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14 *Attorneys for Plaintiffs and the Proposed*  
15 *Class*

16 **SUPERIOR COURT OF THE STATE OF CALIFORNIA**  
17 **COUNTY OF SAN FRANCISCO**

19 KELLY ELLIS, HOLLY PEASE, KELLI  
20 WISURI, and HEIDI LAMAR individually  
and on behalf of all others similarly situated,

21 Plaintiffs,

22 v.

23 GOOGLE, LLC (formerly GOOGLE, INC.),

24 Defendant.

Case No. CGC-17-561299

**DECLARATION OF LEAETTA M. HOUGH,  
Ph.D., IN SUPPORT OF PLAINTIFFS'  
MOTION FOR CLASS CERTIFICATION**

Judge: Hon. Andrew Y.S. Cheng, Dept. 613

Date: December 2, 2020

Time: 9:00 a.m.

Complaint Filed: September 14, 2017

Trial Date: None Set

1 I, Leaetta M. Hough, declare as follows:

2 1. I received a doctorate in Industrial and Organizational (I-O) Psychology from the  
3 University of Minnesota in 1981 and am regarded as one of the country's leaders in developing  
4 and implementing innovative candidate assessment systems and human resource management  
5 systems. My focus is on creating tools to reliably and accurately evaluate a candidate's  
6 workplace characteristics that predict on-the-job outcomes, such as job performance,  
7 advancement, innovation, learning efficiency, engagement, pay, and retention. I have designed  
8 assessment strategies that show a solid payoff and mitigate adverse impact against protected  
9 classes. I have designed performance management systems for dozens of companies and  
10 hundreds of jobs. I am an expert in designing and evaluating measurement systems of people,  
11 work, and performance – HR management systems.

12 2. I am a past president of the Society for Industrial and Organizational Psychology  
13 (SIOP; an approximately 10,000-member organization of Industrial and Organizational  
14 Psychologists from around the world), and of FABBS (Federation of Associations in Behavioral  
15 and Brain Sciences, a coalition of 22 scientific societies). I am the president and founder of the  
16 Dunnette Group, Ltd. I also co-founded Personnel Decisions Research Institute (PDRI),  
17 Minnesota Professionals for Psychology Applied to Work (MPPAW), and Invent Minnesota.

18 3. I am a recipient of the Society for Industrial and Organizational Psychology's  
19 (SIOP's) Distinguished Professional Contributions award, a lifetime achievement award and one  
20 of its most prestigious awards. I am a fellow of four professional organizations – Association for  
21 Psychological Science (APS), American Psychological Association (APA), APA's Division 14  
22 (SIOP), and APA's Division 5 (Division of Evaluation, Measurement, and Statistics).

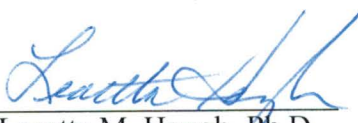
23 4. I have published dozens of articles in refereed journals, book chapters, and  
24 reviews. Noteworthy are my roles as co-editor of the four-volume *Handbook of Industrial &*  
25 *Organizational Psychology*, and lead author of the personnel selection chapter for the *Annual*  
26 *Review of Psychology*, the biodata chapter in the *Handbook of Workplace Assessment: Selecting*  
27 *and Developing Talent*, and the personality chapters in the *International Handbook of Work &*  
28 *Organizational Psychology*, the *Handbook of Personnel Selection*, both editions of the I-O

1 Psychology volume of the *Comprehensive Handbook of Psychology, and the APA Handbook on*  
2 *Testing and Assessment.*

3 5. I have been asked by counsel for plaintiffs to consider certain issues in  
4 conjunction with plaintiffs' motion for class certification.

5 6. Attached hereto is a true and correct copy of the report I wrote setting forth my  
6 opinions and the basis for those opinions.

7 I swear under penalty of perjury under the laws of the State of California that the  
8 foregoing is true and correct. This declaration is executed in St. Paul, MN, on July 15,  
9 2020.

10 By:   
11 Leaetta M. Hough, Ph.D.

# Exhibit A

**Expert Report of Leaetta M. Hough, Ph.D.**

**In the matter of:**

**Ellis et al., Individually and on Behalf of all  
Others Similarly Situated, Plaintiffs,**

**vs.**

**Google, LLC, Defendant.**

**Case No. CGC-17-561299**

Prepared for:

Altshuler Berzon LLP  
177 Post Street, Suite 300  
San Francisco, CA 94108  
415-421-7151

Prepared by:

Leaetta M. Hough, Ph.D.  
The Dunnette Group, Ltd.  
370 Summit Avenue  
St. Paul, MN 55102  
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**July 15, 2020**

