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# Technical Affairs

## General Announcement and Some Current Research

By Mike Aamodt, Associate Editor

This month's Technical Affairs column contains an announcement as well as summaries of two studies that were motivated by discussion threads appearing in the IPMAACTalk. As always, a piece of HR humor follows.

### Statistics Primer Announcement

Several years ago, I wrote in this column that I was working on a statistics primer for HR professionals that would explain statistics in an easy-to-understand manner. Originally, the primer was to be published by IPMAAC as part of the monograph series and distributed at no cost to IPMAAC members. Since that announcement, I have received regular inquiries into the status of that book, and my response has always been, "It's almost ready." Well, it is finally ready; unfortunately, not through IPMAAC and not for free. The book is titled, *Understanding statistics: A guide for I/O psychologists and human resource professionals*. It is published by Wadsworth and is available through Amazon.com (ISBN 0-495-18663-5). Michael Surrette from Springfield College and David Cohen from DCI Consulting coauthored the book with me. All royalties from the book are being donated each year to send Radford University students to the annual graduate student conference in Industrial-Organizational Psychology and Organizational Behavior (IOOB). Hopefully, readers won't view this as shameless promotion; but the primer began as an IPMAAC project, IPMAAC members keep asking about it, and the royalties go toward a great cause – so why not?

### IPMAACTalk

One of the great benefits of being an IPMAAC member is the assistance provided by other IPMAAC members. Most ACN readers are probably familiar with IPMAACTalk – the electronic discussion list sponsored by IPMAAC (visit [www.ipmaac.org](http://www.ipmaac.org) for more information). It provides a wonderful forum for discussing assessment ideas and asking for help on assessment issues. **Bill Waldron** manages the site, and there is almost always an interesting discussion. Another source of help is targeted emails in which an IPMAAC member sends a request for help to a targeted group of IPMAAC members rather than to the entire IPMAACTalk list. In the past year, there were two requests – a posting on IPMAACTalk and a targeted email - that motivated research by some of my graduate students. I thought this might be a good time to summarize this research – which will be presented in March at

the IOOB graduate student conference – as a means of demonstrating both the usefulness of IPMAACTalk as well as the importance of research.

### Shelf Life of Job Descriptions

An IPMAAC member sent a targeted email asking if anyone knew of any research on the shelf life of a job description. That is, for how long is the typical job description good before the information is outdated? The typical answer seemed to be, "it depends," with other answers ranging from "one day" to "normally no more than two years." What seemed to be clear was that there was no empirical study on the topic. So, five Radford University students – Claire Vincent, Rustan Rainey, Devin Faulkner, Chrissy Mascio, and Michelle Zinda – sought to answer this question by comparing job descriptions written 20 years, 12 years, 10 years, 6 years, and 1 year ago with the current content of the job. Within each time period, they looked at three jobs that varied in complexity (low, medium, and high).

The students had current incumbents in five organizations look at an older job description and first identify tasks that were no longer performed, tools and equipment no longer used, and competencies no longer relevant. The incumbents were then asked to add tasks, tools and equipment, and competencies that were now part of their job, but not listed in the old job description. To create an overlap percentage, the number of relevant tasks from the old job description was divided by the sum of the total number of tasks in the old job description and the number of new tasks. The same process of calculating an overlap percentage was followed for tools and for competencies.

The results were interesting. As shown in Table 1, the percentage of overlap in tasks performed was 88.4% after one year, 85.8% after six years, and 47.2% after 10 years. The overlap after 20 years was an unexpected 90.1%, probably due to the nature of the occupation used in the 20-year comparison (credit union employees). So, what did their research conclude? It depends, of course. After one year, there was only an 88% overlap in tasks, dropping to about 50% after 10 or 12 years.

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So, to answer the question of how often to update job descriptions, it appears that jobs change enough each year to warrant at least an annual review of a job description. Clearly, by the six-year mark the jobs have changed enough to warrant a new job analysis.

**Table 1**  
**Percentage Overlap Between Previous and Current Job Descriptions**

Years	Information Type			
	Tasks	Tools	Competencies	Total
1	88.4%	96.0%	100.0%	94.8%
6	85.8%	33.3%	83.3%	67.5%
10	47.2%	78.6%	57.6%	61.1%
12	54.0%	81.7%	54.4%	63.4%
20	90.1%	83.1%	74.7%	82.6%

**Location of Math Questions**

An interesting, recent thread in IPMAACtalk resulted from a question regarding whether the placement of math questions (i.e., first, last) in a cognitive ability exam affects test scores. Comments on this question included:

1. The math section should be last, because test takers will have a difficult time “changing gears” mentally from math to another subject.
2. The math section should be last, because test takers will become discouraged if they have to take the math section first and will do worse on the rest of the test as a result.
3. The math section should be first; otherwise, the test-takers will expend themselves mentally on the first sections and therefore lack the cognitive resources necessary to do well on the math section.
4. All things being equal, it shouldn’t matter.

