use in other professions and can also yield benefits in applied selection research. However, as previous articles have pointed out, a purely empirical, atheoretical approach to working with predictors is not considered a best practice (e.g., Maurath, 2014; Poeppelman et al., 2013). Cowen (2013) refers to data mining algorithms, or machine intelligences, that are capable of finding ways to capitalize on relationships in large, complex data sets that are incomprehensible to humans. It is important to ensure the modifications that come out of optimization efforts can be explained in a way that aligns with or builds on practitioners' current understanding of predictor–criterion relationships (e.g. a positive linear, or upside-down u-shaped relationship between Conscientiousness and job performance; Carter, Dalal, Boyce, O'Connell, Chung & Delgado, 2014; Converse & Oswald,

2014). A related key point underscored by Lippstreu and Illingworth is the importance of retaining links back to the job analysis. Data mining techniques can identify a host of unexpected, potentially useful patterns. But if the way the predictor is used alters dramatically, and the job has not changed, can the links to job analysis still be made?

Further, proponents—most likely those outside of our profession—might expect to find some kind of previously hidden game-changing performance predictor through BD and BDA. For this reason we strongly agree with authors of the previous related TIP articles that there are opportunities for I-Os to contribute to data science teams involved with talent acquisition. It is more likely that seemingly new predictors are actually indicators or proxies for one or more previously identified constructs, complete with their inherent concerns and limitations. The credit score is an illustrative example. It is an existing variable generated by an individual's financial activity observed across vast data sources. The far-reaching effects of the housing crisis on personal debt have arguably compromised its reliability for the time being by introducing extreme real estate market volatility. However, although little validity research is available, preliminary evidence suggests the credit score can be a valid predictor of job performance. It is also probably a manifestation of previously known constructs such as conscientiousness and cognitive ability (Bernerth, Taylor, Walker, & Whitman, 2012). Finally, the sizable mean differences across demographic groups will certainly draw increased scrutiny for organizations choosing to use credit scores to screen candidates (Bernerth, 2012).

We suspect these conditions will apply to other seemingly new predictors identified via BD and BDA. It is unlikely that these techniques are going to resolve the diversity–validity dilemma (Pyburn, Ployhart, & Kravitz, 2008). If the "new" predictors they identify turn out to be composite manifestations of known characteristics, they will exhibit the same tendency for validity and group differences to vary together. In this case, end users are encouraged to make sure that group differences do not increase to levels beyond what would be expected from a more straightforward, well-understood predictor of comparable validity.

Conclusion

In sum, although a potential source of guidance for optimizing talent acquisition systems, BD volume is unnecessary for most applied selection research purposes at present. Likewise, we expect true BD velocity, particularly within-subjects velocity, to be of limited use on either the predictor or the criterion side. Finally, BD variety, like volume, can be a great source of insight regarding talent acquisition/management systems in general and could provide opportunities to incrementally improve or optimize selection programs in some settings. However, data mining will typically reveal proxies for constructs we have already encountered, and data-mining techniques must be used with care in predictor development in order for users to avoid increased risk. BD and BDA have captured our discipline's interest and may end up being very useful in many ways. We acknowledge the potential for them to produce incremental contributions and opportunities for us to provide more insight as talent management

consultants. Much of the enthusiasm in the context of applied selection research is justified, along with some caveats.

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FEATURE

Leadership Development for Volunteer I-O Psychology Leaders

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This article is about a unique leadership development initiative for volunteer leaders. What makes it so very distinctive is that the volunteer leaders are I-O psychologists and the organization in which they are leading is the Division of Occupational Psychology (DOP, the United Kingdom equivalent to SIOP). Our objectives are to "produce better leaders" and to support succession planning. My aim here is to share our experiences to date. I'll do this by covering our context, creation of a leadership capability framework, design of a year-long program, selection of delegates, lessons learned from 3 program years, evaluation, and the future. My perspective is as a past DOP chair, founder of the program, and current facilitator.

Our Context

The DOP is the professional association for occupational psychologists (OPs, i.e., I-O psychologists), with just under 4,000 members. It was founded in 1941 as a section of the British Psychological Society (BPS). Like many professional associations, the DOP is led by volunteers and must contend with typical volunteer leader difficulties: inadequate role preparation, competition with one's "day job," poor time management and follow through, and the vaguaries of "managing" other volunteers and having to do this at a distance. An additional challenge is too few volunteers; it's estimated that the DOP can count upon only 2% of its members to volunteer for committee and leadership roles. This means that the DOP has a leadership pipeline that is often empty. So, in addition to wanting to prepare our volunteer leaders, we viewed the program as a succession planning tool. We were also hoping that whatever delegates learned as volunteer leaders would transfer into their working roles (as a selling point for the program).

The idea for such a leadership development initiative came to me when I repeatedly saw individuals being "tapped on the shoulder" for taking on the chair and other leading roles. One such person said that they really didn't have the time but would do it if it was necessary. I also observed executive committees who would meet quarterly but have no interaction in between; an often-heard statement about actions was, "I haven't got to that yet." How could we lead the evolution of our profession in the UK if our leaders were reluctant and simply passing the time? In 2011, I successfully proposed to the executive committee the idea of a year-long leadership development program (LDP). We opened a commercial tender to make our vision become a reality.

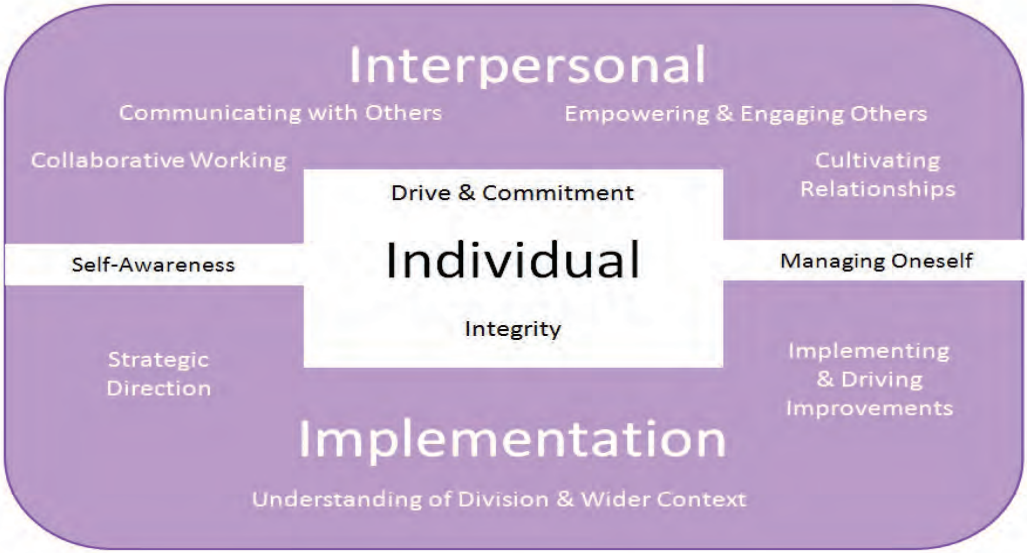

Figure 1. *DOP Leadership Capability Framework*

Creation of a Leadership Capability Framework

We knew that we wanted a year-long program, but we didn't yet have any basis on which to build it. The successful tenderer, the Work Psychology Group, conducted an applied research project to create an underlying competency model. This was in two parts, a literature review and interviews with volunteer leaders. The literature review canvassed existing research on volunteer leadership and competency frameworks for professional associations. There was very little research on volunteer leaders per se (Jäger, Kreutzer, & Beyes, 2009); what is out there tends to be about volunteer motivation, which, of course, has indirect messages for volunteer leadership (e.g., see Batson, Ahmad, & Tsang, 2002; Clary et al., 1998; Farmer & Fedor, 1999; Lysakowski, 2002; Rodell, 2013). A few existing competency frameworks were unearthed, including that for the clinical psychology division of the BPS. The other part consisted of 21 "role analysis" telephone interviews with past and present leaders from the DOP, other BPS divisions, and SIOP and EAWOP. The outcome was the leadership capability framework (LCF), a set of 11 competencies nested within the three areas of individual, interpersonal, and implementation (see Figure 1).

Design of the LDP

With little research to go on about effective volunteer leadership development, we opted to follow a typical corporate development approach (see Figure 2). Our 12-month program was to be anchored with three residential modules of 2 days each. Activities at these sessions would include interactive discussions about core topics,

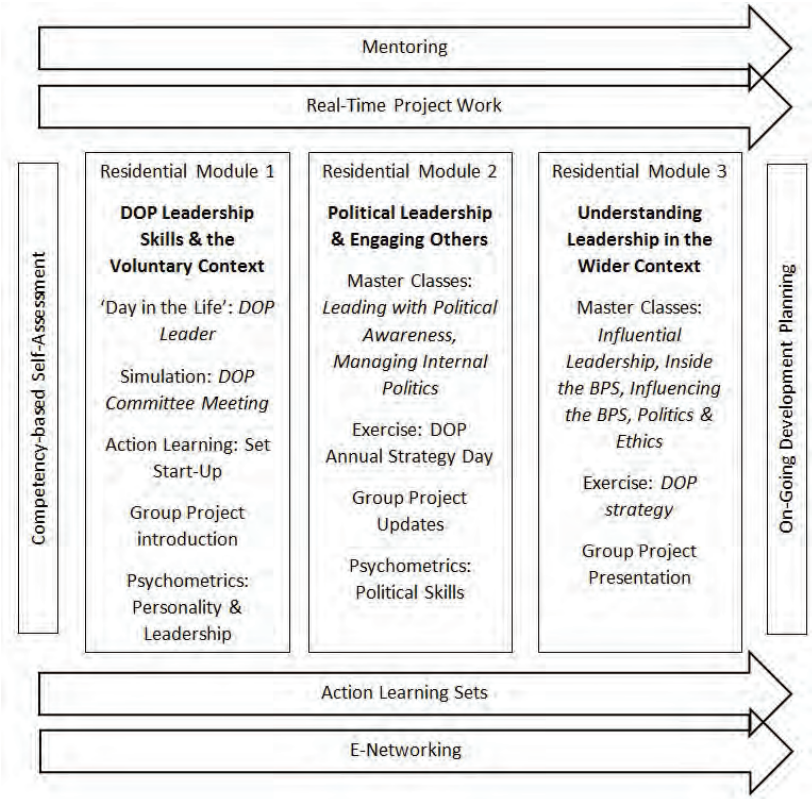

Figure 2. *Design of the Leadership Development Program*

master class sessions with DOP and other leaders, and simulation and planning exercises. Each module would have a theme, drawing upon LCF elements. Also included would be personality tool results relevant to leadership to be discussed as a group and reflected upon individually. Readings and a learning log would be provided. Activities outside the residential sessions included mentoring by a DOP leader, action learning sets, group and individual projects, and "e-networking." This last activity was meant to be the "glue" that would help keep the entire group cohesive throughout the year and was envisioned as audio-conference calls or focused discussions on Linked-In.

It's worth validating this format against our program objectives. We wanted to "produce better leaders;" more specifically, we want our delegates to enhance their competency in how they lead regarding the LCF elements, and we want them to be more aware that those they lead are volunteers. These are highlighted in the residential sessions. We want delegates to see effective leadership role modelled by appropriate leaders, which comes about from the master classes and mentor assignments. We want them to try things out and practice, ideally in role as the lead of a committee or working group but minimally through an assigned individual project. We want them to experience this development as a cadre, so they view themselves as a team; we want them to support each other, which is enhanced through a group project, the action learning set, and e-networking. As they are spread geographically around the country, the residential sessions also play a significant part in helping with the sense of cadre and group cohesion.

Another design point was our intention for the program to be entirely managed by DOP leaders. To date, facilitators have included myself (chair 2008), Hazel McLaughlin (chair 2011), and Roxane Gervais (current chair-elect). We have also had other past DOP chairs assist as mentors (Rob Feltham, 1997; Richard Kwiatkowski, 1999; Angie Carter, 2003; David Carew, 2009; Antonia Dietmann, 2010; Alan Redman, 2011),

Selection of Delegates

Each year, we have selected eight delegates. For Cadre 1 (2012/13), it was felt that existing volunteers should be rewarded for their efforts, so nominations were taken from leaders and invited to apply. Although this group had 100% attendance at residential sessions, there was considerable difficulty in getting them to agree on dates for any meetings, they did not complete their group project on time, they had no e-discussions, and one of two groups never met for its action learning set. It may simply be that we did not communicate program expectations early enough, so we amended our selection procedures and messaging in the next 2 years to highlight our expectations.

For Cadre 2 (2013/14), all DOP members could self-nominate, which meant that some had no previous DOP volunteer involvement. We introduced multiple selection stages (application, psychometrics and phone interview, discussion with their manager or study advisor), and at each stage they were reminded of program requirements. This was designed to enhance commitment should they be successful. There were still some issues with time management, and we had communicated expectations more clearly, but there was a sense that commitment was greater. We followed roughly the same process for Cadre 3 (2014/15), but now two independent phone interviews were required, using the same set of questions. It should be noted that for the two latter cadres, applicant numbers have been about three times in take.

What are we selecting for? This is not a high potential program; we expect that some of our delegates may not be "great" leaders. Our focus is on commitment to the DOP and their own development; we're actually looking for members who want to be developed (a rare opportunity for many of our members, considering that the predominant job role appears to be independent practitioner) but also want to give back to the DOP as their professional association. The ideal candidate has thought clearly about both aspects. Although prior DOP volunteer experience is not required, successful applicants must agree to either being elected or assigned to a leadership role after program completion.

Three Years In: Lessons Learned

Now into our third year, our "experiment" with the corporate model with our volunteer leaders has been largely successful. However, some things have not worked, and we have evolved elements as needed. Tables 1 and 2 provide a summary of the issues and their resolution.

One design issue was the effective use of residential modules for learning. We quickly realized that the heavy use of slides and

Table 1

Residential Session Elements: Issues and Resolutions

Element	Issue or outcome	Lesson learned/resolution
Learning materials – Slides & pre-reading	• Too many slides • Too much reading	• Pare back, keep most in pre-reading for reference and as needed.
Learning materials – Leadership and other theory	• Too much, too general	• Focus on volunteer leadership and practical aspects of managing volunteers.
Master classes	• Success!	• Insights & experience are valued
'How Things Work' in the DOP and BPS session	• Success!	• Both BPS and DOP structures and processes are new to most; don't assume anvone knows this!
Simulations	• Felt artificial; used a competitive scenario to distribute funds, but most DOP situations are discussions and consultations.	• Planning and strategising exercises are fine. Use group projects to support working collaboratively and getting things done.