# Table of Contents

Topic	Page No.
Purpose.....	1
Summary of Opinions.....	1
Credentials of Author.....	2
Materials Reviewed .....	4
Body of Expert Report .....	5
I. Scientific foundation for developing and evaluating Human Resource Management policies and practices – Industrial and Organizational (I-O) Psychology.....	5
II. Job/work analysis: Foundation of job-related, fair employment practices .....	8
III. Standards for assessing similarity of work: What amount of difference makes a difference?.....	11
IV. Google has studied its jobs and classified them into job families by type of work performed, and then within job families by job codes that group together people with similar skills and responsibilities.....	14
V. Software Engineer – [REDACTED] [REDACTED] [REDACTED] [REDACTED] .....	19
VI. [REDACTED] indicate employees within job codes perform substantially similar work.....	27
VII. Reasons job code is most reasonable unit at which analyses of gender pay equity should be conducted.....	31
VIII. Conclusions.....	33
References.....	33
Table 1: [REDACTED] [REDACTED] .....	37
Table 2: [REDACTED] [REDACTED] [REDACTED] .....	40
Table 3: [REDACTED] [REDACTED] [REDACTED] .....	43

Table 4:	[REDACTED]	
	[REDACTED]	
	[REDACTED]	46
Table 5:	[REDACTED]	
	[REDACTED]	
	[REDACTED]	49
Table 6:	[REDACTED]	
	[REDACTED]	
	[REDACTED]	52
Table 7:	[REDACTED]	
	[REDACTED]	
	[REDACTED]	55
Table 8:	[REDACTED]	
	[REDACTED]	
	[REDACTED]	57
Table 9:	[REDACTED]	
	[REDACTED]	
	[REDACTED]	59
Table 10:	[REDACTED]	
	[REDACTED]	
	[REDACTED]	61
Table 11:	[REDACTED]	
	[REDACTED]	
	[REDACTED]	63
Table 12:	[REDACTED]	
	[REDACTED]	
	[REDACTED]	65
Table 13:	[REDACTED]	
	[REDACTED]	
	[REDACTED]	66

Appendix A:	Curriculum Vitae of Dr. Leaetta M. Hough	A-1
Appendix B:	Materials Provided to Me, Leaetta Hough (Ph.D.), by Plaintiffs’ Attorneys That I Reviewed	B-1
Appendix C:	Dr. Hough Expert Witness Work that Included Under-Oath Testimony	C-1

# **Expert Report of Leaetta Hough, Ph.D.**

**Prepared in the Matter of Ellis et al., Individually and on Behalf of all  
Others Similarly Situated, Plaintiffs,**

**vs.**

**Google, LLC, Defendant.**

**Case No. CGC-17-561299**

## **PURPOSE**

This report contains my professional opinions regarding Google, LLC's (hereafter referred to as Google) human resource management policies, practices, guidelines, work products, documents, and materials that affect men and women's compensation. I am one of plaintiffs' expert witnesses. Specifically, I was asked to examine and evaluate information to assess similarity of Google jobs to determine when employees in Covered Positions are performing substantially the same work, and, relatedly, what is the appropriate level/unit for examining gender equity pay at Google.

I understand that this report will be used in support of Plaintiffs' Motion for Class Certification. I might, as more information or evidence becomes available, supplement or revise my opinions prior to trial.

## **SUMMARY OF OPINIONS**

1. To determine whether jobs are substantially similar for purposes of determining appropriate compensation, Industrial-Organizational (I-O) Psychologists examine the requirements of work (e.g. skills, ability, and effort) as well as the conditions and context of the work (e.g. level of responsibility, complexity). Google's classification of jobs into job codes (which are the intersection of job family and responsibility level) takes these factors into account.
2. At Google, "job codes" incorporate job context (e.g. skills, abilities, and duties) and level of responsibility and experience. According to Google's [REDACTED]  
[REDACTED]



[REDACTED]), persons within job codes share similar work activities, responsibilities, skills, abilities, and effort. Accordingly, it is my professional opinion as an I-O Psychologist that at Google persons within a job code are performing substantially the same work. Persons within a job code are “peers” for the purpose of comparing compensation.

## **CREDENTIALS OF THE AUTHOR**

My doctorate, which I received in 1981, is in Industrial and Organizational (I-O) Psychology and is from the University of Minnesota. I am regarded as one of the country’s leaders in developing and implementing innovative candidate assessment systems and human resource management systems. My focus is on creating tools to reliably and accurately evaluate a candidate’s workplace characteristics that predict on-the-job outcomes, such as job performance (task and contextual performance), advancement, innovation, learning efficiency, engagement, pay, and retention. I have designed assessment strategies that show a solid payoff and mitigate adverse impact against protected classes. I have designed performance management systems for dozens of companies and hundreds of jobs. I am an expert in designing, developing, implementing, and evaluating measurement systems of work, people, and performance – HR management systems.

I am a past president of the Society for Industrial and Organizational Psychology (SIOP; 10,000+ member organization of Industrial and Organizational Psychologists from around the world), and of FABBS (Federation of Associations in Behavioral and Brain Sciences, a coalition of 26 scientific societies and 62 university affiliates). I am the president and founder of the Dunnette Group, Ltd. I also co-founded Personnel Decisions Research Institute (PDRI), Minnesota Professionals for Psychology Applied to Work (MPPAW), and Invent Minnesota.