To determine if the location of the math items actually mattered, graduate students Eric Carroll, Atsuko Murakami, and Barun Khatri had 60 students take a general cognitive ability test that included math, vocabulary, grammar, and logic

sections. Some of the students received a test in which the math section came first, some where the math section was in the middle, and some received a test in which the math questions came at the end. As shown in Table 2, placement of the math section did not have a significant effect either on the math scores ( $F_{2, 58} = 0.51, p < .60$ ) or on the scores of the other sections ( $F_{2, 58} = 1.28, p < .29$ ). Thus, although the opinions of the IPMAACtalk contributors were interesting and thoughtful, there is no empirical support from this one study for any of the opinions other than, “it doesn’t matter.”

**Table 2**  
**Mean test scores**

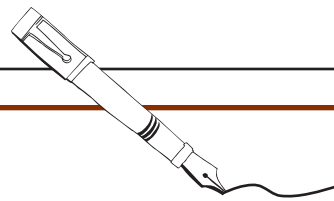
Placement of Math Questions	Cognitive Ability Section	
	Math	Other Sections
First	72.63% (22.81)	73.77% (9.59)
Middle	66.6% (16.31)	70.80% (10.9)
Last	69.12% (20.1)	76.18% (12.02)

Taken together, these two studies show the utility of the IPMAAC network as well as the importance of using research to answer everyday assessment questions. Hopefully, IPMAACtalk will continue to provide great advice and research ideas.

**References**

Carroll, W. E., Khatri, B., & Murakami, A. (2007, March). *Does the location of the math section affect scores on other sections of a cognitive ability test?* Paper presented at the annual graduate Conference in Industrial-Organizational Psychology and Organizational Behavior, Indianapolis, IN.

Vincent, C., Rainey, R., Faulkner, D., Mascio, C., & Zinda, M. (2007, March). *How often should job descriptions be updated?* Paper presented at the annual graduate Conference in Industrial-Organizational Psychology and Organizational Behavior, Indianapolis, IN.



## HR Humor

1. Employee was poisoned by his mother-in-law.
2. A buffalo escaped from the game reserve and kept charging the employee every time she tried to go to her car from her house.
3. Employee was feeling all the symptoms of his expecting wife.
4. Employee called from his cell phone, said he was accidentally locked in a restroom stall, and no one was around to let him out.
5. Employee broke his leg snowboarding off his roof while drunk.
6. Employee's wife said he couldn't come into work because he had a lot of chores to do around the house.
7. One of the walls in the employee's home fell off the night before.
8. Employee's mother was in jail.
9. A skunk got into the employee's house and sprayed all of his uniforms.
10. Employee had bad hiccups.
11. Employee blew his nose so hard, his back went out.
12. Employee's horses got loose and were running down the highway.
13. Employee was hit by a bus while walking.
14. Employee's dog swallowed her bus pass.
15. Employee was sad.
16. I'm too drunk to drive to work.
17. The ghosts in my house kept me up all night.
18. I'm too fat to get into my work pants.
19. My son accidentally fell asleep next to wet cement in our back yard. His foot fell in, and we can't get it out.
20. My husband is driving me to the hospital because I mistook superglue for my eye drops and superglued my eyes shut.
21. My brother has to report to jail this afternoon to start a 10-year sentence for selling crack, and I want to spend the day with him.
22. I can't come to work, because I don't have any clean clothes.
23. My dog locked my keys in the car.
24. I accidentally flushed my keys down the toilet.
25. I had to help deliver a baby on my way to work. (Employee was not in the medical profession.)
26. I accidentally drove through the automatic garage door before it opened.
27. My boyfriend's snake got loose, and I'm afraid to leave the bedroom until he gets home.
28. God didn't wake me.
29. I cut my fingernails too short, they're bleeding, and I have to go to the doctor.
30. I forgot I was getting married today.
31. My cow bit me.
32. I was watching a guy fixing a septic pump, fell in the hole, and hurt myself.
33. I was walking my dog and slipped on a toad in my driveway and hurt my back.
34. My house lock jammed, and I'm locked in.

*Many items in this list are credited to the CarrerBuilder.com annual survey.*

## IPMA-HR Test Development Projects

The IPMA-HR Assessment Services Department is currently conducting several test development projects. They include the validation of the entry-level 2.0 Public Safety Telecommunicator Test, the C-3 Correctional Officer Test, and a firefighter test. The job analysis phase for each of these studies has already been conducted in which case the results were analyzed and used to develop exam plans for each respective test. The next step of each study involves collecting criterion-based validity evidence to support the use of the exams in public safety agencies across the country. This step will include two phases:

1. Administering the test to incumbents
2. Having supervisors evaluate their job performance

Data collected will be combined with that provided by other participating agencies. An item analysis will be run on the data to determine the best questions to include on each test. The tests and performance evaluation data will then be used to conduct the statistical analysis to ensure that test performance predicts job performance.

### **PST 2.0 Public Safety Telecommunicator Test Administration (911 call taker/dispatcher)**

- ◆ The test includes an interactive listening subtest that includes 50 questions that assess the ability to listen, remember, and respond to verbal information. The second subtest composed of 75 questions assessing situational judgment and the ability to learn and apply information. The test is a written, multiple-choice test and takes approximately 2 1/2 hours to administer. The administration of the PST 2.0 Test has been automated with all instructions for the test contained on either a VHS Tape or a DVD. There is a timer on the video counting down the time limit.

### **C-3 Correctional Officer Test Administration**

- ◆ The test assesses the ability to remember information and facts and to learn job-related information, the ability

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