Table 2

Other LDP Elements: Issues and Resolutions

Element	Issue or outcome	Lesson learned/resolution
Mentoring	• Not all mentor assignments have been successful.	• Allow delegates to rank mentors before assigning.
Action learning sets	• Cadre 1: 1 group did not meet. • Cadre 2: Met 2x each. • Cadre 3: Have met at least 1-2x each so far, and one group is self-facilitating.	• Geography and planning matter; base groups on location.
Group & individual projects	• Cadre 1: Created own project on 'DOP values' that DOP Executive did not value, but did not complete it on time. Group of 8 was too large.	· DOP Executive must identify priority projects or should be consulted on project ideas.
	• Cadre 2: Some individual projects started too late, sponsors not acting like responsible sponsors.	· Smaller groups of 4.
	• Cadre 2: One group project not completed because technology not available within BPS (but we didn't know this…), but they initiated a whole-group 'volunteer strategy' project from e-network (see below).	· Assign project roles or encourage temporary roles.
		· Reinforce role of project sponsors, reinforce contracting with sponsors early on.
E-Networking	• Cadre 1: Values project was discussed on Linked-In, but input was largely one-sided (almost no building-on of ideas) and timing was asynchronatic.	• Change to a monthly teleconference call
	• Cadre 2: Scheduled monthly calls with a topic each; eventually decided to focus on volunteer strategy as a common theme – their own initiative.	• Structure is needed at first, topics may seem awkward, but group can evolve organically to find its 'purpose.'
	• Cadre 3: Monthly calls are very popular, rotating chair works well.	

theory was not conducive to meaningful discussion about leading in a volunteer context. The most impactful aspects were directly relevant theory (e.g., servant leadership, situational leadership) and practical sessions (e.g., DOP structure). The master classes were an example of the latter, where respected occupational psychologists speak to themed talks. Sessions have included Influential Leadership by Binna Kandola (DOP chair 2002), Leading with Political Awareness by Clive Fletcher, and Working with the BPS by Past Presidents Peter Banister and Richard Mallows, respectively. The latter sessions have improved our understanding of the BPS as a whole and broken down the "us versus them" perceptions that often prevail (which may similarly exist between SIOP and APA).

The greatest obstacles for the other LDP elements are time management and follow through. For group projects, action learning sets, and e-networking, all details about meeting dates, assigned roles, and expectations must be decided face to face before members go away. We have also more recently created leads for each of these elements (plus mentoring) from an LDP executive board (consisting of DOP leaders and LDP alumni) to check-in, as both a prompt and for support.

Another difficulty has been adequate sponsorship of group and individual projects. We learned from our first year that projects needed buy in from the DOP executive board, so Cadre 2 were assigned projects created by that group. However, in several cases, sponsors didn't cooperate, in that they denied ownership of a project or refused to cooperate. In retrospect, this was poor change management; they may not have been informed of their sponsor role or they resented involvement from "outside" their committee.

Nonetheless, projects are seen as great learning experiences for practicing skills like time management, planning, and managing politics. They tend to represent unresolved issues, usually through lack of resources. Group projects have included the development of DOP values, the creation of a DOP volunteer directory as a wiki, and a volunteer strategy. Table 3 lists the individual projects assigned to Cadre 2.

Table 3

Individual Projects Assigned to Cadre 2

Project
Organize annual volunteer event
Devise regional hub activity toolkit
Assess usefulness & take-up of DOP investment funds
Prepare proposal to assess purpose of Past Chairs' Club
Identify DOP representation on BPS committees
Prepare proposal on how DOP can better connect with DOP Training Committee
Prepare proposal on how DOP can better connect with QOccPsych Board
Prepare proposal on building better international links

Evaluation

The LDP is an investment in our future leadership. As such, we have an obligation to consider whether it meets its objectives and is worth the financial outlay. We have a volunteer evaluation team led by LDP alumnus Doyin Atewologun. A full evaluation has been completed for Cadre 1, based upon Kraiger, Ford, and Salas's (1993) framework, which includes cognitive, behavioral, and affective learning outcomes (see Figure 3).

The evaluation entailed a mixed-methods, longitudinal design, comprising questionnaires and interviews. Delegates completed an evaluation questionnaire at five time points over 9 months: at the beginning of the program, immediately following each of the three residential modules, and following completion of the year-long program. Three to 6 months after the final module, interviews were conducted with delegates and nominated raters (peers, subordinates, and managers within the DOP and their workplace). In total, 16 interviews and 30 questionnaire responses were completed.

Figure 4 represents the questionnaire response data. Across 7 of 11 areas assessed, average responses increased in post- compared to premeasures, primarily regarding cognitive and skills-based outcomes. Affective outcomes such as leadership motivation were unchanged, perhaps due to initially high levels.

The interview data support most of these findings. Regarding cognitive aspects, delegates shared that while they were already familiar with much of the leadership literature, the LDP helped them to develop more strategies and techniques of using and applying the models in the work that they did both inside and outside the DOP. In other words, delegates had previous declarative knowledge of leadership theories and practices. They improved their procedural knowledge by trialling theoretical models within the DOP and at work to develop a personal best-fit approach to leading. Delegates also valued gaining new knowledge about the DOP structure and its complex and shifting relationship with the BPS. This indicates potential skills gap for all DOP volunteers regarding governance and political skills for negotiating

Cognitive: Has knowledge changed or increased as a result of this intervention?	**Behavioural:** Has task proficiency improved or job-related skills improved?	**Affective:** Has motivation increased as a result of training?

• Knowledge
• Knowledge organisation
• Cognitive strategies
	• Task proficiency
	• Skills acquired
	• Actions
	• Status changes
		• Attitudinal
		• Motivational
		  • Motivational dispositional
		  • Self-efficacy
		  • Goal setting

Figure 3. *Kraiger, Ford, and Salas' (1993) learning outcomes model*

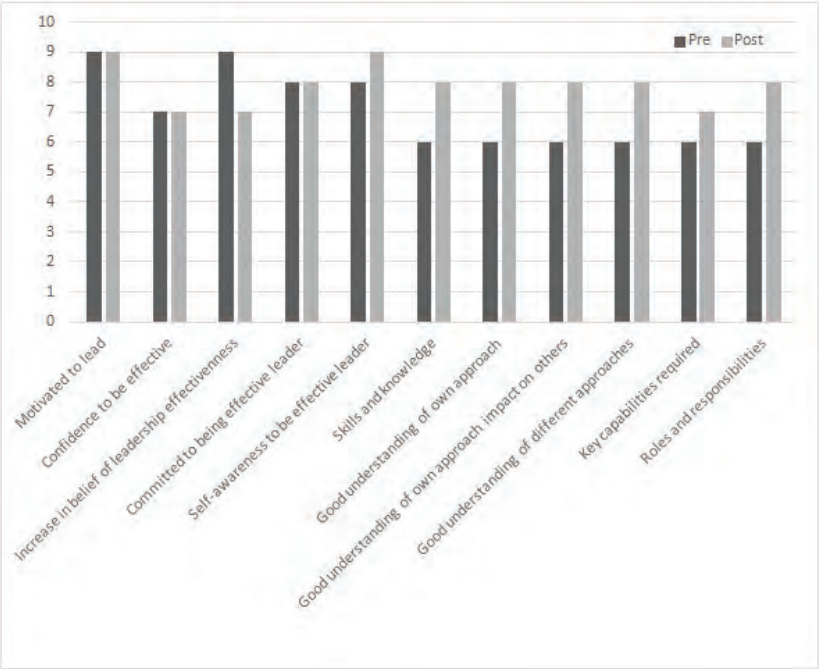

Figure 4. *Pre- and post-LDP results*

this relationship. It also suggests greater reliance on individual drive for getting things done, as the formal structures that would typically facilitate the leadership development in paid employment are not as clearly established in voluntary roles.

Behaviorally, delegates felt they already had the ability to lead; the LDP helped them to hone and polish their skills, including better situational judgment. Their raters reported them as becoming more proactive in taking on leadership roles, such as coming forward in groups, being more active in discussions, and more willingness to "step up" and vocalize ideas or support for others. Finally, affective wise, although not reflected in the survey data, all interviewees (delegates and their raters) observed how the LDP had brought about a positive shift in confidence.

Delegates spoke about increased personal agency to do something different or change something that wasn't working, as well as developing a greater commitment to the DOP and its values, goals, and objectives.

The limitations of these results include small sample sizes, incomplete data, and the possibility of a Hawthorne Effect. However, we are already seeing a positive impact on succession planning, with three delegates having stepped up into committee lead roles, two delegates having risen to strategy group leads (there are only five such roles in total), and one being groomed for an Executive Committee role for next year.

The Future

In more ways than one, our LDP has been a success: through enhanced leadership competence, more bodies in our leadership pipeline, being able to showcase a high-profile best practice, and improved relationships within the BPS. That's not to say that we are finished with proving our value; evaluation of Cadres 2 and 3 continues. We are currently midway through Cadre 3. Cadre 4 is planned to start in April 2015.

We are also proposing that the program be expanded to other member networks within the BPS. Such a program would create a mixed cadre of BPS member network delegates, so it would be less about succession planning and more about cross-network collaboration and understanding. Eligibility for this type of program might then change; for example, networks might want current leaders to attend rather than potential leaders. We also expect other networks to want to cocreate the program, so the outcome could be a completely different LDP. Whatever the outcome, we are pleased to be putting our expertise into practice.

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LDP Cadre 2014/2015. The two facilitators, Gene Johnson and **Roxane Gervais**, are SIOP members

FEATURE

Identifying the Competencies, Critical Experiences, and Career Paths of I-O Psychologists: Academia

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The authors would like to recognize and thank the efforts of previous committee members who contributed to this effort, including but not limited to ***Michael Trusty*** *and* ***Tracy Kantrowitz.***

A long-standing focus of the Professional Practice Committee (PPC) has been examining career paths in I-O psychology. A study of practitioner careers was proposed in 2009 and was expanded in 2012 to include both practitioner and academic career paths to better capture all of the careers that I-O psychologists hold. Graduate students from the university of Akron's Center for Organizational Research (COR) worked with PPC members to collect and analyze data from SIOP members in both academic and applied settings. The intent of the project was to identify competencies and critical experiences across I-O psychology career paths in academia, consulting, industry, and government. For the purposes of this study, a competency is defined as a skill someone has developed that is necessary for success on the job; a critical experience is recognized as an on the job experience that defines what is required to perform or prepare for the career level within a given practice area.

In the current *TIP* article, we present results of this project for the academic career path. We introduced previous results regarding entry-level competencies necessary for success in academia in Zelin, Lider, Doverspike, Oliver, and Trusty (2014; collected from qualitative data; a reply to

Byrne, et al., 2014), provided a brief overview of results in a recent Practitioners' Forum column (Zelin, Doverspike, Oliver, Kantrowitz, & Trusty, 2014), and presented initial survey results during an executive Board invited session at the Annual Conference for the Society for Industrial and Organizational Psychology (SIOP; Trusty, et al., 2014). However, the current article is the first to tie together all data collected from the academic sample, including the qualitative interviews and responses to the SIOP Careers Study survey. Future *TIP* articles will provide results from the consulting, industry, and government career paths, respectively.

Qualitative Data: Subject Matter Expert Interviews

Participants

Graduate students from COR interviewed 11 SIOP members in academic positions from a wide range of colleges and universities. Participants had an average of 17.64 years of experience in academia with a range of 8–31 years. Specific job titles of the participants included: associate professor, full professor, department chair, dean, assistant provost, and program director.

We selected a diverse set of individuals spanning both research- and teaching-focused schools, small to large student populations, those with and without I-O graduate school programs, and individuals holding administrative positions. We also included professors employed in both business and psychology departments.

Methodology

A structured interview process was used to begin identifying the competencies and critical experiences necessary for success in participants' current position as well as those necessary for success at other levels of their college and/or university. Sample questions used in the interview can be found in Appendix A; All appendices can be downloaded from the SIOP website: www.siop.org/TIP/jan15/appendices.pdf. The initial job-level structure used to examine the career paths contained five levels for competencies and critical experiences to be identified: individual contributor (e.g., assistant/associate professor), expert individual contributor (e.g., full professor), manager (e.g., department chair), manager of managers (e.g., dean), and executive (e.g., vice president, provost). To be consistent across the consulting, industry, and government sectors, we use career ladder labels rather than the university-provided labels (e.g., "individual contributor" vs. "assistant/associate professor").

Results

Most of the I-O psychologists we interviewed moved from assistant to associate to full professor within their careers. Over half (N = 6) became department or program chairs, and the same amount (N = 6) had moved into a higher-level management role at some point during their career, such as assistant dean/dean. Overall, participants noted that very few I-O psychologists were in the provost, vice president, or president roles.

Within the typical career movement from assistant to associate to full professor, the participants stated that the three most important competencies necessary for success were research, teaching, and service. The relative weight of importance to career success for each competency depended on the research orientation of the school. At universities that focused heavily on research and article production, the research competency took on more importance relative to other competencies. However, as one reached tenure and moved toward full professor, the service competency took on greater importance and the research competency became relatively less weighted. In comparison, colleges and universities that focused more on teaching rather than article production placed relatively equal weights on research, teaching, and service with regard to job role success.

Participants also noted that the department chair/Head position was not necessarily regarded as a step up the career ladder from associate or full professor. Some participants actively sought the chair position, seeing it as a move higher up the administrative ladder, whereas others took on the job because it was their turn via seniority to serve, and a few were nominated. Some of the academics who chose to become department chair saw the next step in the career path (i.e. associate vice president or associate dean) as entailing more administrative work rather than research and teaching, and thus did not choose to move into a higher management position. Others were selected into associate dean or Interim dean roles without first acting as a department chair. All participants noted that it was likely that academics could return to a teaching position after working in a university managerial role full-time, or concurrently serve in a management position while retaining some of their academic duties.

Quantitative Data: Careers Study Survey

Methodology

From the interviews, we produced a master list of critical experiences and competencies, which were categorized by level. However, for data collection and analysis purposes, the Careers Study survey combined all competencies and experiences across all levels to facilitate comparison across levels (e.g., members who indicated a current position of associate professor rated the same competencies as other career levels within academia). In contrast to the interviews, the survey was focused on defining what experiences and competencies were important for one's *current* job level rather than also considering the competencies and experiences necessary for promotion.

For each job-related competency and critical experience, participants were asked to rate its importance in terms of performing their *current* job. Responses for both sets of questions ranged from 1 = *not important* to 5 = *critical*. For the critical experiences, participants were also able to select a "not applicable" answer if the experience did not apply to their current position. We did this to make the distinction between an experience that is part of a

job but not very important (not important) versus an experience that is not part of the job at all (not applicable). We coded "not applicable" responses as "system missing." Thus, the results that were provided solely incorporate the critical experiences that were designated as being a part of the job. Participants were asked to indicate whether they learned the particular competency in graduate school, on the job, or through structured training. Participants also were asked questions about their background information, including their highest obtained degree, years of work experience, all sectors in which they have worked, current sector of work, current job title and job level, length of time spent in current job sector, gender, ethnicity, and age.

Participants

We received responses from 522 members who identified as working within academia and who completed at least a portion of the online survey. The average age of participants in the sample was 45.39 years, with a standard deviation of 13.90 years. Slightly over half (54%) of the participants were male, and the majority (84.10%) self-identified as White. The next most common identification was Asian/Pacific Islander (7.20%). Two participants had previously worked in the industry sector, and one indicated previously working for a consulting organization. It should be noted that through the interviews a few of the academics also had their own consulting firms, but this was not captured in the Careers Study survey. Approximately 96% of participants received their PhD and 4% received their master's degree. A few participants indicated having additional certifications or licensures.

Results

When analyzing the results, it was determined that the academic career path model could be effectively described using three (vs. the original five) job levels. The final three levels included individual contributor (assistant and associate professor), expert individual contributor (full professor), and managerial (e.g., department chair, dean, vice president, provost, president). Although we left the five original levels in the survey, we collapsed across levels because (a) the interviews indicated that these levels were more appropriate for this practice area, and (b) the sample sizes in the survey were too small to result in meaningful analyses, especially in managerial levels.

