

Biddle Consulting Group, Inc. to Conduct Compensation Analysis Workshop at the Upcoming Industry Liaison Group's National Conference on August 8, 2005

Dan Biddle, Ph.D., President of Biddle Consulting Group, Inc. and Fire & Police Selection, Inc. is slated to speak at the NILG conference on Monday, August 8, 2005 from 1:30 p.m. - 2:30 p.m. He will be conducting a workshop encompassing the latest in OFCCP-style regression analyses.

Statisticians from the OFCCP were originally slated for this time slot but had to cancel at the last minute, so, with over 300 people registered for this session, Biddle Consulting Group, Inc. workshop will be taking the lead.

BCG representatives will also be available throughout the conference at the NILG exhibit hall (booth #21).

Just Published - *Adverse Impact and Test Validation* Book Authored by Dan Biddle, Ph.D.

Biddle Consulting Group, Inc. proudly announces the release of the long-awaited industry-standard book, "Adverse Impact and Test Validation: A Practitioners Guide to Valid and Defensible Employment Testing" written by Dan Biddle, Ph.D.

The OFCCP has been using updated techniques to aggregate multiple years of hiring and promotion data into IRAs, or adverse impact analyses. These new techniques—the **Mantel-Haenszel** and the **Breslow-Day** technique—have been recently adopted by OFCCP compliance officers and statisticians for

auditing and compliance matters.

This book covers these new techniques in detail; and also includes an evaluation copy of Excel-based software for conducting the analyses - The Adverse Impact Toolkit and TVAP (Test Validation & Analysis Program)! The book also includes several chapters covering defensible techniques for validating tests. Over 100 case references are cited! Visit our website at www.biddle.com/books for a table of contents of Dr. Biddle's book. To order, call (800) 999-0438 ext. 102 or e-mail staff@biddle.com.

"Dr. Biddle's book is an excellent effort to bridge the gap between the technical and the practical. The procedures presented are informed by the most relevant technical information and by present legal requirements. This book is best suited for non-technicians who at least have a general foundation of relevant technical knowledge."

-- Mary L. Tenopyr, Ph.D.,
AT&T and past president of SIOIP

We've Moved Our Offices

Biddle Consulting Group, Inc. has moved from Rancho Cordova, CA to Folsom, CA. Please update your records with our new information.

Our website (www.biddle.com), toll-free number (800) 999-0438, and e-mail addresses will remain the same.

New Address:

193 Blue Ravine Road, Suite 270
Folsom, California 95630

New Telephone:

(916) 294-4250

New Fax:

(916) 294-4253

Inside...

NILG Presentation	1
Book Release	1
Multiple Regression	2
Seminars	4
Calendar	5

Introduction to Multiple Regression

This article seeks to provide you with an introduction to what is called “Multiple Regression”. Multiple regression is a very advanced statistical tool and it is extremely powerful when you are trying to develop a “model” for predicting a wide variety of outcomes. We are not going to go too far into multiple regression, it will only be a solid introduction. If you go to graduate school you will probably have the opportunity to become much more acquainted with this powerful technique.

**Written by Jim Higgins, Ed.D.
BCG Senior Consultant and author of “The Radical Statistician”**

Quick Review

- You use correlation analysis to find out if there is a statistically significant relationship between TWO variables.
- You use linear regression analysis to make predictions based on the relationship that exists between two variables.

The main limitation that you have with correlation and linear regression as you have just learned how to do it is that it only works when you have TWO variables. The problem is that most things are way too complicated to “model” them with just two variables.

For example, suppose I asked you the following question, “Why does a person receive the compensation that they do?” What would you say? You might say something like the following:

- It could have something to do with how long a person has worked for the company.
- It could have something to do with how much experience a person has doing their specific kind of work.
- It could have something to do with their age (Age is a “proxy” for experience).
- It could have something to do with the type of work they do.
- It could have something to do with their performance ratings.
- It could have something to do with what part of the country they live in.

You probably get the idea. How much a person gets paid is really based on more than just a single piece of information. In reality, all of the above factors (and more besides) are likely to play some role in why a person gets paid what they do.

If you were going to use standard

correlation to study why people receive the compensation they do, you would be limited to only looking at one of these things at a time. For example, you could use correlation to study the relationship between a person’s current compensation and their time with the company (as we did in the chapter on linear regression). You could also use correlation to study the relationship between a person’s current compensation and how many years of school they completed. However, you could not do both to find out how a person’s current compensation is related to both their education and how long they have worked for the company. Remember, Pearson’s correlation is a “bi-variate” tool meaning that it is designed to find relationships between only two variables.

And yet, we know that life is so complicated that it takes way more than two variables to even begin to explain/predict why things are the way they are.

What you need is a new tool—Multiple Regression. Multiple Regression (R)

A statistical tool that allows you to examine how multiple independent variables are related to a dependent variable. Once you have identified how these multiple variables relate to your dependent variable, you can take information about all of the independent variables and use it to make much more powerful and accurate predictions about why things are the way they are. This latter process is called “Multiple Regression”.

Let’s take a look at a couple of examples, using Venn Diagrams, that will hopefully make this concept a bit easier to grasp.