I am the 2020 recipient of the University of Minnesota Psychology Department’s Distinguished Alumni Award. I am also a recipient of the Society for Industrial and Organizational Psychology’s (SIOP’s) Distinguished Professional Contributions Award, a lifetime achievement award and one of its most prestigious awards. In addition, I am the recipient of SIOP’s 2019 Scientist-Practitioner Presidential Recognition award as well as FABBS’ “In Honor Of” award. I am a fellow of four professional organizations – Association

for Psychological Science (APS), American Psychological Association (APA), APA's Division 14 (SIOP), and APA's Division 5 (Division of Evaluation, Measurement, and Statistics).

I have published dozens of articles in refereed journals, book chapters, and reviews. Noteworthy are my roles as co-editor of the four-volume *Handbook of Industrial & Organizational Psychology*, and lead author of the personnel selection chapter for the *Annual Review of Psychology*, the biodata chapter in the *Handbook of Workplace Assessment: Selecting and Developing Talent*, and the personality chapters in the *International Handbook of Work & Organizational Psychology*, the *Handbook of Personnel Selection*, both editions of the I-O Psychology volume of the *Comprehensive Handbook of Psychology*, and the *APA Handbook on Testing and Assessment*.

Three of my articles were reprinted in *Employee Selection and Performance Management*, a book consisting of articles that I-O psychologists identified as the seminal publications in the last 100 years. My work has helped shape the science and practice of I-O Psychology.

I have substantial experience in the design, validation, implementation, and evaluation of employee selection, promotion, performance evaluation, compensation, and performance management procedures and systems. Importantly, I am recognized as an expert in these matters by my colleagues. I was on SIOP's Advisory Panel for the revision of the *Principles for the Validation and Use of Personnel Selection Procedures* (4<sup>th</sup> edition; 2003), known as the *Principles*, which is one of three documents the judicial system uses to evaluate employment decisions related to hiring, training, placing, certifying, compensating, promoting, terminating, transferring, and/or other actions that affect employment status. More recently, I was a member of the SIOP committee that revised and updated the *Principles* (5<sup>th</sup> edition; 2018). These *Principles* are intended to specify established scientific findings and generally accepted professional practice in the field of personnel selection. Also important, I was the lead committee member of the American Psychological Association (APA) "Committee on Psychological Tests and Assessment" responsible for the chapter on personnel selection in the 1999 revision of the *Standards for Educational and Psychological Testing*, referred to as the *Standards*. The

*Standards* constitute the second of three professional documents that the courts use to evaluate employment decisions.

I have substantial experience analyzing work, skills, and abilities needed to perform work, and the standards against which to evaluate job candidates and performance effectiveness of job incumbents. For example, I was a member of a 3-person advisory panel that oversaw the development of national skill and work standards for several U.S. industries including information and communication technology, sales and service, education and training, and manufacturing industries. The work involved massive job analysis of entire industries. In other project work, I have identified organization-wide success factors as well as unit- and job-specific competencies, roles, knowledges, skills, abilities, and responsibilities for positions including software engineers, systems engineers, program managers, and many, many others. All of these involved analyses of the work itself (e.g., level of responsibility, complexity and level of competency required, working conditions – the context of the work) as well as identification and analyses of the human requirements of the work (e.g., skill, ability, knowledge, and effort).

In addition to having been recognized by my peers as an expert in the area of HR talent and skill assessment and management, I have been recognized as an expert in these matters in litigation and arbitration cases. My full curriculum vitae appears in Appendix A.

I have been retained by Altshuler Berzon LLP to serve as an expert in the present case. My rate of compensation is \$425 per hour for the work performed under this assignment.

## **MATERIALS REVIEWED**

I have read extensively in areas relevant to issues in this case during my career. Some of the books, articles, and other materials are referenced in this report; others are not. All, in one form or another, have influenced my thinking, research, and practice, and all form the foundation of my opinions in this case. It would be impossible to list them all in this report, and I have not. I have also read and reviewed materials that Plaintiff's counsel has provided to me related to this case. The materials they provided to me are listed in Appendix B. I have read some of them in

their entirety; others I have read in less depth. Cases in which was an expert witness and testified under oath are listed in Appendix C.