The interviews and the survey data revealed that academia did not have one clear career path. The progression from individual contributor to expert individual contributor was often the progression that academics first followed. However, from there, some academics moved up to a managerial position and continued to stay in a managerial position until retirement or leaving the school. Others moved into a managerial position for a few years before returning to an individual contributor or expert individual contributor position. Still others moved back and forth between the two levels or even held two positions (e.g., full professor and department chair) concurrently. Finally, some remained as a full professor and never pursued a mana-

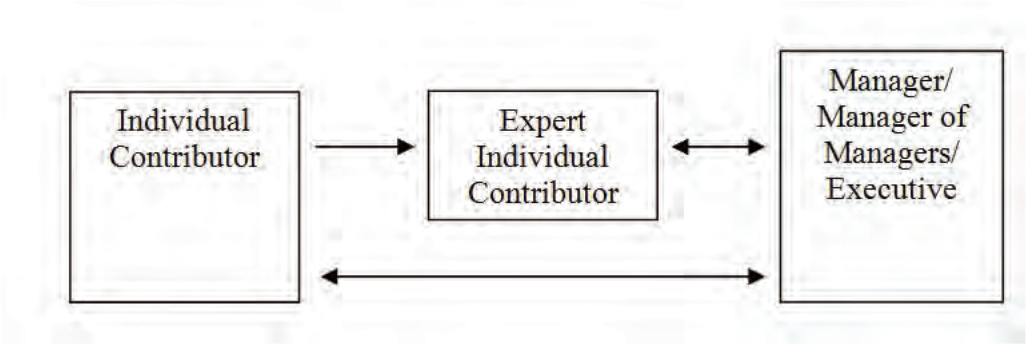

Figure 1: *Academia career path.*

gerial position. Thus, the academia career path was often set around the individual's ultimate career goals, or the needs and/or rules of the university (e.g., needing a department chair; unable to move into an administrative position beyond department chair), rather than following a set linear career path.

Competencies

Means and standard deviations, and where learned information for *all* competencies appear in Appendix B www.siop.org/TIP/Jan15/appendices.pdf. Top-10 compe-tencies necessary for success within each level and the top-five academic competen-cies aggregated across all three levels are listed in Table 1.

Although we reported the top-10 competencies within each level, participants only rated a few of the competencies above a mean average of 4.00 (i.e., *very important*) especially within the individual contributor level. We did find that there were many differences in importance of certain competencies across career paths. For in-

Table 1
Top-Ten Competencies for Each Level Within Academia and Top-Five Competencies Across Levels

Top competencies			Overall top five competencies		
Individual contributor	**Expert individual contributor**	**manager/manager of managers/executive**	**Competency**	***M***	***SD***
1. Communication: Written[a]	**1.** Communication: Written[a]	**1.** Integrity[b]	**1.** Communication: Written	4.75	.52
2. Research Ability[a]	**2.** Communication: Verbal[a]	**2.** Fairness[b]	**2.** Communication: Oral	4.64	.57
3. Communication: Verbal[a]	**3.** Research ability[a]	**3.** Ethical behavior[a]	**3.** Research ability	4.49	.83
4. Integrity[a]	**4T.** Ethical behavior[a]	**4T.** Communication: Verbal[a]	**4.** Integrity	4.48	.71
5. Ethical behavior[a]	**4T.** Integrity[ab]	**4T.** Trustworthiness[b]	**5.** Ethical behavior	4.47	.75
6. Teaching ability[a]	**6.** Trustworthiness[b]	**6.** Leadership			
7. Disciplinary competence[a]	**7.** Creative thinking[a]	**7.** Communication: Written[b]			
8. Creative thinking[a]	**8.** Teaching ability[a]	**8.** Collaboration			
9. Fairness[a]	**9.** Disciplinary competence[a]	**9.** Attention to detail[a]			
10T. Attention to detail[a]	**10.** Energy	**10.** Administrative skills			
10T. Trustworthiness[a]					

Note. individual contributor = assistant professors and associate professors; expert individual contributor = full professors, manager/manager of managers/executive = department chair, dean, vice president, provost, president. T indicates same means. Superscripts indicate differences for the same competencies across the levels (e.g., Communication: Written compared across individual contributor, expert individual contributor, manager/manager of managers/Executive).

stance, although written communication was rated in the top-10 across all three levels, it was significantly more important for individual contributors and expert individual contributors than for those in a managerial position, $F(2, 388) = 7.97$, $p < .001$. Further differences can be found in Table 1. Both the individual contributor and expert individual contributor levels had no significant differences in ratings of importance, which was expected as they both hold the title of professor.

The rankings of the critical competencies changed slightly as one moved into the managerial role, as new duties required additional leadership and administrative skills. For instance, creative thinking, research ability, disciplinary competence, and teaching ability fall out of the top 10, underscoring the shift in the nature of individual contributor and managerial roles. In turn, integrity, fairness, and ethical behavior become the top three most important competencies necessary for success once one moves into a managerial role.

Participants' responses varied on where they developed proficiency for the competencies. Interestingly, many marked "N/A" throughout the list of competencies, especially for competencies that are more innate and personality related, such as compassion, empathy, energy, and enthusiasm. Other competencies were marked as "N/A" for individual contributors and

Table 2

Top-Ten Critical Experiences for Each Level Within Academia and Top-Five Critical Experiences Across Levels

Top critical experiences			Overall top critical experiences		
Individual contributor	**Expert individual contributor**	**Manager/manager of managers/Executive**	**Critical experience**	***M***	***SD***
1. Publish articles in field of expertise[a]	**1.** Design and conduct studies[a]	**1.** Demonstrate effective administration for successful department operation	**1.** Design and conduct studies	4.44	.92
2. Design and conduct studies[a]	**2.** Publish articles in field of expertise[a]	**2.** Provide service to the department	**2.** Publish articles in field of expertise	4.42	.93
3. Balance research, teaching, and service effectively[a]	**3.** Mentor students[a]	**3.** Maintain successful running of department (e.g., classes offered; department respected across campus)	**3.** Balance research, teaching, and service effectively	4.37	.87
4. Effectively manage class discussions, creating assignments, tests, quizzes, or papers, and grading course work[a]	**4.** Balance research, teaching, and service effectively[a]	**4.** Provide service to the college	**4.** Effectively manage class discussions, creating assignments, tests, quizzes, or papers, and grading course work	4.30	.90
5. Deliver engaging lectures[a]	**5.** Effectively manage class discussions, creating assignments, tests, quizzes, or papers, and grading course work[a]	**5.** Advocate for department within the broader college and/or university	**5.**Mentor students	4.26	.90
6. Mentor students[a]	**6.** Deliver engaging lectures[a]	**6.** Make decisions based on competing interests			
7. Use different types of analytical methods (e.g., Structural Equation Modeling, Hierarchical Linear Modeling, Multiple Regression, ANOVAs)	**7.** Provide career advice and other professional guidance to students	**7.** Act as a successful liaison between faculty and administration			
8. Use different types of analytical software (e.g., SPSS, Mplus, SAS)	**8.** Provide research experiences to students	**8.** Manage performance of department faculty			
9. Receive favorable evaluations from students	**9.** Manage the successful completion of thesis and/or dissertations of student advisees	**9.** Manage performance of employees			
10. Become recognized in field of expertise[a]	**10.**Become recognized in field of expertise[a]	**10.**Provide service to the university			

Note. individual contributor = assistant professors and associate professors; expert individual contributor = full professors, manager/manager of managers/executive = department chair, dean, vice president, provost, president. T indicates same means. Superscripts indicate differences for the same experiences across the levels (e.g., "Design and conduct studies" compared across individual contributor, expert individual contributor, manager/manager of managers/Executive).

expert individual contributors but were indicated as learned through structured training by managers (e.g., financial acumen). This difference could also be due to the relative importance of the competencies for each level, as financial acumen was rated as more important for success by managers than individual contributors or expert individual contributors. Thus, such competencies not required for success may have not yet been learned.

Critical Experiences

Means and standard deviations for *all* critical experiences appear in Appendix C (www.siop.org/TIP/Jan15/appendices.pdf). The top-10 critical experiences for success in academia at each level, and the top-five critical experiences for success in academic positions across levels are listed in Table 2.

Similar to the academia competencies, many of the experiences for individual contributors and expert individual contributors were not significantly different from one another. For instance, the ANOVA for "design and conduct studies" was significant, $F(2, 352) = 6.28$, $p < .01$, but the factor driving the significance were the ratings from those in managerial positions. Thus, the differences occur in the critical experiences that do not overlap between the two individual contributor levels (e.g., "Use different types of analytical software," and "Provide career advice and other professional guidance to students").

The critical experiences necessary for success were markedly more different when one moved from individual contributor positions into a managerial position. In fact, there were no overlapping experiences between managers and either of the individual contributor levels. For instance, the experiences necessary for success at the manager level included management of various areas (e.g. performance of faculty, performance of employees, liaison between faculty and administration), whereas (a) designing and conducting studies, (b) publishing research, and (c) balancing research, teaching, and service were more important for success in individual contributor and expert individual contributor roles.

Final Career Path Models and Future Directions

Results from the Interviews and the Careers Study survey indicated that academia careers can be captured and described using three levels: individual contributor, expert individual contributor, and managers. Furthermore, the career path of an academic is not necessarily linear, as academics can move from individual contributor positions into manager positions before moving back into individual contributor positions. The top-10 competencies differed across career levels, with individual contributor and expert individual contributor positions requiring research ability and teaching ability, whereas managerial positions required leadership and administrative skills. The top-10 experiences differed across career levels as well, with publishing articles and designing and conducting studies being important for individual contributors and expert individual contributor, and demonstrating effective administration or successful department operation was critical for managers.

These findings could have implications for describing academia career paths and for considering the ongoing education of academics by graduate schools, employers, and professional organizations. Specifically, we noticed a pattern across levels in where skills were learned. The technical competencies (e.g., written communication) needed for individual contributor positions were often reported as being learned in graduate school, whereas nontechnical competencies (e.g., leadership) required for manager positions were often marked as being learned on the job rather than in training or graduate school. This suggests the opportunity for more formal development opportunities to help prepare I-O psychologists for a broader range of career roles, as well as opportunities for graduate schools and/or professional organizations to consider their roles in helping to provide this expanded education.

With regard to training technical competencies in prospective academics, graduate programs typically have a curriculum in place that emphasizes research ability and teaching ability. However, graduate programs can also focus on providing experiences that can help students develop nontechnical competencies that are particularly important for the managerial track. For example, working in collaborative research groups could help develop collaboration, leadership, and trustworthiness competencies along with research ability and written communication skills. Other nontechnical competencies such as integrity and ethical behavior can continue to be emphasized within the current curriculum to better prepare students for a broader range of jobs in academia.

With regard to on the job experiences or training, some of the nontechnical competencies could be trained through programs put into place by an individual's workplace employer to help ease the transition between the individual contributor and the manager levels. For instance, the university or college could help build mentoring or shadowing programs for those interested in and/or those who have been identified as moving into administrative positions.

Similar types of formal learning programs might also be offered by professional organizations. In recent years SIOP has initiated mentoring programs for those interested in learning about a broad range of issues facing practitioners, and at the 2014 Annual Conference a speed mentoring session was offered for researchers and academics interested in obtaining research funding. Expanding these types of initiatives to further cover other nontechnical competencies needed to help prepare academics for administrative/managerial positions might be an avenue for professional organizations to consider.

Results from this study could help people determine if the academic career path (especially the administrative/managerial positions) is a good fit for them. Service, administration, and managing performance all become main aspects of a job in academia, which many people considering careers in academia could weigh in their career choices. This study also lists competencies and critical experiences necessary for success at different levels that can help direct the career paths of those who are already involved in academic roles

or who are looking for additional career opportunities in academia. In particular, the study highlights that a move into a management position will require a shift in competencies and experiences, moving away from research, teaching, and creative thinking and more into administrative and managerial activities. Individuals might consider these factors against their own competencies, values, and interests before deciding to make a career move into a managerial position. Similarly, looking for opportunities to develop managerial skills, even when in individual contributor roles, could help individuals prepare for success in a managerial position.

We recognize that this study only captures the basic career path moves for academia as a whole. Future research should investigate the differences between academic employment in teaching-oriented and research-oriented schools, as well as business versus psychology programs. As noted in the interviews, each combination of teaching/research-oriented and psychology/business schools may have different competencies and critical experiences necessary for success. Conducting a longitudinal study would also help capture whether the nonlinear nature of the academia career path has implications for competency maintenance. That is, if someone is serving a 3- to 4-year chair or assistant dean appointment and is unable to teach or conduct research during that time, yet will be moving back into an expert individual contributor role upon completion of their appointment, it may be more important for these people to focus on maintaining those research and teaching skills.

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2015 Conference Program

Kristen Shockley
Program Chair, 2015

We received well over 1,300 submissions for the 2015 SIOP conference in Philadelphia! Around 820 sessions were accepted, and the conference is sure to be one of great appeal and intellectual stimulation. The conference schedule is available online at http://www.siop.org/conferences/15con/schedule.pdf. In addition to the peer-reviewed master tutorials, debates, symposia, posters, roundtables, alternative session types, and panels that were submitted, the conference committee has been working hard to assemble a quality collection of Friday Seminars, Communities of Interest, a Master Collaboration, a full-day Theme Track, and other Invited Sessions. Below we summarize several notable program elements. You'll be hearing many more details about the program as the conference approaches.

Theme Track: Rethinking Our Approach to Organizational Science (Chair: Scott Tonidandel)

The Thursday Theme Track presents a series of sessions on the first day of the conference related to a unifying topic chosen to resonate with the interests of our full SIOP audience, spanning practitioners, academics, and students from across the globe. This year's Theme Track is titled "Rethinking Our Approach to Organizational Science" and will focus on helping to create what President Jose Cortina calls "A revolution with a solution" aimed at establishing improved standards for our science. We have carefully selected our session formats and invited speakers to ensure that those who join us for the Theme Track leave well-informed and entertained.

The Theme Track sessions are presented in the same room throughout the day, the Independence Ballroom. You can stay all day or choose to attend individual sessions that are of most interest to you. All sessions are eligible for 1.5 continuing education credits, with the exception of the IGNITE session, Going Forward by Going Back: "IGNITE" our Basic Stats, which is worth 1 CE credit. Check out http://www.siop.org/conferences/15con/regbk/themetrack.aspx for more detailed information about each session, including learning objectives.

Improving the Peer Review Process: Advancing Science and Practice, 10:30-11:50
Jeff Edwards, Scott Highhouse, Nancy Tippins, and **Robert Vandenberg**

The peer review process is a vital part of knowledge generation and transmission. Academics and practitioners both have a stake in understanding and improving the peer review process. Panelists will present ways to improve the peer review process. Via discussion groups, participants will engage (a) experienced authors and reviewers with ideas on how to improve the review process, (b) novice and potential reviewers who have more basic questions, and (c) practitioners with questions and ideas for improving the applicability of published research.

Pursuing Better Science in Organizational Psychology, 12:00-1:20
Robert J. Vandenberg, Herman Aguinis, Steven Rogelberg, Jose Cortina, and **Ronald Landis**
The current scientific model in organizational research needs to be improved. In our publication process, there is an overemphasis on theory with little emphasis on empirical replication. Tenure and promotion decisions are often based on publishing in the "right" journals. There is also little incentive for practitioners to publish. In this session, a panel of experts consisting of journal editors and experienced researchers will first highlight the challenges and shortcomings of the current publication system that impede scientific progress in our field. The panelists will then explore some of the causes of the problems and discuss ways to change the incentive structure to encourage better science.