- Figure 4-1 presents a picture of how two variables are related to each other.
- Figure 4-2 presents a picture of how two independent variables are related to a dependent variable—while the two independent variables are NOT related to each other.
- Figure 4-3 presents a picture of how two independent variables are related to a dependent variable—while the two independent variables ARE related to each other.

You must understand these three figures in order to understand the concepts of multiple correlation and multiple regression. See page 3 for figures.

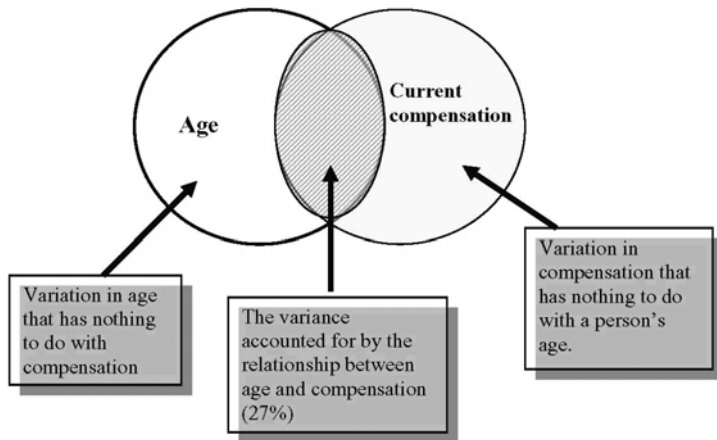
Copyright 2005. All rights reserved. Jim Higgins, Ed.D., author of “The Radical Statistician”

To get a PDF copy of the chapter in its entirety, please visit our website at www.biddle.com/compensation.

Staff Contributions

Contributors Dan Biddle, Ph.D.
 Patrick Nooren, Ph.D.
 Jim Higgins, Ed.D.
 John Piatt
 Chris Lindholm
 Production C. Lori Lee
 Editing Fred Huppert
 Websites www.biddle.com
 www.fpsi.com
 www.uniformguidelines.com

FIGURE 4-1
Example of the Relationship between Age and Current Compensation



The main point is that the correlation between age and compensation tells us that a person's compensation seems to change as a person ages. This makes intuitive sense because one would expect that as a person ages, he or she works their way up at their job and gets paid more.

In this example, 27% of what there is to know about a person's current compensation is accounted for by that person's age. In other words, if you know a person's age, you know about 27% of what you need to know to make an accurate prediction about what their compensation is.

FIGURE 4-2
Example of the Relationship between Age (for those over 18 years of age), Time with Company, and Compensation

Figure 4-2 is a good illustration about what multiple correlation and regression is designed to do. By having more than one "predictor" variable (age and time with company), we are able to account for more of the variance in compensation. As a result, we can make much more accurate predictions. This is because the second variable adds additional important information about your dependent variable (compensation).

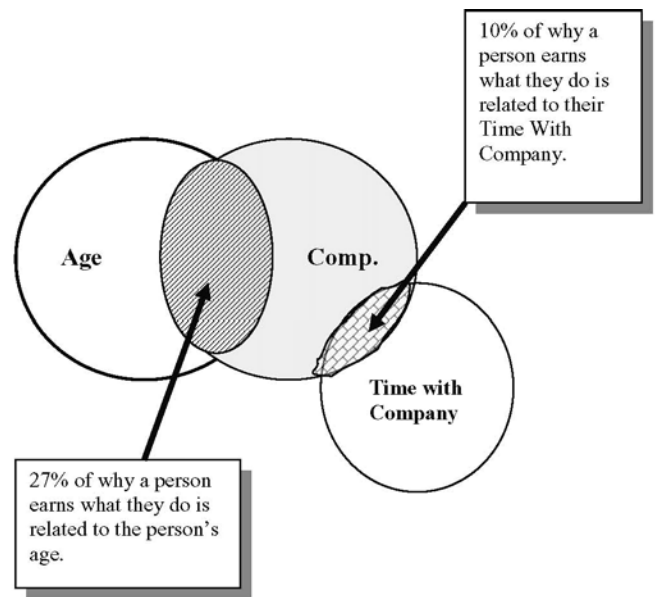
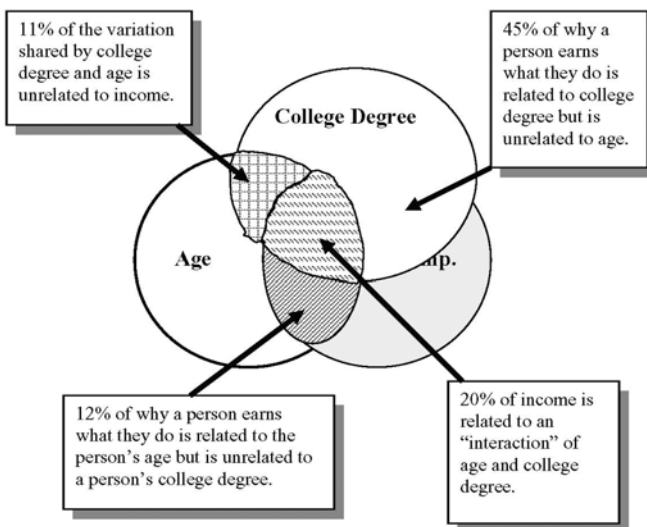


FIGURE 4-3
Example of the Relationship between Age (for those over 18 years of age), College Degree and Compensation



Important Point! Notice that a person's time with company accounts for about 10% of why they earn what they do. By adding this variable to our study, we improved our understanding of why people earn the income they do from 27% to 37%. In other words, using two variables rather than one variable, we improved our ability to make accurate predictions about a person's salary.