## **BODY OF EXPERT REPORT**

### **I. Scientific foundation for developing and evaluating Human Resource Management policies and practices – Industrial and Organizational (I-O) Psychology.**

1. Industrial and Organizational (I-O) Psychology is the study of work, people at work, and the context or environment (psychological and physical) in which people work. I-O Psychologists apply the scientific method to study issues relevant to organizations, work, and people at work in those organizations. They develop knowledge related to work and the performance of work in organizations by applying the fundamental principles of psychology to the workplace. I-O Psychologists study many topics including work analysis, personnel selection, talent assessment, promotion, termination, training, performance evaluation (on-the-job performance measurement), work behavior, performance management, culture, compensation, employment discrimination, HR policies and practices that affect fair and equitable treatment of all workers as well as those policies and practices that adversely impact protected classes.<sup>1</sup>
2. Research findings of I-O Psychology provide the foundation for the fair and effective utilization of human talent in the workplace. That research provides the principles and guidance to practitioners who apply the knowledge gained from the research to design and implement human resource management systems, policies, and practices.
3. I-O Psychology provides the scientific basis and the foundation that government agencies such as the Equal Employment Opportunity Commission (EEOC) and the Department of Labor's Office of Federal Contract Compliance Programs (OFCCP) use

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<sup>1</sup> Rogelberg, S. G. (2007). Introduction. In S. G. Rogelberg (Ed.), *Encyclopedia of industrial organizational psychology*, vol. 1, p. xxxv.

Outtz, J. L. (Ed.). (2010). *Adverse impact: Implications for Organizational Staffing and High-stakes Selection*.

to evaluate the merits of human resource (HR) policies and practices. At the time the *Uniform Guidelines on Employee Selection Procedures* were developed, I-O Psychology research (current at the time) helped inform those guidelines. The *Uniform Guidelines on Employee Selection Procedures*<sup>2</sup> (hereafter referred to as *Uniform Guidelines*) is an important set of federal guidelines that the U.S. legal system uses in employment discrimination cases. In short, I-O Psychology is the science underlying the evaluation of the impact of HR policies and practices. I-O Psychologists are routinely involved as subject matter experts in the evaluation of HR policies and practices.

4. Most I-O Psychologists belong to the Society for Industrial and Organizational Psychology (SIOP), an organization consisting of 10,000+ I-O Psychologists from around the world. Its organizational structure consists of executive officers, board of directors, committees, task forces, and an administrative office. It sponsors an annual conference, a “leading-edge” consortium, a book series, a journal and many other professional activities.
5. The *Principles for the Validation and Use of Personnel Selection Procedures* (hereafter referred to as the *Principles*) is one of SIOP’s most important contributions to the fair employment of human talent, and it is one of the key resources that U.S. federal agencies and the U.S. legal system use to evaluate HR systems. The *Principles* are intended to be (and are) used broadly. The *Principles* define personnel decisions as “decisions to hire, train, place, certify, compensate, promote, terminate, transfer, or take other actions that affect aspects of employment”<sup>3</sup> (p. 4, *Principles*, 5<sup>th</sup> edition). This definition is virtually identical to the definition in the 2003 version (4<sup>th</sup> edition) of the *Principles*. Specifically, the definition of personnel decisions is “employment-related decisions to hire, train, place, certify, compensate, promote, terminate, transfer, and/or

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<sup>2</sup> Uniform Guidelines on Employee Selection Procedures. (1978). 43 *Federal Register*, 38290-38315.

<sup>3</sup> Society for Industrial and Organizational Psychology. (2018). *Principles for the Validation and Use of Personnel Selection Procedures* (5<sup>th</sup> edition). Cambridge, MA: Cambridge University Press.

take other actions that affect employment status”<sup>4</sup> (p. 3, *Principles, 4<sup>th</sup> edition*). The *Principles* refer to the *Standards for Educational and Psychological Testing*<sup>5</sup> (hereafter referred to as the *Standards*). The field of Industrial and Organizational Psychology embraces the *Standards* and intends that the *Principles* be consistent with the *Standards*.<sup>6</sup> These documents and their standards, guidelines, and principles are highly relevant to issues in this case.

6. The U.S. Equal Employment Opportunity Commission (EEOC) uses the principles and guidelines embodied in the *Principles, Standards, and Uniform Guidelines* when it evaluates employment practices. The U.S. Department of Labor’s Office of Federal Contracts Compliance Programs (OFCCP) embraces these principles and guidelines as well. As the OFCCP’s Federal Contract Compliance Manual states: “It is OFCCP’s policy, in conducting analyses of potential discrimination issues based on race, color, religion, sex or national origin under the Executive Order, to follow the principles of Title VII of the Civil Rights Act of 1964, as amended, which the U.S. Equal Employment Opportunity Commission (EEOC) enforces.”<sup>7</sup> OFCCP Directive (DIR 2018-05) outlines OFCCP procedures for reviewing contractor compensation systems and practices.<sup>8</sup> Federal agencies charged with auditing and investigating organizations to identify and reduce unfair labor practices (including pay inequities for protected classes) use the *Principles, Standards, and Guidelines* to evaluate an organization’s human resource management policies and practices. The U.S. legal system also uses these documents to evaluate personnel decisions for job-relatedness and fairness for protected classes.

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<sup>4</sup> Society for Industrial and Organizational Psychology. (2003). *Principles for the Validation and Use of Personnel Selection Procedures (4<sup>th</sup> edition)*. Bowling Green, OH: Author.