Modernizing Regression: Cool and Practically Useful Advances From Other Fields, 1:30-2:50
Fred Oswald, Seth Spain, and **Brian Connelly**
One of the bread-and-butter techniques in both academic and practitioner I-O psychologists' statistical tool kits is multiple regression. Although most I-Os have been formally trained on multiple regression, over the past few decades there have been several developments in disciplines outside of I-O psychology that can improve the use of regression in I-O science and practice. This session will consist of three 20-minute TED-style talks that address advances in multiple regression in a straightforward, digestible manner. Attendees will be given a fun (in a geeky sort of way) and engaging tour of developments from domains such as computer science, machine learning, and econometrics that can help improve our common approaches to multiple regression. The talks will focus on the following topics: (a) modern variants on variable selection in multiple regression, (b) dealing with model uncertainty in multiple regression, and (c) leveraging multiple regression to inform causality.

Going Forward by Going Back: "Ignite" Our Basic Stats!, 3:30-4:20
Eden King, Scott Tonidandel, Paul Bliese, Mark Gavin, Patrick Rosopa, and **Larry Williams**
Novel, complex, statistical methods frequently offer new ways to explore data and build theory. At the same time, however, the field of I-O psychology may benefit from revisiting some basic elements of design and analysis. This symposium will use a format modeled after the popular IGNITE sessions (http://igniteshow.com) in which presenters are charged to "enlighten us, but make it quick." Specifically, each presenter will have 5 minutes and 20 slides

(which auto-advance every 15 seconds) to review some of the basic fundamentals of design and analysis and help move the field forward. This session will cover six topics: (a) revisiting the role of field experiments, (b) understanding *t*-tests, (c) reviewing the logic behind the bootstrap, (d) interpreting dummy codes, (e) sandwich estimators in regression, and (f) *df* in SEM.

Big Data Advances from Computer Science and Statistics, 4:30-5:50
Evan Sinar, Ehsan Bokhari, and Andrea Villanes
This session will explore and illustrate Big Data advances from outside of I-O psychology relevant for organizational research. The first talk will center on data visualization methods. Several visualization methods will be illustrated as a concise and understandable way to summarize patterns in large complex datasets. Second, open-ended comments from employee and customer surveys, as well as social media, are a rich source of information. However, with large datasets, traditional methods of manual coding are impractical. Big Data text analytic approaches to handling an abundance of qualitative data will be discussed. Finally, nonparametric and nonlinear approaches to predicting a continuous or categorical outcome variable, known as classification and regression trees (CART), have been utilized in statistics and computer science for several years. This session will illustrate these methods within an I-O psychology context.

Master Collaboration: Global I Meets Global O: Research+Practice on Selection and Work–Life (Chair: Gary Giumetti)

The Master Collaboration session brings together a range of leading practitioners and academics focused on global issues in selection and work–life to share the state of the science and practice, to identify gaps and outline opportunities for collaboration in the future. This session will appeal to practitioners and academics looking to bridge the gap between good science and practice in the frontiers of global selection and work–life program implementation. The session takes place on Saturday from 8:30-9:50.

Global Deployment of Assessment and Selection Programs
Doug Reynolds

Doug Reynolds will talk about his experiences with global organizations that seek consistency in their implementation of selection systems and the various factors that facilitate or impede this goal. In addition, Doug will discuss how technology is a critical facilitator. Technology systems provide the backbone for supporting global consistency, but the limitations of technology deployment across regions also place limits on what is possible. Finally, Doug will uncover assumptions about how assessment and selection procedures vary by culture and how global programs need to take account of these variations to be successful.

Selecting for Cultural Agility
Paula Caligiuri
Paula Caligiuri will describe the results of a recent survey by PWC, which found that roughly one-third of CEOs reported that they had to cancel strategic global

initiatives due to lack of talent and that the problem is worsened because they just don't have enough culturally agile talent for those initiatives to be effective. The need for culturally agile talent, who can comfortably and effectively work in different cultures and with people from different cultures, is now a strategic imperative. To address this issue, Paula will describe the research and practice on how to select culturally agile professionals to staff key strategic initiatives.

Work Enabling Life at Kellogg
Angela Pratt
Angela Pratt will speak about the creation and implementation of the Kellogg Company's Global Work Enabling Life strategy, work–life policies, and measures of success. In her former role, Angela led the company's engagement strategy and work–life intervention, and now, in her current role, she is in charge of implementing the global program in Europe. Angela will describe how Kellogg has renewed its work–life strategy, including four major components: (a) the manager, (b) technology/environment, (c) health and wellness, and (d) leadership. Angela will also provide an overview of Kellogg's work life portal, which is housed on the Intranet and contains links to global and local policy, as well as global and local trainings for easy access and best practice sharing across regions.

Harmonizing Work, Family, and Personal Life: An International Perspective
Steven Poelmans
Steven Poelmans will review some cross-cultural differences and universal themes in the experience of harmonizing work, family, and personal life, reflecting on the findings of the Collaborative International Study of Managerial Stress (CISMS), an international research collaboration focusing on stress and work–family conflict in over 25 nations around the world. Steven will reflect on the challenges of international research collaboration and will introduce a new perspective to this field, informed by neuroscience. This body of research holds the promise to unveil biologically shared and cross-culturally valid processes underlying the dynamics of work–life conflict and enrichment.

Discussion
Ann Marie Ryan
As discussant, Ann Marie Ryan will provide an integration of the presentations, with a particular focus on the challenges associated with the intersection of work–life issues, cross-cultural psychology, and employee selection. Although there is a body of research on selection in global contexts, a body of literature on work–life issues in international assignments, and a research stream on work–life differences across cultures, a consideration of work–life needs in selecting employees poses a set of unique challenges and considerations. These challenges will be the focus of discussion.

Communities of Interest (COI) Sessions (Chair: Christine Corbet)

There will be 13 outstanding Community of Interest sessions this year, each designed to create new communities around common themes, interests, and "hot topics" in I-O psychology. The sessions have no chair, presenters, discussant, or even slides. Instead,

they are audience-driven discussions informally moderated by one or two facilitators with insights on a topic of interest. These are great sessions to attend if you would like to meet potential collaborators, generate ideas, have stimulating conversations, meet some new friends with common interests, or expand your network to include other like-minded SIOP members.

This year's Communities of Interest are:

Thursday

- Team Composition: Considering Team Mix for Staffing and Beyond (Facilitators: **Suzanne Bell** & **Jamie Donsbach**) 10:30–11:50
- Envisioning the Future of I-O (Facilitators: **Pat Caputo** & **Mary Mawritz**) 12:00–1:20
- I-O for the Greater Good: Prosocial Applications of Our Expertise (Facilitators: **Christine Corbet** & Sean Cruse) 1:30–2:50
- How I-O Can Respond to Ferguson. (Facilitators: **Mikki Hebl** & TBA) 3:30–4:20
- Measuring Implicit Motives via Conditional Reasoning (Facilitators: **James LeBreton, Jeremy Bowers Schoen,** & **Sigrid Gustafson**) 4:30–5:50

Friday

- ROI of Leadership and Executive Coaching Programs (Facilitators: **Robin Cohen** & **David Peterson**) 8:30–9:50
- Learning Agility: Practical Uses and Research Needs (Facilitators: **Veronica Harvey** & **Chockalingam Viswesvaran**) 10:30–11:50
- Using Big Data for Employment Decisions (Facilitators: **Matt Such** & **Nancy Tippins**) 12:00–1:20
- Building a Climate for Safety? Let's Talk! (Facilitators: **Michael Ford** & Konstantin Cigularov) 1:30–2:50
- Methods, Madness, and Truth: Tensions Among Publishing, Theory, and Replication (Facilitators: **Jeff Cucina** & **Scott Tonidandel**) 3:30–4:20
- Workplace Incivility: From Science to Solutions (Facilitators: **Lilia Cortina** & **Michael Leiter**) 4:30–5:50

Saturday

- The Role of Positive Psychology in I-O (Facilitators: **Tammy Allen** & Louis Alloro) 10:30–11:50
- Legal Defensibility of Selection Practices (Facilitators: **Eric Dunleavy, Jim Outtz** & **Arthur Gutman**) 12:00–1:20
- Cognitive Science: Fertile Grounds for I-O (Facilitators: Steve Fiore & **Gilad Chen**) 1:30–2:50

Invited Sessions
(Chair: Martin Lanik)

This year we will feature invited sessions throughout the conference, built around emerging and current topics of broad interest across the SIOP membership, the following have been developed by the Invited Sessions Program Subcommittee, which includes the fifth edition of the invited IGNITE session (each year, one of the conference's most-attended sessions!). Please note, the term "invited" refers to the presenters, not the audience—all are welcome to these very special sessions!

Future of HR from the Perspective of Technology Startups (Friday 5:00–5:50)
Matt Barney, Natalie M. Baumgartner, Martin Lanik, Greg Moran, **Christy Smith,** Imo Udom
In this session, panelists will present their disrupting technology and discuss how it's changing HR. In 2013, startups raised $600 million to fund development of new HR technology, from applicant tracking and video interviewing to culture management and employee development software. This "HR technology renaissance" is changing how organizations hire and manage employees.

Invited Session: You Think You Can Solve an I-O Problem? (Saturday 3:30–4:20)
Madhura Chakrabarti, Abeer Dubey, Michael Meltzer, **Fred Oswald,** Andrea Spaeth
In this session, panelists recognize the need for interdisciplinary research and practice. To that end, this unique session will bring together three non-industrial-organizational (I-O) psychology professionals (i.e., an engineer, lawyer, and neuropsychologist) who will be posed with an I-O problem (identification and selection of high potentials) to solve from the lens of their respective disciplines. The objective is (a) to expose I-O psychologists to new ways of thinking, (b) learn new methodologies, and (c) blend the boundaries between seemingly unrelated fields of science and humanities.

Research This! Casting Aside the Publication Chains to IGNITE Organizations (Saturday 10:30–11:50)
Eugene Burke**, Caren Goldberg, Jeff Edwards, Alexis Fink, Ken Lahti, Ron Landis,** Lisa Hisae Nishii, **Deidra Schleicher, Evan Sinar**
This year's invited IGNITE session will highlight truly great I-O research, but not in the conventional sense of being theoretically intense or statistically complex; in fact, they are almost guaranteed to not be. What makes these examples of research great is the positive impact they could have on organizations. Presentations will range from meaningful studies that would never be publishable in an I-O journal to ideas for research that were never pursued because the study would probably not be publishable. This is the first step to giving this hidden treasure trove of insights a voice.

SIOP Philadelphia 2015: A Welcome From Your Conference Chair
April 23-25 (Preconference Activities April 22)

Eden King
George Mason University

The 30th anniversary of our outstanding conference is just around the corner, awaiting SIOPers in the Birthplace of America! Hundreds of volunteers have worked in collaboration with the fantastic Administrative Office staff to put together a conference that includes innovative speakers, engaging professional development sessions, and opportunities to network with I-O psychologists from across the globe.

Here's a 10- point ***To Do*** list to help you make the most of every minute of this annual event!

__ **1.** Book your hotel room. SIOP 2015 will be held in the vibrant center of Philadelphia in the Marriott Downtown. Catch all of the conference action here!

__ **2.** Register for the conference!

__ **3.** Contemplate planes, trains, and automobiles. All roads lead to Philly this April.

__ **4.** Consider all the options for maximizing your conference experience before the official program begins.

- *Sign up for PreConference Workshops!* Your Workshops Committee, lead by Eric Desrosiers, has identified 11 cutting-edge topics and outstanding experts to provide professional development sessions before the conference program begins. Visit the workshops webpage and lock down your top choices.
- *Join the Consortia*! Special sessions for masters students, doctoral students, and junior faculty members are designed by your Consortia Committee (lead by Mark Frame) to be informative, interactive, and engaging. For information about eligibility and agendas, check out the consortia on the SIOP conference webpage.
- *Participate in the Conference Ambassador Program!* Newcomers and volunteer Ambassadors are connected via email prior to the conference and are encouraged to network on site.
- *Attend the Newcomer Event!* All new SIOP members, first-time conference attendees, and Ambassador–Newcomer pairs will be welcomed by Program Chair **Kristen Shockley** and Membership Chair **Satoris Culbertson** in an informational and networking session.
- *Serve as a Student Volunteer!* Student volunteers are needed to help the conference run smoothly and assist in a variety of ways such as helping with registration, assembling materials and signs, and providing directions. Interested students should indicate their

wish to volunteer when they register for the conference. Any questions should be directed to Adam Hilliard (AHilliard@selectintl.com), Volunteer Coordinator, who will be in touch with volunteer assignments as the conference approaches.

__ **5.** *Behold the opening plenary!* Leaders of SIOP, including President **Jose Cortina,** President-Elect **Steve Kozlowski**, Awards Chair **David Baker**, and Fellows Chair **Ron Landis**, will address SIOP attendees, recognize award winners, and reinvigorate our excitement for SIOP.

__ **6.** *Absorb the conference program!* Be captivated by the panels, symposia, IGNITE sessions, debates, communities of interest, and theme track that constitute the program. Consider taking advantage of professional development opportunities through the Friday Seminars and Master Tutorial options. As Kristen Shockley's description later will demonstrate, each of these sessions has been carefully constructed to maximize learning and idea generation.

__ **7.** *Network***!** In no other place throughout the year will there be as many I-O psychologists under one roof! Take advantage of coffee breaks, receptions, and hallways to connect with old colleagues and meet new ones.

__ **8.** *Get a run in!* Join race director **Paul Sackett** and a growing number of speedy IO psychologists for the annual Frank Landy 5K.

__ **9.** *Join our closing events!* Mark the closing of the conference with brief remarks from the incoming President Steve Kozlowski, an exciting presentation on data visualization by Amanda Cox of the *New York Times* graphics team, and a last hurrah American Bandstand reception.

__ **10.** *Reminisce about the conference* while taking advantage of conference tour options recommended by Local Arrangements Chair **Robin Cohen** and while completing the Conference Evaluation Survey developed by committee chair **Chris Cerasoli.**

Ten steps and you are ready to embrace the 30th annual SIOP conference! Philly, here we come!

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

2015 SIOP Preconference Consortia: An Opportunity for Students and Junior Faculty to Get Even MORE From the SIOP Conference!

Mark Frame and Tracey Rizzuto

Incoming SIOP Consortia Chair Tracey Rizzuto and Outgoing Consortia Chair Mark Frame are pleased to be leading the team that will host three (3) integrated consortia on **April 22, 2015!** The SIOP Consortia Committee is preparing a day of consortia events that promise to be informative and fun for all those in attendance. The consortia events will start in the morning the day before the SIOP conference and will end in time for the Wednesday evening events. In the SIOP integrated consortia format, participants may choose to attend those sessions that are part of their consortia's track, *OR* they can attend sessions that are a part of another track. This innovative format allows all participants to get the most out of the consortia by tailoring their experience. All participants must register prior to the conference, and a fee is associated with each consortium.