Important Point!

Notice that this is much more complicated! 12% of a person's compensation is related to age, 45% is related to a person's college degree, and 20% is related to an interaction between age and college degree. In this case we have pumped up our ability to predict/explain compensation to nearly 77%

Now Online!

Check out www.biddle.com to get all of the information you need regarding compensation analyses.

www.biddle.com/compensation

Topics covered include:

- The Basics
- Step-by-Steps
- Outsourcing
- Software
- SSEGs
- Methodology
- OFCCP Compensation

You will also find documentation written by Jim Higgins', Ed.D., Senior Consultant of Biddle Consulting Group, Inc. on the following informative topics:

Introduction to Correlation

The Correlation Coefficient

Introduction to
Linear Regression

Introduction to
Multiple Regression

Stay informed about upcoming seminars, webinars, and training workshops sponsored by Biddle Consulting Group, Inc.

Also, make sure you know about upcoming presentations and conferences where you will find BCG representatives.

[www.biddle.com/resources/
events.htm](http://www.biddle.com/resources/events.htm)

For more information,
please contact BCG at
(800) 999-0438

Ramping up for OFCCP's Compensation Audits: BCG Seminar Schedule

Compensation Analysis: Regulations & Methodology

November 16, 2004 marked an historical day in the area of OFCCP enforcement. With the release of the new "proposed" compensation guidelines, the OFCCP has sent a clear message regarding its mission on compensation enforcement. The OFCCP has wasted no time in starting "regression-style enforcement" — regardless of the pending status of the proposed guidelines.

One-Day Seminar agenda to include:

- OFCCP's compensation analysis guidelines
- Compensation/Regression analysis process
- A case study
- The importance of attorney-client privilege

Speakers

Dan A. Biddle, Ph.D.
President of BCG
Patrick M. Nooren, Ph.D.
Executive VP of BCG

Guest Speaker

Mickey Silberman, Esq.
Jackson Lewis, LLP

Dates

September 13, 2005

8:30 am to 4:00 pm
Marriott San Francisco Airport
1800 Old Bayshore Highway
Burlingame, CA 94010
For Hotel Reservations, please call
(650) 692-9100

September 15, 2005

8:30 am to 4:00 pm
Chicago Marriott O'Hare
8535 W. Higgins Road
Chicago, IL 60631
For Hotel Reservations, please call
(773) 693-4444

Cost

\$495. Pre-payment required. Continental breakfast and lunch provided. Cancellation Policy: Full refund if cancellation received 30 days prior to seminar. Less than 30 days prior to seminar receives full refund minus \$50 processing fee per registration.

Registration

Please contact BCG at (800) 999-0438, staff@biddle.com, or go to [www.biddle.com/resources/
events.htm](http://www.biddle.com/resources/events.htm).

The 2005 EEO-1 Survey Period is OPEN

The preferred method for completing the 2005 EEO-1 Survey is the EEOC web-based filing system. Online filing requires you to log in with an ID and password. Those companies that included an email address in their 2004 EEO-1 online filing will receive the Login

ID via email during the week of July 18, 2005. All other companies will receive this information directly by mail during the first week in August 2005. If you cannot locate your Password, contact the EEO-1 Joint Reporting Committee at e1.techassistance@eoc.gov.

Check out these websites:

www.biddle.com | www.opac.com | www.critical911.com
www.fpsi.com | www.uniformguidelines.com

2005 Events Calendar

<i>Conference Schedule</i>	<i>Seminars, Training, and Webinars Schedule</i>	
<p style="text-align: center;">: August 8-10 : <i>National Industry Liaison Group (NILG) Conference Grapevine, TX</i></p> <p style="text-align: center;">: September 23 : <i>Association of Legal Administrators (ALA) Regions 1&2 Conference Washington, D.C.</i></p>	<p style="text-align: center;">: August 2 : <i>Elements of Test Validation Webinar: Online Cost: \$199</i></p> <p style="text-align: center;">: September 13 : <i>Compensation Analyses - Regulations & Methodology San Francisco, CA Cost: \$495</i></p>	<p style="text-align: center;">: September 15 : <i>Compensation Analyses - Regulations & Methodology Chicago, IL Cost: \$495</i></p> <p style="text-align: center;">: November 1-2 : <i>AAP Methodology & Software Training Chicago, IL Cost: \$990</i></p>

For more information on any of the conferences or other events listed, please call Biddle Consulting Group, Inc. toll-free at (800) 999-0438 or e-mail us at staff@biddle.com