<sup>5</sup> American Educational Research Association, American Psychological Association, National Council on Measurement in Education. (2014). *Standards for educational and psychological testing*. Washington D.C.: American Educational Research Association.

<sup>6</sup> See page 1 of 5<sup>th</sup> edition of the *Principles* and page viii of the 4<sup>th</sup> edition of the *Principles*.

<sup>7</sup> U.S. Department of Labor, Office of Federal Contracts Compliance Programs (OFCCP) *Federal Contract Compliance Manual*, October 2014; pp. 43-44.

<sup>8</sup> U.S. Department of Labor, Office of Federal Contract Compliance Programs Directive (DIR) 2018-05.

7. These documents and the standards, principles, and guidelines they espouse have their foundation in Industrial and Organizational (I-O) Psychology.

## II. Job/work analysis: Foundation of job-related, fair employment practices.

8. As described above, the field of I-O Psychology provides an important foundation for developing and implementing job-related, fair human resource management systems. Its research findings and publications provide principles and standards that guide practitioners in the development of effective, legally-defensible human resource management systems.
9. Job analysis, also referred to as work analysis, is a key element in developing job-related, fair employment practices for virtually all human resource management systems including selection, placement, training and development, job transfer, promotion, performance appraisal, compensation, and termination decisions and systems. It is the basis for job description, job classification, job evaluation, job design/restructuring, job families, job ladders, personnel requirements/specifications (KSAOs – knowledge, skill, abilities, and other requirements), performance and skill standards, training and development, employee mobility (career ladders, career development), work process efficiency, work process safety to name a few.<sup>9</sup>

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<sup>9</sup> See, for example:

Gael, S. (1988). Preface. In S. Gael (Ed.), *The job analysis handbook for business, industry, and government* (Vols. I & II, pp. xv-xvii). New York: John Wiley & Sons, Inc.

Gael, S. (Ed.) (1988). *The job analysis handbook for business, industry, and government* (Vols. I & II). New York: John Wiley & Sons, Inc.

Harvey, R. J. (1991). Job analysis. In M. D. Dunnette & L. M. Hough, (Eds.) *Handbook of industrial and organizational psychology*, vol. 2, 2<sup>nd</sup> ed. (pp. 71-163). Palo Alto, CA: Consulting Psychologists Press, Inc.

Howard, A. (Ed.). (1995). *The changing nature of work*. San Francisco, CA: Jossey-Bass.

Morgeson, F. P. (2007). Job analysis and job analysis methods. In S. G. Rogelberg (Ed.), *Encyclopedia of industrial and organizational psychology* (Vol. 1, pp. 377-383). Thousand Oaks, CA: Sage.

Peterson, N. G., Mumford, M. D., Borman, W. C., Jeanneret, P. R., & Fleishman, E. A. (Eds.) (1999). *An occupational information system for the 21<sup>st</sup> century: The development of O\*NET*. Washington, DC: American Psychological Association.

Peterson, N. G., Mumford, M. D., Borman, W. C., Jeanneret, P. R., Fleishman, E. A., Levin, K. Y., Campion, M. A., Mayfield, M. S., Morgeson, F. P., Pearlman, K., Gowing, M. K., Lancaster, A. R., Silver, M. B., & Dye, D. M. (2001). Understanding work using the occupational information network: Implications for practice and research. *Personnel Psychology*, 54, 451-492.

10. The *Principles, Standards, Uniform Guidelines*, and I-O Psychology consider work analysis as the foundation for learning about and identifying the knowledge, skills, abilities, and other characteristics that enable people to perform the work itself, the conditions of work, the level of responsibility, complexity, and level of competence required – the context of the work. The type of information gleaned from a job analysis is important in the present case because pay analyses to determine whether men and women are paid equitably hinges on the determination that the men and women whose pay is compared perform substantially equal or similar work (which I refer to in this report as “substantially the same work”).
  
11. There are many ways and methods of conducting job analysis. Handbooks on job/work analysis, chapters in personnel selection handbooks, chapters in Industrial-Organizational Psychology handbooks, and related articles and books on validation of personnel decisions describe many methods and strategies for analyzing work, work context, and the knowledge, skills, abilities and other characteristics that enable and facilitate work accomplishment.<sup>10</sup> All the authors of these scholarly materials concur in stating that there is no one right way, method, or strategy for analyzing work.

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Sackett, P. R., Walmsley, P.T., & Laczó, R. M. (2013). Job and work analysis. In I. B. Weiner (Ed.-in-Chief), *Handbook of psychology*; In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of psychology: Industrial and organizational psychology* (Vol. 12, pp. 61-81). New York: Wiley.

Sanchez, J. I., & Levine, E. L. (2001). The analysis of work in the 20<sup>th</sup> and 21<sup>st</sup> centuries. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of industrial, work and organizational psychology* (Vol. 1: *Personnel Psychology*, pp. 71-89). London and New York: Sage.