Doctoral Student Consortium

In December, faculty members of doctoral programs were contacted by The Lee Hakel Doctoral Student Consortium (DSC) Subcommittee Chair **Wendy Bedwell** and asked to nominate for the DSC. The DSC is designed for upper-level graduate students in I-O psychology and OB/HRM programs nearing the completion of their doctoral degrees (third-year students or above who have completed most or all coursework and are working on their dissertations). The DSC track will feature an impressive lineup of speakers selected for their expertise in matters and issues relevant to doctoral students. A special networking session will provide DSC participants an opportunity to meet and make connections with each other as well as other consortia attendees and speakers. If your doctoral program did not receive an e-mail in December, please contact Wendy Bedwell (wbedwell@usf.edu) with the name of your doctoral program and the contact information of the program's director. Enrollment is limited, so if you are nominated, please confirm your attendance as soon as possible. For further information on the 2015 DSC, please consult the SIOP conference registration website (click here).

Master's Student Consortium

Similarly, in December faculty members of master's programs were contacted by **Melanie Coleman**, the SIOP Master's Student Consortium (MSC) Subcommittee Chair, and asked to nominate students for the MSC. The MSC is designed for upper-level graduate students in I-O psychology and OB/HRM nearing completion of their terminal master's degree. As in years past, the MSC will feature experienced practitioners and informative, insightful, and practical sessions. The MSC will have a networking session for MSC participants as well as opportunities to meet and make

connections with the other consortia attendees and speakers. If your Master's program did not receive e-mail in December, please contact Melanie Coleman (Melanie.Coleman@walmart.com) with the name of your master's program and the contact information of the program's director. Enrollment is limited, so if you are nominated, please confirm your attendance as soon as possible. For further information on the 2015 MSC please consult the SIOP conference registration website (click here).

Junior Faculty Consortium

The Junior Faculty Consortium (JFC) Subcommittee and chair, **Mike Sliter**, invite junior faculty in psychology departments, management departments, and OB/HRM departments to participate in the 10th SIOP JFC! Historically, this consortium has focused on the needs of SIOP's untenured faculty members, but the JFC has expanded to address the needs and concerns of those junior faculty in institutions where tenure is not an option. It also serves as a "realistic job preview" for SIOP members considering an academic career. Many people attend more than one JFC, so feel free to sign up again if you have attended a JFC in the past and were pleased with the experience. There will be a JFC networking session and opportunities to meet and greet other consortia attendees and speakers. Unlike the other consortia, the JFC requires NO NOMINATION. You can register for the JFC when you register for the conference. Seating is limited, so be sure to register early! For more information about the JFC, please contact JFC Subcommittee Chair Mike Sliter (msliter@iupui.edu). For further information on the 2015 JFC please consult the SIOP conference registration website (click here).

2015 Friday Seminars

Lance Ferris
The Pennsylvania State University, Chair

As chair of the 2015 Friday Seminars Committee, I am pleased to share with you the lineup for this year's seminar presenters and topics. The Friday Seminars offer researchers and practitioners an opportunity to develop new skills, explore new topics, and to keep up with cutting-edge advances in research and practice. The invited experts will provide a thorough discussion of the topics in an interactive learning environment (e.g., lecture accompanied by breakout discussions, case studies, experiential exercises, and networking).

I hope that you will join us for at least one of our sessions. However, space is limited, and these sessions sell out quickly. I encourage you to register early to secure your spot. Please contact me via email at lance@psu.edu if you have any questions.

The 2015 Friday Seminars are sponsored by the Society for Industrial and Organizational Psychology, Inc., and are presented as part of the 30th Annual SIOP Conference. SIOP is approved by the American Psychological Association to sponsor continuing education for psychologists. SIOP maintains responsibility for this program and its content. Three (3) hours of continuing education credits (CE) are awarded for the participation in one (1) Friday Seminar. Full descriptions are available at http://www.siop.org/conferences/15con/regbk/fridayseminars.aspx

- Duration: Sessions are 3 hours in length.
- Enrollment: Limited to the first 50 participants who register for each seminar.
- Date and time: Friday, April 24, 2015, during the morning (8:30 to 11:30 am) or afternoon (12:00 to 3:00 pm).
- Location: The seminars will be held at the Philadelphia Marriott Downtown (specific room will be indicated in conference program).
- Fee: The cost for each Friday Seminar is $115.00 (USD).
- Registration: Registration is available through the general online registration process for the conference.
- Cancellation: Friday Seminar fees cancelled on or before **April 9, 2015,** will be refunded less a $25.00 (USD) administrative fee.
- Continuing education credit: The Friday Seminars are sponsored by the Society for Industrial and Organizational Psychology, Inc. (SIOP) and presented as part of the 30th Annual Conference. SIOP is approved by the American Psychological Association to sponsor continuing education for psychologists. SIOP maintains responsibility for this program and its content. SIOP is also an HR Certification Institute Approved Provider for PHR, SPHR, and GPHR recertification credit. Each Friday Seminar offers 3 continuing education credits for psychology purposes. SIOP will submit relevant sessions to the HR Certification Institute for review and will post preapprovals on the website listed above when they become available.

Overview of Topics and Presenters

Statistical and Methodological Procedures for Meta-Analysis (8:30-11:30 AM)
Presenters: **In-Sue Oh**, Temple University, and **Christopher Berry**, Indiana University
Coordinator: **Songqi Liu**, The Pennsylvania State University
In this seminar, the presenters will first discuss the historical background around the development of meta-analysis and basic statistical procedures of meta-analysis. Then, the presenters will discuss how to conduct a meta-analysis using Schmidt-Hunter methods and how to report and interpret meta-analytic results. Finally, the presenters will discuss some important publication bias methods.

This seminar is intended for a general audience at a postgraduate level; no specific content knowledge is required.

The Science of Diversity at Work (8:30-11:30 AM)
Presenters: **Eden King,** George Mason University, and **Michelle (Mikki) Hebl**, Rice University. Coordinator: **Adrienne Carter-Sowell,** Texas A & M University
Never before have people from so many different ethnic, religious, gender, sexual orientation, and age groups worked together in organizations. This dramatic demographic reality creates a critical need for overcoming challenges that arise in workplace interactions. This interactive session offers emerging evidence that identifies and addresses such challenges. This seminar is intended for a general audience at a postgraduate level; no specific content knowledge is required.

Longitudinal Data Analytic Techniques Using Latent Variables (12:00-3:00 PM)
Presenter: **Robert Vandenberg**, University of Georgia. Coordinator: **Ning Li**, University of Iowa
The primary objective of this structural equation modeling (SEM) seminar is to teach participants how to use the features within the Mplus software package to test longitudinal types of models including latent change score analyses and latent growth modeling. The instructor will provide the data and the syntax files used in the seminar.

This seminar is intended for sophisticated users of SEM modeling interested in the application of Mplus software for longitudinal model testing.

Dark Triad and Socially Aversive Personality Traits in the Workplace (12:00-3:00 PM)
Presenters: **Ernest O'Boyle**, University of Iowa, and Donelson Foryth, University of Richmond. Coordinator: **Sang Eun Woo**, Purdue University
This seminar reviews the Dark Triad personality traits and related psychological constructs addressing ethical judgment and behavior. Discussion topics include prediction of work outcomes such as job performance, citizenship behaviors and workplace deviance, cultural and professional differences in ethics and moral philosophy, and legal issues in HR applications.

This seminar is intended for a general audience at a postgraduate level; no specific content knowledge is required.

2015 Preconference Workshops: Wednesday, April 22, 2015

Erica Desrosiers
Walmart

The Workshop Committee has identified a diverse selection of innovative and timely topics to offer this year, as well as a spectacular set of experts to lead these workshops. The lineup includes:

1. **Embedding High-Performance Culture Through New Approaches to Performance Management and Behavior Change.** Elaine D. Pulakos, PDRI a CEB Company; Sharon Arad, Cargill; Alan Colquitt, Eli Lilly and Co. Coordinator: Kevin Smith, PDRI a CEB Company

2. **Identifying and Developing Leaders for Tomorrow's World.** Seymour Adler, Aon Hewitt; Lorraine Stomski, Aon Hewitt; Allan H. Church, PepsiCo. Coordinator: Satoris S. Culbertson, Kansas State University

3. **Mobile Assessment: The Horses Have Left the Barn…Now What?** Matthew O'Connell, Select International, Inc.; Winfred Arthur, Jr., Texas A&M University; Dennis Doverspike, The University of Akron. Coordinator: Jerilyn Hayward, ServiceMaster

4. **Developing Globally Adaptive Leaders in a VUCA World.** Lori Brewer Collins, Cambria Consulting; Paula Caligiuri, Northeastern University Coordinator: Aarti Shyamsunder, Catalyst.

5. **Getting Real With Big Data for Talent Analytics: Practical Matters** Alexis Fink, Intel Corporation; Elpida Ormanidou, Wal Mart Corporation; Jacqueline Ryan, IBM Corporation Coordinator: John Howes, IBM Corporation

6. **OFCCP and EEOC Enforcement Trends: Practical Tips for Mitigating Risk.** David B. Cohen, DCI Consulting Group, Inc.; Richard F. Tonowski, EEOC. Coordinator: Amanda Allen, Edison Electric Institute.

7. **All Data Big and Small: Using R Code to Improve Organizational Practice and Science.** Fred Oswald, Rice University; Scott Tonidandel, Davidson College. Coordinator: Alok Bhupatkar, IMPAQ International.

8. **Coaching for Change: Practical Tools for I-O Psychologists.** John L. Bennett, Queens University of Charlotte Coordinator: Ryan O'Leary, PDRI

9. **Succession Management Strategies: Identifying Your Next Generation of Leader.** Paul VanKatwyk, Korn Ferry; Jim Peters, Korn Ferry, Cynthia Alisesky, GlaxoSmithKline. Coordinator: Mike Benson, Johnson & Johnson

10. **Half-Day MBA: Sharpen Your Business Acumen!** Wayne F. Cascio, University of Colorado Denver; Pete Ramstad, The Toro Company.
    Coordinator: Gavan O'Shea, Human Resources Research Organization (HumRRO)

11. **IRT and So Should You: Modernizing Your Assessment Programs.** Nathan T. Carter, University of Georgia; Robert E. Gibby, IBM.
    Coordinator: Ted Kinney, Select International.

You do not want to miss the 2015 workshops! Not only will you learn new skills and grow professionally, you will also have the opportunity to network with recognized experts in these content areas, as well as with other prominent professionals in our field who will be attending workshops with you.

Detailed workshop descriptions and presenters' biographical sketches are provided in the preconference announcement and on the SIOP Web site.

The 2013–2014 Workshop Committee consists of:

Erica Desrosiers, Workshop Chair, PepsiCo
Emily Solberg, Workshop Chair-in-Training, CEB/SHL
Amanda Allen, Edison Electric Institute
Mike Benson, Johnson & Johnson
Alok Bhupatkar, IMPAQ International
Kristin Charles, Amazon
Tori Culbertson, Kansas State University
David Futrell, Walmart
Jerilyn Hayward, ServiceMaster
John Howes, Kenexa
Ted Kinney, Select International
Ryan O'Leary, PDRI
Gavan O'Shea, Human Resources Research Organization
Aarti Shyamsunder, Catalyst
Kevin Smith, PDRI, a CEB Company

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

Newly Elected Fellows of the International Association of Applied Psychology (IAAP)

Gary Latham
President of Division 1, Work and Organizational Psychology

SIOP/Division 14 members have long played a significant role in IAAP. For example, IAAP Presidents include **Morris Viteles** (1958–1968), **Edwin Fleishman** (1974–1982), **Harry Triandis** (1990–1994), **Michael Frese** (2002–2006) and **Jose Peiro** (2010–2014). Among IAAP's flagship journals is Applied Psychology: An International Review. SIOP members who have served as past editors of this journal include Miriam Erez, Michael Frese, Sabine Sonnentag and Bob Wood. Virginia Schein and Jose Peiro preceded me as President of Division I. Over the past three years, Division 1 had 905 members from 72 countries! Sixty percent of them are affiliated with colleges/universities.

The IAAP Congress met in Paris, July 8-13, 2014. The President was Jose Peiro; the Secretary General was Milt Hakel. At the Congress, the following SIOP members were awarded the status of Fellow in IAAP:

Art Brief
Michael Burke
John Campbell
David Day
Franco Fraccaroli
Gary Johns
Tim Judge
Kevin Kelloway
Avraham Kluger
Barbara Kozusznik
Edwin Locke
Robert Lord
John Meyer
Ed Salas
Paul Spector
Donald Truxillo
Simca Ronen
Sheldon Zedeck

As president of SIOP (2009–2010), I initiated the formation of the Alliance for Organizational Psychology. The two individuals who joined me in signing the agreement for the Alliance at our 2010 annual meeting were Jose Peiro, then President of Division 1, and Franco Fraccaroli, then president of EAWOP. As noted above, Jose was subsequently elected to serve as president of IAAP. Franco has just been elected to take the reins from **Milt Hakel** as president of the Alliance.

The signing of the Alliance included a dues reduction for joining IAAP namely $54.00 for SIOP members. Students can join for $11.00. Please join. Not only will you have the chance to collaborate with colleagues from many different countries, you will go to beautiful cities to share your ideas (eg. Singapore, Athens, Melbourne, Paris etc.) Our 2018 Congress will be held in Montreal.

From the SIOP LGBT Committee: Bringing Research to Practice: SIOP's Engagement With Out and Equal

Katina Sawyer
Villanova University

Thomas Sasso
University of Guelph

Daniel Gandara
Illinois Institute of Technology

Josh Weaver
Seattle Pacific University

Michelle Jackson
Illinois Institute of Technology

Five members of the SIOP Lesbian, Gay, Bisexual, and Transgender (LGBT) committee developed a workshop for the 2014 Out and Equal Summit in San Francisco at the beginning of November in a continued effort to bridge the research–practice gap. Out and Equal is an American not-for-profit organization that advocates for workplace practices and policies that are inclusive and supportive of LGBT employees. For years, SIOP's LGBT committee has committed to a partnership with Out and Equal to achieve our mutual goal of developing inclusive workplaces for all employees, regardless of sexual orientation or gender identity.

The Out and Equal Summit is an annual conference that attracts professionals from corporations, nonprofit organizations, and research institutes for knowledge mobilization, personnel recruitment, and networking among LGBT professionals and allies. Organizations represented included Deloitte, IBM, The Walt Disney Company, Wells Fargo, the Human Rights Campaign, and hundreds more. Presentation topics focused on areas such as developing LGBT leaders, maximizing employee resource groups, creating inclusive work–family policies, overcoming discriminatory practices, and developing LGBT allies in the workplace (a full list of the 114 sessions can be found online at www.outandequal.org).

This year, the summit both reinforced and supported bridging the research–practice gap. In the opening plenary session Billie Jean King, former professional tennis player and founder of the Billie Jean King Leadership Initiative, noted to the audience that the most important thing organizations could do to benefit LGBT diversity and inclusion was to participate

in and produce high quality research. This call for practitioners to focus on research production was repeated frequently over the duration of the conference.

Building on the inspiring words of Billie Jean King, researchers from the SIOP LGBT committee presented to an audience of over 120 practitioners on the importance of high quality, scientific research for business outcomes. The presenters discussed some of the leading LGBT research conducted by members of SIOP and advocated for greater engagement and collaboration between researchers and practitioners. They used this research to highlight the business case for LGBT diversity and inclusion and invited the audience to personally engage in research collaborations with SIOP members.

Engaging in the Out and Equal Summit was a rewarding experience and has resulted in several recommendations for SIOP's members to contemplate.

1. Knowledge mobilization. SIOP members should actively consider submitting proposals to future Out and Equal Summits. This conference provides researchers with an active and engaged audience, eager to learn and utilize the research many members of SIOP have worked tirelessly to develop and disseminate for consumption. As we continue to lament the ever-present research–practice gap, opportunities like this should be capitalized upon as platforms for knowledge mobilization.

2. Out and Equal Summit participation and attendance. SIOP as an organization should strive to have a formal presence as part of the Out and Equal Summit. Booths at the summit were always busy with individuals eagerly circulating around and engaging with the presenters. The opportunities for meaningful, engaging conversations and networking were plentiful. A booth to advertise our profession and resources that industrial and organizational psychology can offer to organizations would create a presence that could result in opportunities for collaboration. Meaningful and visible attendance at Out and Equal by SIOP may develop partnerships on LGBT research and encourage greater practitioner engagement in SIOP's own annual conference.

3. ENDA advocacy. The United States still has no federal nondiscrimination protection for sexual and gender minorities. Although SIOP has passed a position statement advocating for the Employment Non-Discrimination Act, American legislators are still barring workplace protections from becoming legally enforced. It is up to SIOP and its membership to continue to place pressure on elected officials in the United States to ensure that ENDA will be passed. Although most participants in attendance at the Out and Equal Summit were fortunate enough to be part of organizations that have developed their own internal nondiscrimination policies, many more LGBT employees across the United States are left unprotected and treated unfairly with

the risk of employment termination based on their identity. Continuing to support the passage of ENDA will send a message to LGBT practitioners that SIOP is willing to work continuously toward workplace equality, until it is achieved.

4. Conduct LGBT-focused research and develop workplace allies. The Out and Equal Summit was a significant reminder that the production of high-quality LGBT research is important. Employees and organizations are desperate for evidence-based approaches to improving LGBT inclusivity and to motivate ally action. There is a need to develop an even stronger business case for supporting LGBT employees, and that information can come from our research. We must continue to prioritize LGBT research in order to overcome the marginalization that these communities have faced within research and in applied settings. Similarly we must strive to develop LGBT allies in the workplace, individuals who will support and advocate for LGBT coworkers.

Overall, it is the hope of the SIOP LGBT committee that SIOP's members will continue to support workplace equality through the increased production of LGBT workplace research and by building on our existing relationships with practitioner-focused LGBT organizations in order to achieve SIOP's scientist–practitioner mission and to benefit society at large. We are confident that our relationship with Out and Equal Workplace Advocates can serve as a model for future successful partnerships between SIOP and practitioner-focused organizations.

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

Professional Practice Committee Updates

Mark L. Poteet
Organizational Research & Solutions, Inc.

As you have just read in the Practitioners' Forum, the *Practitioner Reviewer Database* is close to being implemented thanks to the excellent work of **Beth Bynum**, **Meredith Ferro**, **Kyle Morgan**, and **Ben Porr**. In addition to this project, I wanted to provide updates for a few additional initiatives being undertaken by the Professional Practice Committee.

By the time you read this article, the group mentoring program will be wrapping up its 2014 edition with more than 20 mentoring groups participating. The growing number of mentors and protégés speaks to the enthusiasm behind this initiative. Once completed, the subcommittee of **Maya Garza**, Meredith Ferro, **Lizzette Lima**, **Megan Leasher**, and **Cole Napper** will be gathering feedback from participants on lessons learned. In addition to the group mentoring program, the subcommittee is well underway in planning for the 6th annual speed mentoring event to be held at the 2015 Annual Conference in Philadelphia, PA. In May 2014 a 5-year review of the practitioner mentoring initiative was reported to the SIOP Executive Board (Hui-Walowitz, Khanna, Leasher, & Garza, 2014). At that time, across all programs, approximately 400 protégés and 124 mentors had participated with results indicating that participants report a high level of satisfaction and find the programs to be very useful.

The Task Force on Contemporary Selection Practice Recommendations to EEOC, being led and facilitated by **Eric Dunleavy**, continues to progress in its goal to share research findings and recommendations to EEOC on topics of shared interest. Two white papers on data aggregation and on basic and minimum qualifications are under review, and a PowerPoint presentation on the topic of borrowing validity evidence is currently in production.

The committee's work on developing a model of nontechnical, business acumen competencies (e.g., sales, marketing, financial concepts) for I-O psychologists is moving forward. As of this writing, **Matthew Minton**, Beth Bynum, **Samantha Chau**, Kyle Morgan, and Cole Napper are conducting focus groups with experienced practitioners, after which a survey will be created and administered to refine and validate the model. Be on the lookout for this survey in early 2015!

Over the past several months additional practitioner webinars have been recorded and posted on the SIOP website. The most recent webinar is by **Ken Lahti**, who presents valuable tips for selling I-O and increasing one's influence and impact with customers. Earlier this year a webinar featuring **Gavan O'Shea** was posted, discussing techniques and challenges associated with evaluating leadership development

programs. Future webinars are currently being planned, so if you are interested in hosting your own webinar or have suggestions for future topics, contact Ben Porr at BPorr@fmpconsulting.com.

The SHRM–SIOP Collaborative Educational Series continues to move forward. Several white papers and Research Insights series articles are currently at various stages of production with planned publication in the near future. Anyone interested in contributing to the collaborative educational series either through authoring or reviewing papers should contact **James Kurtessis** (james.kurtessis@shrm.org) or **Kayo Sady** (ksady@dciconsult.com).

In addition, SIOP is currently considering initiating a white paper series with another professional organization(s) focused on describing the impact of I-O related practices and interventions on business outcomes, written in more of a case study format. These papers would be targeted to senior HR leaders and executives, broadening our connections with external stakeholders and potentially increasing our impact. If you are interested in contributing to this potential white paper series, please contact me directly at mlpoteet@verizon.net. Also, if you have any ideas, questions, or recommendations on other initiatives that the Professional Practice Committee should consider to advance our goals of promoting and advancing the practice of I-O psychology, please let me know.

Reference

Hui-Walowitz, K., Khanna, C., Leasher, M., & Garza, M. (2014). *SIOP practitioner mentoring program: A 5-year anniversary report*. Technical report submitted to SIOP Executive Board.

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

A Call for Action! Creating #SIOP15 Conference Buzz on Social Media

Electronic Communications Committee

Attending the SIOP conference in Philly? In preparation for the big event, we want to give you ideas on how to incorporate social media usage throughout the conference! See below for quick tips and ideas. If you have others, share them on Twitter using @SIOP!

How can you create awareness? Get online and stir up attention around SIOP's annual conference sessions and events! Use the #SIOP15 hashtag!

Ways to create buzz:

- Encourage people to attend sessions by posting the time and place of sessions you are interested in or are presenting!
- Ensure #SIOP15 is on the first slide of your presentation or on your poster!
- Incorporate #SIOP15 into Q&A sessions - Here's how:
- Live tweet interesting tidbits from presentations
- Post questions for the presenters on their twitter page
- Post about things you've learned in sessions
- Post about social events you will be attending and ask others to join
- Share research ideas with others in the field

Benefits:

- If attendees band together and post online it will help increase SIOP's visibility
- Connect with other attendees during and after the conference
- Provide or capture real-time feedback about research and practice
- Disseminate I-O research more broadly
- Meet and connect with other attendees at the conference
- Build your personal brand via social media
- Share conference information for those who could not attend

Don't know what to post? Check out #SIOP14 for examples from last year!

We challenge you to take our social media presence to the next level - Start posting about the conference today and use hashtag #SIOP15!

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

No coffee, but we have the books!

The SIOP Organizational Frontiers Series

Launched in 1983 to make scientific contributions to the field, this series publishes books on cutting edge theory and research derived from practice in industrial and organizational psychology, and related organizational science disciplines. The goal of the series is to inform and stimulate research for SIOP members (students, practitioners and researchers) and people in related disciplines including other sub-disciplines of psychology, organizational behavior, human resource management, and labor and industrial relations.

Professional Practice Series

Ideal for industrial and organizational psychologists, organizational scientists and practitioners, human resources professionals, managers, executives, and those interested in organizational behavior and performance, these volumes are informative and relevant guides to organizational practice. You'll find guidance, insights, and advice on how to apply the concepts, findings, methods and tools derived from organizational psychology to organizational problems.

Find all the great SIOP titles at the SIOP Store

http://www.siop.org/store/

I-O @ APS—Why YOU (and Everybody Else) Should Attend the 2015 APS Convention

Cheryl Boglarsky
Human Synergistics, Inc., University of Detroit Mercy, and Capella University

Christopher W. Wiese
University of Central Florida

Reeshad S. Dalal
George Mason University

Silvia Bonaccio
University of Ottawa

From *How to Memorize a Deck of Cards in 63 seconds* to *Changing Neurobiology with Behavior*, the 2014 Association for Psychological Science (APS) Annual Convention introduced attendees to an intriguing array of topics related to psychological science and its subdisciplines. Experts in the field explored the mechanisms and consequences of stress, challenges of harnessing current technology to enhance learning, the responsible use of technology in education, and much more. Attendees even had the opportunity to mingle with Philip G. Zimbardo, although unfortunately he did not offer to incarcerate attendees in his famous Stanford Prison.

The 2014 Convention has come to a close, and it's now time to begin planning to join us in 2015 (bring out the old, bring in the new)! With over 25,000 members, APS is the premiere international organization dedicated solely to the advancement of psychological science and the use of science-based psychology in the development of public policy. The 2015 APS Annual Convention will be held May 21-24 in The Big Apple (New York City). The APS Convention attracts internationally renowned researchers from every area of psychology and is well attended, with over 4,300 convention attendees last year in San Francisco. Further, the 2015 program will boast some of the hottest names in psychology (Peter Bentler! Frans de Waal! Angela Duckworth! Michael Gazzaniga! Steven Pinker! Michael Posner! Robert Rosenthal!). But of course the conference wouldn't be complete without lots of totally awesome I-O content. Mark your calendars—here are some events that you won't want to miss:

I-O Content @ APS 2015

One of the cross-cutting themes for the 2015 APS Convention is immigration (a topical theme, to be sure!). Among the invited speakers for this theme is **Gilad Chen** from the University of Maryland's Robert

H. Smith School of Business. Dr. Chen, who is also the incoming editor at the *Journal of Applied Psychology*, will contrast the expatriate adjustment experience with the experience of immigrants and will discuss an agenda for I-O research on immigrants and work. In our view, it is quite surprising that I-O has not paid much attention to this important topic, and we trust that Dr. Chen's talk will provide the spark for future I-O research on the topic.

The conference will also feature an invited address by **Ed Locke**, whose work on goal setting has been wildly influential and represents a major "export" from I-O to other areas of psychology and beyond. At the 2015 conference, Dr. Locke will speak on free will and the illusion of determinism. Here, too, we expect the topic to be of considerable interest to both I-O and non-I-O audiences.

The APS Convention will also feature several very interesting (if we say so ourselves!) I-O invited talks by the following speakers:

- **Miriam Erez**, Technion
- Adam Galinsky, Columbia University
- **Adam Grant**, University of Pennsylvania (Wharton)
- **Mikki Hebl,** Rice University
- **Louis Tay**, Purdue University

In addition, the 2015 program will feature two I-O invited symposia:

1. *Opportunities and Challenges for Industrial-Organizational Psychology at Undergraduate-Focused and Other Small/Medium-Sized Educational Institutions*
2. *Ostracism/Exclusion in the Workplace*

The first of these symposia will be chaired by Reeshad S. Dalal (George Mason University) and will feature presentations from **Alison O'Malley** (Butler University), Lily Cushenbery (Stony Brook University), **Jason Dahling** (The College of New Jersey), and **Scott Tonidandel** (Davidson College). The second of these symposia will be chaired by **Silvia Bonaccio** (University of Ottawa) and will feature presentations from **Lance Ferris** (Penn State University), Sandra Robinson (University of British Columbia), Kristin Scott (Clemson University), and Kip Williams (Purdue University).

In addition to the invited symposia and talks, the I-O track of the convention program will feature several symposia and a large number of posters submitted by I-O researchers through the call for papers. We encourage you to submit your work at http://www.psychologicalscience.org/index.php/convention/call-for-submissions

Workshops

But wait, there's more! In addition to the I-O content at APS, the conference features several workshops that I-O psychologists should await with bated breath:

- *Writing for a Popular Audience* with Chris Chabris (Union College), coauthor of *The Invisible Gorilla: How Our Intuitions Deceive Us*
- *Uses and Challenges of Mechanical Turk* with Michael Crump (Brooklyn College)

- *Hacking PROCESS* with Andrew Hayes (The Ohio State University)
- *Introduction to R* with William Revelle (Northwestern University)
- *Experience Sampling* with Tamlin Conner (University of Otago)
- *Introduction to Structural Equation Modeling* with Gregory Hancock (University of Maryland)
- *Big Data* with Rich Gonzalez (University of Michigan)
- *The New Statistics* with Geoff Cummings (La Trobe University), author of *Understanding The New Statistics: Effect Sizes, Confidence Intervals, and Meta-Analysis*
- *Latent Class Analysis/Latent Variables (LCA/LV)* with Katherine E. Masyn (Harvard Graduate School of Education) (STATertainment: http://youtu.be/H-H_k2YQBzs)
- *Bayesian Analysis in JASP* with Richard Morey (University of Groningen, Netherlands), coauthor of *Statistical Models in Cognition and Perception*
- *An Introduction to Quantile Regression* with Jessica Logan (Ohio State University)
- *Models for Personal Relations* with Thomas Malloy (Rhode Island College)

Mark Your Calendars!

With a wealth of I-O and general psychology program options, the 2015 APS Annual Convention offers unique learning opportunities for everyone in the field of psychological science. If you're dedicated to the advancement of scientific psychology and/or devoted to evidence-based practice/policy, you won't want to miss the symposia, invited talks, workshops, poster sessions, and other events at the convention. There's even a "Bring the Family" session.

The call for submissions (http://www.psychologicalscience.org/index.php/convention/call-for-submissions) is now open and the deadline for submitting posters is **January 31, 2015**. We should note that it's *painfully easy* to submit a poster to APS: all that's required is an abstract and a brief summary of the poster content. So, please join us May 21-24, 2015, in New York City and be the first to learn about the latest research and developments in psychological science!

Oops! We almost forgot the most important thing about the convention! You're invited to join us at the I-O happy hour at APS. If you're not too busy guzzling your complimentary (yes, that means free!) drink and noshing on the delectable hors d'oeuvres, you'll have a great opportunity to make new I-O connections (including the invited I-O speakers) and catch up with old I-O friends.

Stay connected to future developments by following us on Twitter (https://twitter.com/SIOPatAPS), Facebook (https://www.facebook.com/SIOPAPS), and on my.SIOP (http://my.siop.org/Collaborate/AllGroups/Group-Activity/groupid/288). Yup, SIOP's APS Committee is, like, all tech-savvy and stuff!

The Development of Skills Internationally: A Question of Qualifications

SIOP Representatives to the United Nations:

Alexander Gloss, North Carolina State University
English Sall, North Carolina State University
John C. Scott, APTMetrics
Deborah E. Rupp, Purdue University
Lise Saari, New York University
Lori Foster Thompson, North Carolina State University
Mathian Osicki, IBM
Drew Mallory, Purdue University

Introduction and Overview of Current Activities

Members of SIOP's team of representatives to the United Nations (UN) recently participated in a meeting of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) in Paris. According to their website, UNESCO is known as the "educational" agency of the UN. Among its many priorities, UNESCO attempts to improve and mobilize support for education, build intercultural understanding between nations, support global scientific cooperation, and protect freedom of expression (UNESCO, n.d.). UNESCO also has an important role in supporting work on an issue that is both near and dear to industrial and organizational (I-O) psychology and critical for continued social and economic development around the world, namely, the facilitation of learning and skills development.