Wilson, M. A., Bennett, W. Jr., Gibson, S. G., & Alliger, G. M. (Eds.). (2012). *The Handbook of work analysis: Methods, systems, applications and science of work measurement in organizations*. New York, NY: Routledge – Taylor & Francis Group.

<sup>10</sup> See, for example:

Anderson, N., Ones, D. S., Sinangil, H. K., & Viswesvaran, C. (Eds.) (2001). *Handbook of industrial, work and organizational psychology* (Vols. 1-2). London and New York: Sage.

Dunnette, M. D. (Ed.) (1976). *Handbook of industrial and organizational psychology*. Chicago, IL: Rand McNally.

Dunnette, M. D., & Hough, L. M. (Eds.). (1990-1994). *Handbook of Industrial Organizational and Psychology* (Vols. 1-4). Palo Alto, CA: Consulting Psychologists Press.

Gael, S. (Ed.) (1988). *The job analysis handbook for business, industry, and government* (Vols. I & II). New York: John Wiley & Sons, Inc.

Harvey, R. J. (1991). Job analysis. In M. D. Dunnette & L. M. Hough, (Eds.) *Handbook of industrial and organizational psychology*, vol. 2, 2<sup>nd</sup> ed. (pp. 71-163). Palo Alto, CA: Consulting Psychologists Press, Inc.

McPhail, S. M. (Ed.). (2007). *Alternative validation strategies: Developing new and leveraging existing validity evidence*. San Francisco, CA: Jossey-Bass.

Wilson, M. A., Bennett, W. Jr., Gibson, S. G., & Alliger, G. M. (Eds.). (2012). *The Handbook of work analysis:*



12. Many scholars (some not so current) argue that the changing nature of work is making the term “job” an anachronism, a throw-back to a more traditional workplace reminiscent of a manufacturing/industrial economy.<sup>11</sup> In today’s service and digital economy, important changes in the nature of work have occurred. Some of them are: 1) work is more and more often performed in teams in which “teamwork,” cooperation, and collaboration are important, and 2) workers are expected to engage in “organizational citizenship behavior” and to exert discretionary effort in contributing to the unit’s goals and organization’s mission.<sup>12</sup>
13. These changes make work context more important. The term “work analysis” reflects these changes and incorporates more intentionally the context in which work is performed. Nonetheless, the term “job analysis” is still widely used and is often used interchangeably with the term “work analysis.” I, personally, use the two terms interchangeably.

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*Methods, systems, applications and science of work measurement in organizations.* New York, NY: Routledge – Taylor & Francis Group.

<sup>11</sup> See, for example:

Sanchez, J. I., & Levine, E. L. (2001). The analysis of work in the 20<sup>th</sup> and 21<sup>st</sup> centuries. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of industrial, work and organizational psychology* (Vol. 1: *Personnel Psychology*, pp. 71-89). London and New York: Sage.

<sup>12</sup> See, for example:

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt, W. C. Borman, & Associates (Eds.), *Personnel selection in organizations* (pp. 71-98).

Campbell, J. P. (1999). The definition and measurement of performance in the new age. In D. R. Ilgen, & E. D. Pulakos (Eds.), *The changing nature of performance* (pp. 399-429). San Francisco, CA: Jossey-Bass.

Klimoski, R. J., & Zukin, L. B. (1999). Selection and staffing for team effectiveness. In E. D. Sundstrom (Ed.), *Supporting work team effectiveness: Best management practices for fostering high performance* (pp. 63-91). San Francisco, CA: Jossey-Bass.

Macey, W. H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology, 1*, 3-30.

Salas, E., Dickinson, T. L., Converse, S. A., & Tannenbaum, S. I. (1992). Toward an understanding of team performance and training. In R. W. Swezey & E. Salas (Eds.), *Teams: Their training and performance* (pp. 3-29). Norwood, NJ: Ablex Publishing Corporation.

Schneider, B., Macey, W. H., Barbera, K. M., & Martin, N. (2009). Driving customer satisfaction and financial success through employee engagement. *People and Strategy, 32*, 22-27.

Sundstrom, E. D. (Ed.) (1999). Preface. In E. D. Sundstrom & Associates (Ed.), *Supporting work team effectiveness: Best management practices for fostering high performance* (pp. xi- xv). San Francisco, CA: Jossey-Bass.