The UNESCO meeting was important to our team because we have as one our goals the creation of high-quality solutions that help the UN address major humanitarian and development challenges. One of the most important issues in international development is skills development. Indeed, the development of skills is both the engine of individual capabilities and of broader socioeconomic development (UNDP, 2014). Moreover, arguably there are few issues at the UN that I-O psychology is more knowledgable about or is better positioned to make meaningful contributions to ongoing global discussions on the issue. From expert approaches to the conceptualization and measurement of work-related individual differences and the determination of worker-related job requirements, to a deep understanding of the most effective methods of training, career development, and teamwork, I-O psychologists engage with the issue of skills development in a number of unique and effective ways.

The UNESCO meeting mentioned above was specifically focused on the issue of

qualifications and their international recognition and comparison. Qualifications are formal recognitions of work capabilities and include everything from a university degree to a professional certification (CEDEFOP, 2009). Qualifications are a crucial component within the broader realm of skills development because they are an important way to track, recognize, and incentivize the development of work skills. However, qualifications from different sectors and countries are sometimes difficult to compare because they are often specific to an economic sector or to the unique legal, political, and cultural realities of a country or region.

Two important innovations have recently emerged globally that will serve to enhance a more universal understanding of qualifications and their skills content. Both of these innovations are found in the European Qualifications Framework (European Commission, n.d.). First, qualifications are being tied to measureable "learning outcomes" that are framed as behavioral statements and clustered into knowledge, skill, and competence categories. In this context, a "competence" refers to a situation-specific application of knowledge and skill. Second, qualifications have been mapped against different learning "levels," resulting in an organizational framework that facilitates comparison and definition in terms of learning outcomes. The European Qualifications Framework provides an example of a regional framework that connects qualifications across countries in the European Union. On the first level of the framework, the knowledge components of various professional qualifications are defined as "basic general knowledge" whereas on the 8th level, they are defined as "knowledge at the most advanced frontier of a field of work or study" (European Commission, n.d.).

National and/or regional qualifications frameworks have been adopted in many places around the world from the European Union to Southern Africa. Where they are in place, qualifications frameworks have helped countries and multicountry regions to conceptualize, measure, and track changes in a population's work-related capabilities and to compare and contrast different qualifications. Interestingly, qualifications frameworks have not been officially adopted and promoted by the United States' federal government.

A lack of clarity regarding the knowledge and skills that people's qualifications represent can prevent in-demand skills, like those of doctors and engineers, from being used. For example, without knowing whether the skills of a doctor with a qualification from a foreign country match the standards of the country evaluating a qualification, a qualification might not be recognized and the doctor might not be allowed to work. In addition, people who hold qualifications that are not accepted when they move to a new country or region often stay unemployed or stuck in low-skilled jobs (World Bank, 2012). Even where qualifications frameworks exist, major barriers to skills development often still exist in places where formal education and training are limited and there is a large "informal" economy that operates outside of regulations and laws. In such situations,

significant learning and skills development might take place, but it is often stunted and not optimally transferred into important social and economic outcomes (e.g., a reliable salary) because those skills are not formally recognized (World Bank, 2012).

Efforts to recognize skills developed outside of the formal economy are known as "recognition of prior learning," an initiative in which UNESCO has led the way to promote worldwide (UNESCO, n.d.). Important innovations in the recognition of prior learning have occurred in many countries around the world. One of the most interesting developments is in South Africa, where that country's national human-resources development community, including the South African Qualifications Authority, has worked to ensure that South Africans who are socioeconomically disadvantaged (and who were often blocked from earning formal qualifications for their skills under apartheid) can earn degrees that recognize their prior learning (www.saqa.org.za). By taking a series of examinations, South Africans can prove their expertise in a given subject and earn an appropriate degree, from a professional certification to a PhD.

One additional emerging trend related to prior learning and qualifications is establishment of international comparability and recognition of qualifications. Although there are many issues that need to be addressed before this becomes a reality, the potential for people to have their skills recognized around the world has an obvious appeal for the purposes of social justice, economic efficiency, and personal freedom.

What became clear from the meetings at UNESCO's headquarters is that I-O psychology as a professional discipline and as a repository for many empirically tested theories and methods has a great deal to add in the ongoing conversation about qualifications and the recognition of prior learning. Below, we briefly provide an overview of some important areas of overlap and relevance. As we hope will become obvious, I-O psychology has already begun engaging with many of these global issues, albeit often under a different conceptual or disciplinary "banner."

Work analysis: In many ways qualifications are simply meant to be standards that usefully define what work activities constitute best practice for a given occupation or job and/or what personal characteristics are necessary for success in those work activities. In this way, and as observed by the European Centre for the Development of Vocational Training (CEDEFOP), "the use of work analysis methods" is crucial to ensuring the relevance of qualification standards to employers and other users (CEDEFOP, 2009, p. 8). Important outstanding issues for qualifications frameworks include the extent to which person- and activity-oriented information tied to qualifications in one country setting are generalizable to qualifications in another country setting (see Taylor, Shi, & Borman, 2008). Moreover, the theoretical and practical relationships between information from sources of occupational information—like O*NET —and qualifications frameworks remains unclear.

Performance appraisal: As mentioned above, a dominant trend within many

countries' and regions' qualifications frameworks has been their reference to specific "learning outcomes"— that is, what it is that a jobseeker or jobholder should know and be able to do on the job. Thus, best practices in performance appraisal and/or criterion development are of particular importance to ensuring that qualification standards are closely and appropriately tied to performance and, importantly, to the right level and conceptualization of performance in the job or occupation in question. Based upon the priorities articulated by UNESCO, facilitating a better understanding and measurement of performance outcomes relevant to the knowledge economy (e.g., creative thinking) seems to be a particularly promising way that I-O psychology can help advance qualifications frameworks. Proper criterion development is especially important with qualifications because it can help to rule out "arbitrary" hurdles or social artifacts tied to a qualification that are not necessary for successful performance on the job.

Training and leadership: One of UNESCO's biggest priorities has been promoting a greater understanding, and enhancement, of "lifelong learning." This emphasis has come, in part, because of the large share of learning and skills development that takes place outside of the formal education systems within lower-income societies, especially with those countries' often large informal economies. As mentioned by the United Nation Development Programme's (UNDP, 2014), recent report on the private sector's role in poverty reduction, on-the-job training, and mentorship are main ways in which people in lower-income societies can learn and gain skills. Continuing to understand how qualifications frameworks can be designed to support not only formal education and training but also skills development enacted through on-the-job training programs and leaders' day-to-day behaviors will be key to the continued relevance of qualifications frameworks to the vast majority of the world's population.

In general, with insights from I-O psychology, it seems likely that well-established qualifications frameworks can increase people's motivation to pursue skills development opportunities by limiting and honing qualifications requirements to what is needed on the job and by clarifying how those qualifications can be obtained through various sorts of both formal and informal training/education.

Conclusion

This article has attempted to highlight how the issue of skills development is being engaged with at the United Nations. We have seen that UNESCO and actors around the world have worked to promote lifelong learning and skills development in a number of ways, and in particular by facilitating a more accurate understanding of the relationship between skills and qualifications, by better coordinating different qualifications to one another, and by helping people to have their skills recognized by qualifications regardless as to how those skills were developed. From a somewhat different perspective, it is worth observing that especially outside of the United States, qualifications frame-

works are major ways in which skills and the world of work are understood. Based upon the SIOP UN team's interactions with leading policymakers on an international level, it appears that there is much that I-O psychology can do to further assist the development of qualifications frameworks internationally.

Acknowledgements

Special thanks to James Keevy of JET Educational Services, Borhene Chakroun of UNESCO, and John E. S. Lawrence of Columbia University for conversations and insights that helped to facilitate this article.

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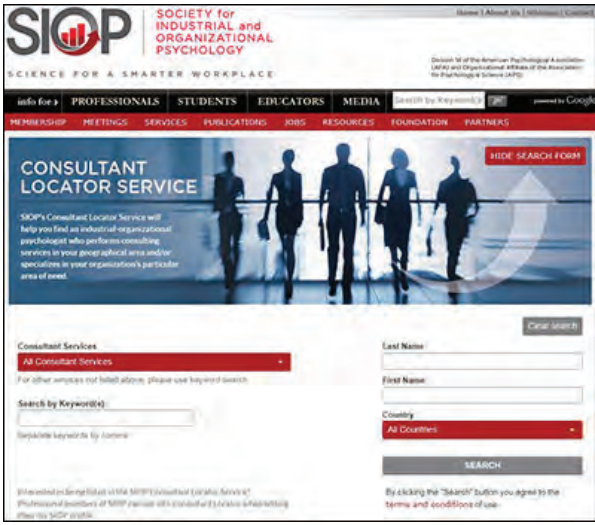
Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

SIOP Relaunches Consultant Locator Service to Connect Organizations With Professional Members

Stephany Below
SIOP Communications Manager

SIOP successfully relaunched its professional I-O directory, the **Consultant Locator Service** (CLS), in October, creating a new look and benefit for professional members to advertise their consulting expertise. You can find the CLS now on the "Services" menu of the SIOP homepage.



This is a ***free membership benefit*** designed to help connect SIOP professional members who provide consulting services with organizations seeking I-O expertise. For organizations, SIOP's Consultant Locator Service assists in finding industrial-organizational psychologists who perform consulting services in their geographical area and/or specialize in their organization's particular area of need.

Nearly 200 professional members were advertising their services on the CLS as of December—a large increase from the previous version of the service—and SIOP would like to encourage other professionals to take advantage of this unique member benefit.

"We are very proud of the professional, sleek new look of the Consultant Locator Service," said Dave Nershi, SIOP's Executive Director. "We feel this is a service that can really benefit not only our members who are consultants but also SIOP as a whole. We now have a very easy way for organizations to find the I-O experts they need."

The CLS enables users to search for I-O consultants based on the types of services provided, key words, name, or geographic location. The user's search results will display consultants who match the criteria and can be expanded to show a photo, consultant bio, contact information, and the geographic areas in which the consultant provides service.

To be included as consultant in the SIOP CLS, you must opt in. To do so, visit **www.siop.org** and log in using your SIOP user name and password. Then, once you are directed to the my.SIOP homepage, go to "edit profile" using the drop down next to your name on the right side of the black bar. You'll see a number of categories of information. Expand "Consultant Locator." This is where you will input all the information that will be displayed in the CLS. Start by clicking "yes" in response to the question, "Would you like to be included in the SIOP Consultant Locator?"

You may then input the information that will comprise your consultant profile. Please note

that this information can be different from your SIOP membership information (e.g., you want consultant inquiries to go to your cell phone instead of your office number). The CLS is an individual based service, so there are no listings for companies or organizations. However, you can certainly highlight your organization in your consultant bio and include a link to the company website.

Here's a brief explanation of the information you can submit:

- **Consultant area of service:** This is where you input the geographic areas where you provide services. You can check **"**USA Only,**"** and you will be prompted to select those states in which you operate. If you choose Canada, you will be prompted to input provinces. You can also select international if you provide services beyond the US and Canada. We suggest that you provide additional detail in your bio if you choose "international" because we do not provide a list of countries.
- **Keywords:** Input words separated by commas that will provide the best search results for the services you provide.
- **Consultant services:** You can select up to six consulting services from the list. If you don't see a service, be sure to add that in your keywords so users will be able to locate you.
- **Consultant bio:** Here is your opportunity to provide a bio outlining your credentials and other helpful information. Note that this is different than your my.SIOP profile. This bio is focused on your consulting work. There are a number of editing features to help you customize your bio. The "preview" button will not change your view unless you have used HTML in your bio.
- **Links:** You can include up to two links. The first box is the text you wish to display. The box underneath is the URL to which the text is hyperlinked.
- **Consultant resumé:** This is where you upload your CV or resume. Please note that documents can't be deleted once uploaded, but you can overwrite them by uploading a new document.
- The remaining parts of the form allow you to input your contact information. This can be different than your regular SIOP contact information.

After you enter your Consultant Locator profile information, you can view your information by searching for yourself on the **CLS homepage** to make sure you are happy with the results. The CLS uses the photo you uploaded into your my.SIOP profile. If you haven't already done this, the "upload picture here" location is right below the CLS section you have been working on in your my.SIOP profile. Members can also find tips for optimizing their CLS profile **here**.

"We hope SIOP's professional members will find the CLS beneficial," Nershi added. "We're pleased to present this service free of charge to members as part of our efforts to meet the needs of those engaged in the practice and science of I-O psychology."

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

Frank W. Erwin
1931–2014

by Paul W. Thayer and Craig J. Russell

Frank Erwin died at his home in Arlington, Virginia on September 21, 2014, after a long battle with lung cancer. He was 82. He is survived by his wife of 49 years, Bridget Erwin, son Bryan Erwin of Arlington, VA, and daughter Kristen Rutherford of Los Angeles, CA.

He was born in Elizabeth, NJ on November 22, 1931, and received a BA in English from NYU in 1957. He served in the U.S. Army as a sergeant and tank commander.

Frank was a member of APS and SIOP and winner of the latter's Distinguished Professional Contributions Award. He was famous for his work on biodata, and for work on the *Joint Technical Standards* and the *SIOP Principles*.

Although his formal education ended with that BA in English, his more intensive education began with his work as an executive assistant to the Secretary of Labor under President Johnson, first as a deputy to E. Lowell Kelly, chair of the Peace Corps Selection Division, and then under Ed Henry. Later, he worked with Robert Gale on recruiting for the Peace Corps and with its director, Sargent Shriver.

Later Ed Henry invited Frank to join a group of investors in purchasing Richardson, Bellows and Henry (RBH). He became its president in 1968. At that time, Ed, **Bill Owens** and **Paul Sparks** persuaded SIOP to grant Frank associate membership. Later he achieved full membership because of his work in our field.

Importantly, Frank shepherded the seminal early work of Marion Richardson, **Rodger Bellows,** Ed Henry, and others (e.g., Bill Owens and Paul Sparks) through one of the most turbulent eras of EEO legislation and litigation, adding innovative new ideas and products before handing it off to the generation that would transport it to online applications at ePredix.

What an education. His mentors were Lowell Kelly, Ed Henry, Marion Richardson, Bill Owens, Paul Sparks, and **Jim Sharf.** Not a bad graduate committee. Who else could capitalize on such support as he did?

Frank leveraged his on-the-job I-O

education to become an innovator in selection research. Noting the wide variations in validities across small samples, he established comparability of job families and created large consortia studies validating RBH's core product lines (*N* ranging from ~ 5,000 to > 20,000 during an era when median selection system criterion validity reported in the *Journal of Applied Psychology* and *Personnel Psychology* was *N* < 100). He also developed the Military Applicant Profile, a biodata instrument for the U.S. Army. Over the years, he continued to develop selection systems: the Supervisory Record Profile and the Law Enforcement Candidate Record, as well as a number of other systems. Items from this seminal work continue to be administered over three million times annually in legacy selection solutions worldwide.

During his long career, he served as a member/advisor to many organizations: US Office of Education, FBI, College Entrance Examination Board, Business Roundtable, AERA, the Arlington school system, and many local groups.