14. In short, the nature of work has changed over the years, and it will continue to change. The importance of the information gained from a job analysis, however, has not changed. That information remains the foundation on which virtually all human resource management systems are built, helping to ensure job-related, fair personnel decisions.
15. The information gained from job/work analyses is fundamental to development of job-related human resource management systems and tools. It does not, however, ensure that those systems and tools are implemented and used in ways that are fair for protected groups such as women. How those systems and tools are used and their impact on people is also a key factor in the fair and just management of human talent.<sup>13</sup>

### **III. Standards for assessing similarity of work: What amount of difference makes a difference?**

16. As described above, collecting the type of information generally obtained from job/work analyses is an important activity for I-O Psychologists, and grouping jobs into job families or clusters of jobs that perform similar work is a key activity. It is important when designing most, if not all, human resource management systems. For example, establishing performance factors and performance standards against which job incumbents' performances are evaluated is based on job/work analysis, and if those standards differ for different jobs, analysis of the work indicated the jobs differed and incumbents in those jobs should be evaluated differently using different performance standards.
17. Another example of a human resource management system that is based on job analysis is the structure of jobs into career ladders. A career ladder is an example of a job family and is based on job/work analysis. The rungs on the ladder typically describe

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<sup>13</sup> American Educational Research Association, American Psychological Association, National Council on Measurement in Education. (2014). *Standards for educational and psychological testing*. Washington D.C.: American Educational Research Association.

Society for Industrial and Organizational Psychology. (2018). *Principles for the Validation and Use of Personnel Selection Procedures (5<sup>th</sup> edition)*. Cambridge, MA: Cambridge University Press.

Uniform Guidelines on Employee Selection Procedures. (1978). 43 *Federal Register*, 38290-38315.

increasingly higher levels of complexity and responsibility. Again, work analysis identifies the jobs at the different rungs in the ladder.

18. Similarly, the information obtained from job/work analysis is critically important when designing legally-defensible selection and promotion tools and procedures. When developing a selection or promotion system, assessment tools/tests are developed that measure knowledge, skills, abilities, and other characteristics that are needed to perform the work effectively. The development of those tests is based on an analysis of the work and work context.
19. An important question is: How similar does the job in the original study need to be to the job in the second or new setting need to be for the validity of the assessment tool to generalize to the second or new setting? It is a judgment call although strategies have been developed to assist in making these judgments.
20. One strategy is to quantify the extent of similarity – examine and assess the overlap of critical work behaviors. An example of such a strategy<sup>14</sup> is provided below:

$$SI = \frac{N_C}{\sqrt{N_S * N_T}}$$

where  $N_S$  and  $N_T$  are the number of critical work behaviors for the source and target jobs, respectively, and  $N_C$  is the number of critical work behaviors common to both jobs. SI is Similarity Index.

“Choosing a threshold based on this index for designating jobs as substantially similar involves judgment, but the authors generally look for values greater than 0.75.” (p. 70, Gibson & Caplinger, 2007).

This is the Similarity Index threshold that many, perhaps most, I-O Psychologists agree demonstrates work is substantially similar.

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<sup>14</sup> Gibson, W. M., & Caplinger, J. A. (2007). Transportation of validation results. In M. McPhail (Ed.), *Alternative validation strategies: Developing new and leveraging existing validity evidence* (pp. 29-81). San Francisco, CA: Jossey-Bass.

21. As shown above, the term “substantially similar” is used in I-O Psychology and, although judgment is involved, there are guidelines for determining job similarity. The determination that jobs are similar – substantially similar – is important in the practice of I-O Psychology.
22. There are many jobs in many organizations that are similar to each other. Many industries exist in which many jobs in companies within the industry are similar. Dozens of talent assessment companies (test vendors) exist today whose existence depends upon developing assessment tools in one company and legitimately marketing the assessment tools to other companies with jobs similar to ones for which the assessment tools were initially developed. The talent assessment company legitimately “transports” the validity.
23. Another human resource management system that requires assessment of job similarity is compensation. Companies often pay their employees such that their pay is competitive with the pay that other companies pay for similar work. It is one way in which companies attract job applicants and retain employees.<sup>15</sup> That is, compensation strategies that base at least part of employee pay on what other companies pay for similar work require that the jobs in one company be compared to jobs in other companies. Assessment of job similarity is a required step in market-pay compensation practices.
24. Vendors exist that accumulate data from many companies – descriptive information about jobs (such as tasks, activities, responsibilities, knowledges, skills, abilities, and other characteristics of the work and job context) and the amount of pay workers in those

---

<sup>15</sup> Barber, A. E., & Bretz, R. D. Jr. (2000). Compensation, attraction, and retention. In S. L. Rynes, & B. Gerhart (Eds.), *Compensation in organizations: Current research and practice* (pp. 32-60). San Francisco, CA: Jossey-Bass.

Gerhart, B. (2000). Compensation strategy and organizational performance. In S. L. Rynes, & B. Gerhart (Eds.), *Compensation in organizations: Current research and practice* (pp. 151-194). San Francisco, CA: Jossey-Bass.

Gerhart, B. & Milkovich, G. T. (1992). Employee compensation: Research and practice. In M. D. Dunnette & L. M. Hough, (Eds.) *Handbook of industrial and organizational psychology*, vol. 3, 2<sup>nd</sup> ed. (pp. 481-569). Palo Alto, CA: Consulting Psychologists Press, Inc.