In 1999, he retired and sold RBH properties to ePredix but continued his involvement through service on its original Technical Advisory Committee, along with **Philip Bobko, Fritz Drasgow, Mike Mumford, Craig Russell, Frank Schmidt, Mary Tenopyr,** and **Paul Thayer.**

Frank's contributions to biodata and other selection research, to the development of testing and selection standards, and service to the nation were substantial. He was a gentle man, with a great sense of humor. We sorely miss him.

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

IOTAs

Lauren Kenney
Xavier University

Transitions, New Affiliations, Appointments

The psychology department at Austin Peay State University is pleased to welcome **Adriane M. F. Sanders** to the department. She received her PhD in Experimental Psychology with a concentration in I-O Psychology from the University of Memphis in 2014. She joins **Uma Iyer** as a faculty member teaching in the department's MS in Industrial-Organizational Psychology program.

David Arnold, Wonderlic's General Counsel, was reappointed to the position of general counsel for the Association of Test Publishers ("ATP") at its 2014 European Conference in Budapest. Dr. Arnold has also served as chairperson of the American Psychological Association's Committee on Legal Issues and previously served on the SIOP State Affairs Committee. He has written more than 100 articles regarding testing and employment law/legislation and spoken frequently to various HR and other trade groups regarding these topics. Dr. Arnold is also an active member of the American Bar Association's Section of Labor and Employment Law.

Honors and Awards

The Department of Psychology at Iowa State University honored **John P. Campbell** with its 2014 Distinguished Alumni Award at the College of Liberal Arts and Sciences' Alumni Honors and Awards Ceremony on Thursday, October 9, 2014. The award was established by the Department of Psychology to recognize outstanding professional achievements by a distinguished alumnus. John Campbell received his BS (1959) and MS (1960) from Iowa State and his PhD (1964) from the University of Minnesota; he then joined the Minnesota faculty in 1966. In 2006 he received the American Psychological Association Lifetime Award for Distinguished Scientific Contributions to the Application of Psychology. He continues to work on modeling the latent structure of work performance, including the assessment of ethical performance in work roles.

Lance Seberhagen (Seberhagen & Associates, Vienna, VA) received a Distinguished Service Award from the Personnel Testing Council of Metropolitan Washington (PTCMW) for his service to PTCMW from 1977–2014. **Alex Alonso** (Society for Human Resource Management and President of PTCMW) presented the award to Lance at PTCMW's 2014 Fall Event, in which **Scott Highhouse** (Bowling Green State University) was the featured speaker. Lance has served as the director of Seberhagen & Associates in Vienna, VA from 1976–present. He has also served as a as management consultant and expert witness in employment litigation.

Good luck and congratulations!

Keep your colleagues at SIOP up to date. Send items for IOTAS to Morrie Mullins at mullins@xavier.edu.

SIOP Members in the News

Clif Boutelle

SIOP members have a wealth of expertise to offer reporters, and by working with the media they are providing opportunities to greatly increase the visibility of industrial and organizational psychology and SIOP. Media Resources, found on the SIOP Web site (www.siop.org), has proven to be a valuable tool for reporters looking for experts to contribute to the workplace-related stories they are writing. Members who are willing to talk with the media are encouraged to list themselves and their area(s) of specialization in Media Resources. It can easily be done online (http://www.siop.org/media/mediavolunteerform.aspx).

A brief description of your area of expertise is important. Reporters look at those descriptions to determine if they will contact the SIOP member. If there is no description, reporters will not call.

Following are some of the news stories that have been printed, using SIOP members as resources, since the last issue of *TIP*.

A story in the November 18 *Clinton (IL) Journal* about achieving a better work–life balance quoted **Nancy Aragon** of Argosy University. "No matter how hard you try, you can't squeeze more hours into the day. What you can do though is make more efficient use of your time. It takes persistent planning to get a management system started, but keeping a time diary helps you to become more aware of where your time is being spent," she said. She also recommends a weekly block schedule, including free time built into the schedule, coupled with a daily to-do list.

For workers who do not take breaks; and there are many according to **Michael "Dr. Woody" Woodward**, founder of Human Capital Integrated and advisor to the EY Entrepreneur of the Year program, utilizing a lunch hour to do something away from work can be helpful. For a November 10 segment on *Fox Business Network*, he suggested workers can rejuvenate themselves by taking a walk outside, going to the gym, finding a quite spot to meditate, reconnecting with a friend, or connecting with someone new.

Dramatic changes in the workplace like a more demanding boss, a reorganization, or even a merger can cause employees to act out in a way that is harmful to the organization. Research conducted by **Kevin Eschleman** of San Francisco State University suggests that companies may be underestimating the impact of such behavior because they assume it only happens immediately after a stressful change. A summary of the study, coauthored by **Nathan Bowling** and **David LaHuis** of Wright State University, was published in the November 7 issue of *Phys.org*, a leading web-based science, research, and technology news service. The study found that some people

who did not engage in CWB at first nevertheless did so some weeks or months later. This was especially true of employees with the personality traits of Agreeableness and Conscientiousness.

The November 3 *Harvard Business Review Blog Network* had an article by **Ben Dattner** of Dattner Consulting in New York City (and the recipient of the 2014 Katzell Award) offering tips on how managers can participate in an employee's coaching. These days, executive coaching is often considered an investment in human capital reserved for employees with high potential, and managers should be part of the process. He suggested managers could (a) help set broad objectives and frame them positively, (b) provide data including past reviews to the participant and coach, (c) be specific about concrete steps the employee can take, and (d) be blunt with the coach, blunter than the manager would be with the employee being coached. By being part of the executive coaching of direct reports, the manager can play a role in helping them grow as leaders and teammates, supporting them as they move on to the next level and retaining talented employees.

The October 31 issue of *Health, Exercise and Fitness* cited research by **Michael Sliter** of Indiana University-Purdue University Indianapolis (IUPUI) focusing on the benefits of active workstations. Participants were assigned to one of four workstations: a seated desk, standing desk, treadmill desk, or cycling desk. "We were able to show that the active workstations have psychological benefits without performance detriment," he said. However, desk cyclists lagged behind the other three in terms of performance.

Several other media outlets, including the October 29 *Science Daily* and *Business News Daily* also ran the story.

Following a story in *Human Resource Executive* questioning whether online personality test screens discriminate against those with disabilities, **David Arnold** of Wonderlic and general counsel for the Association of Test Publishers coauthored a response (along with ATP Executive Director William Harris) that appeared in the October 30 issue of the magazine. They pointed out that professional test publishers review and research their test items to help ensure they do not identify or penalize individuals on the basis of disability. These tests are commonly used and legally justified by showing job relatedness, they wrote.

The October 27 *Wall Street Journal* had a bylined article by **Jennifer Deal** of the Center for Creative Leadership (San Diego) describing how smartphones have made it more difficult than ever for people to separate from their jobs. The good news, she wrote, is that there are some simple fixes to smartphones and software that could curb their influence and make people's lives a lot easier. Some ways to use technology to turn the tables include setting a limit on "reply all" because not everyone needs to reply to emails. Also, force senders to prioritize emails by specifying how quickly a response is needed. "Only emails coded as 'immediate response needed' or emails from specific addresses would be

sent to smartphone users after hours. All others would be waiting in the inbox until the employee turns on the computer," she wrote. There are other suggestions, as well, on how to use technology to protect people from acting on urges to answer emails and give everyone a bit of relief. A summary of her article ("How to Stop Work Emails From Invading Your Personal Life") was printed in the October 29 issue of *Inc Magazine.*

Jeff Conte of San Diego State University contributed to an October 27 story on *msn.com* about overcoming lateness. The story reported that 17% in a study of 225 people were chronically late. Conte noted there are deep-rooted personality characteristics at play, making lateness a very difficult habit to break. One suggestion: Plan to be everywhere 15 minutes early. Don't aim to arrive to the minute, leaving no room for contingency.

An October 24 story in the *Denver Post* offering advice on reacting to losing a job quoted **Lynda Zugec** of The Workforce Consultants. "One of the most damaging things someone can do when they lose their job is to harbor negative feelings for an extended period of time," she said. "Holding on to such feelings can create greater problems and frustrations, which work against you when you are searching for a new position."

On October 9 Zugec conducted a podcast for the *Jennings Wire* entitled "Why Workplaces Need Industrial-Organizational Psychology." She provided an overview of the field as well as the value I-O psychologists bring to organizations. She also promoted SIOP as a source for more information on I-O psychology.

Zugec also contributed to a September 24 story in a New York City local news publication about hiring staff for a small business. She noted that many people who start their own businesses are good at the core of the business but don't anticipate the amount of managing needed to be successful. Having small business owners go through leadership training can be helpful, she said. She also urges them to learn and comply with state and federal laws. Just because a business is small doesn't mean it can fly under the radar, she said.

Research about job-hopping by **Christopher Lake** of the University of Minnesota-Duluth and **Scott Highhouse** of Bowling Green State University was featured in the September 5 *BusinessNewsDaily* and September 23 *IT Business Edge*. The research suggests that contrary to some hiring officers' thinking, job hopping doesn't necessarily mean that a candidate would be a bad hire. "The key to our study was being able to identify the personality traits of those prone to be escapers (from an environment they dislike) and those who leave jobs to advance their careers," Lake said. "If the applicant seems to be directed to advance his or her career, that person, if hired, may very well be a highly motivated and productive employee," he said.

A September 20 *Wall Street Journal* story about the use of online personality tests quoted **Ken Lahti** of CEB, **Deniz Ones** of the University of Minnesota and **Fred**

Morgeson of Michigan State University. Workplace personality testing has become a $500 million-a-year business and is growing by 10 to 15% a year, according to an estimate from Hogan Assessment Systems Inc. Lahti noted that automated personality tests can "screen out about 30% of applicants who are least qualified." Ones said the tests have some predictive value and Morgeson said, "It's intuitively appealing to managers that personality matters."

A study, which was printed in the September 5 *Toronto Globe and Mail* as well as other news outlets, conducted by **Lisa Penney** of the University of Houston and **Emily Hunter** of Baylor University, may give restaurantgoers pause to think about how they treat servers. The study of 438 servers and their experiences dealing with taxing and difficult customers discovered a range of retaliatory behaviors ranging from ignoring diners to surreptitiously increasing their tips. Nearly 80% said they had mocked customers behind their backs and a few—6%—admitted "contaminating" the food of truly horrid diners.

A September 2 story in the *Washington Post* and *Arizona Daily Star* describing how helicopter parents are affecting college students cited a study by **Julie Olson-Buchanan** and **Jill Bradley-Geist** of California State University-Fresno. "While parental involvement might be the extra boost that students need to build their own confidence and abilities, overparenting appears to do the converse in creating a sense that one cannot accomplish things socially or in general on one's own," they said. The study showed that college students with "helicopter parents" had a hard time believing in their own ability to accomplish goals. They were more dependent upon others, had poor coping strategies, and did not have soft skills, like responsibility and conscientiousness throughout college.

Mitchell Marks of San Francisco State University contributed to an August 29 *Direct Marketing News* article on employee apprehension during a merger or acquisition. "Find out if the company has made other acquisitions, and, if so, how have they treated people," he said. If you're told that you are part of a "merger," do some digging because that term is often abused. "People often say 'merger' when they mean 'acquisition' because they think it sounds better," he added. It's important to be alert, he said, and, "If you are uncertain and insecure, speak up and ask questions. And if they hide things from you, why would you want to stick around and work for them anyway? Maybe they haven't gotten to you yet, but the best thing to do is be proactive and ask for information."

Please let us know if you, or a SIOP colleague, have contributed to a news story. We would like to include that mention in SIOP Members in the News.

Send copies of the article to SIOP at boutelle@siop.org or fax to 419-352-2645 or mail to SIOP at 440 East Poe Road, Suite 101, Bowling Green, OH 43402.

Conferences and Meetings

Please submit additional entries to Marianna Horn at
Marianna.Horn@Sodexo.com

2015

January 7–9
The British Psychological Society Division of Occupational Psychology Annual Conference. Glasgow, Scotland. Contact: http://www.bps.org.uk/events/conferences/dop-annual-conference

February 3–4
Fifth International Congress on Coaching Psychology. San Diego, CA. Contact: The Society of Consulting Psychology: http://www.mwciccp2015.com/

February 25–March 1
Annual Conference of the Society of Psychologists in Management (SPIM). Austin, TX. Contact: www.spim.org. (CE credit offered.)

March 1–4
Annual Innovations in Testing Conference, Association of Test Publishers. Palm Springs, CA.
Contact: www.innovationsintesting.org.

March 6–10Annual Conference of the American Society for Public Administration.Chicago, IL.
Contact: ASPA, www.aspanet.org

March 18–21
Annual Conference of the Southeastern Psychological Association.
Hilton Head, SC. Contact: SEPA, www.sepaonline.com. (CE credit offered.)

April 15–19
Annual Convention, National Council on Measurement in Education. Chicago, IL.
Contact: NCME, www.ncme.org.

April 16–20
Annual Convention, American Educational Research Association. Chicago, IL.
Contact: AERA, www.aera.net.

April 23–25
Annual Conference of the Society for Industrial and Organizational Psychology. Philadelphia, PA. Contact: SIOP, www.siop.org. (CE credit offered.)

May 6–9
Work, Stress, and Health Conference. Atlanta, GA. Contact: www.apa.org/wsh.

May 17–20
Annual Conference of the American Society for Training and Development. Orlando, FL. Contact: ASTD, www.astd.org.

May 21–24
Annual Convention of the Association for Psychological Science. New York, NY. Contact: APS, www.psychologicalscience.org. (CE credit offered.)

May 28–29
International Conference on Applied Psychology. Tokyo, Japan. Contact: www.icap2014.com.

June 4–6
Annual Conference of the Canadian Psychological Association. Ottawa, Ontario. Contact CSIOP: www.psychology.uwo.ca/csiop.

June 28–July 1
Annual Conference of the Society for Human Resource Management. Las Vegas, NV. Contact: SHRM, www.shrm.org. (CE credit offered.)

August 6–9
Annual Convention of the American Psychological Association. Toronto, Ontario, Canada. Contact: APA, www.apa.org (CE credit offered.)

August 7–11
Annual Meeting of the Academy of Management. Vancouver, BC, Canada. Contact: AOM, www.aom.org

August 8–13
Annual Convention of the American Statistical Association. Seattle, WA. Contact: ASA, www.amstat.org (CE credit offered.)

September 21–25
Annual Conference of the International Military Testing Association. Stockholm, Sweden.
Contact: http://www.imta.info/Home.aspx.

October 2–3
SIOP Leading Edge Consortium. Boston, MA. Contact: www.siop.org.

October 23–24
Annual River Cities I-O Psychology Conference. Chattanooga, TN. Contact: http://www.utc.edu/psychology/rcio/

October 26–30
Annual Conference of the Human Factors and Ergonomics Society. Los Angeles, CA. Contact: http://www.hfes.org/web/HFESMeetings/meetings.html (CE credit offered.)

November 9–14
Annual Conference of the American Evaluation Association. Chicago, IL. Contact: AEA, www.eval.org.

Contents | Editorials | Features | Reports | my.SIOP | TIP Issue Survey

SIOP Information Page

TIP
Back Issues
Submit an Article
Advertise

My.SIOP

Annual Conference

Leading Edge Consortium

JobNet

Foundation

External Awards

SIOP Store

Calls and Announcements
Calls for Nominations
Calls for Papers
Announcements

Officer Roster

IOP

White Papers

Member/Salary Surveys

Student Page

Graduate Training Program Database