Lawler, E. E. III. (1992). Strategic reward systems. In M. D. Dunnette & L. M. Hough, (Eds.) *Handbook of industrial and organizational psychology*, vol. 3, 2<sup>nd</sup> ed. (pp. 1010-1055). Palo Alto, CA: Consulting Psychologists Press, Inc.

Milkovich, G. T., & Newman, J. M. (1990). *Compensation*. Homewood, IL: BPI/Irwin

jobs receive. The vendors sell that information to customers who want to base their employee pay on what other companies pay employees who perform similar work. The vendor provides descriptive information about benchmark jobs against which a company compares their jobs to obtain information such as average pay and pay ranges for similar jobs in the marketplace.

25. The determination that a job is sufficiently similar to a benchmark job is based on a comparison of the knowledge, skills and abilities required in a job, responsibilities/complexity of the work, discretionary authority, work context and other characteristics of the benchmark job and job in question. According to one such vendor a minimum of 75 percent (75%) similarity is the standard for declaring a customer's job is similar to the vendor's benchmark job.<sup>16</sup> Clearly, a perfect match is not required. In short, market-based pay structures do not require job content, knowledge, skill, ability requirements, work context, and other characteristics of jobs in the same pay grouping to be exactly the same. Note that this is the same threshold as used by I-O Psychologists who use the Similarity Index to determine that two jobs perform substantially similar work.

**IV. Google has studied its jobs and classified them into job families by type of work performed, and then within job families by job codes that group together people with similar skills and responsibilities.**

26. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED].<sup>17</sup> Those expectations and requirements for job codes within a job family are set

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<sup>16</sup> Radford Survey (Aon Company) representative, Lonnie Abaya, November 12, 2018 phone conversation.

<sup>17</sup> See, e.g., Goog-Ellis-00024077, at 24082 (“[REDACTED]”), 24084 (“[REDACTED]”).

forth in the job ladders for the job family.<sup>18</sup> Job codes take into account the tasks, activities performed, the knowledge, skills, abilities required to perform those tasks and activities, the difficulty and responsibility level, and the context in which the work is performed.<sup>19</sup> Job codes represent the intersection of career ladder (job family) and level (complexity/responsibility).<sup>20</sup>

27. [REDACTED]
- [REDACTED].<sup>21</sup> [REDACTED]
- [REDACTED]
- [REDACTED].<sup>22</sup>
- a. [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
  - [REDACTED]
  - [REDACTED]

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<sup>18</sup> Google PMQ Witness, Ong Dep. Dated Feb. 7, 2019 at 71:17-76:12.

<sup>19</sup> See, e.g., Google PMQ Witness, Tietbohl Dep. Dated July 31, 2019 re: Promotions at 120:2-8 (“[REDACTED]”); Google PMQ Witness, Ong Dep. Dated Feb. 7, 2019 at 73:10-12 (job ladders set forth “expectations for the role”), 74:17-22 (job ladders are used “to set forth the skills, knowledge, and abilities that one needs to do a job”). See also Goog-Ellis-00003189 (2016 document stating “Think about what’s expected of your role and level”); Goog-Ellis-00003847, at 3847 (2017 document stating “Googlers are evaluated against performance expectations for their role and their level, and not evaluated against their peers”); Goog-Ellis-00011282, at 11287 (2018 document stating “Googlers are evaluated against expectations for their role and level, not other Googlers”); Goog-Ellis-00011370, at 11376 (same, in 2018 document, for “Tech Googlers”); Goog-Ellis-00021325, at 21325 (same, in 2019 document).

<sup>20</sup> Google uses the term “job code” as a “numeric identifier” to categorize “a job family at a specific level.” Wagner OFCCP Testimony at 174:11-12. See also Google PMQ Witness, Williams Dep. Dated Jan. 23, 2019 at 99:25-100:2 (“[REDACTED]”). “A job family is a professional category of job at Google” – “those that are doing similar job duties and responsibilities, but stratified at different levels of capability or skill sets.” Wagner OFCCP Testimony at 174:3-6. “A job level can be thought of as a salary grade. . . [I]t is a level at which the people at that job are performing like level of duties and responsibilities within that job family.” Wagner OFCCP Testimony at 174:21-24.

<sup>21</sup> Google PMQ Witness, Ong Dep. Dated Feb. 7, 2019 at 193:13-19.

<sup>22</sup> Google PMQ Witness, Ong Dep. Dated Feb. 7, 2019 at 35:8-18.

- [REDACTED]
- [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED].<sup>23</sup> [REDACTED]  
[REDACTED] appear in Section V,  
paragraph 35 of this report.]

- b. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]
- [REDACTED]
  - [REDACTED]
  - [REDACTED]
  - [REDACTED]
  - [REDACTED]
  - [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED].<sup>24</sup> [REDACTED]  
[REDACTED] appear in Section V, paragraph 36  
of this report.]

- c. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

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<sup>23</sup> Google PMQ Witness, Ong Dep. Dated Feb. 7, 2019 Exhibit 577 (Goog-Ellis-00004402).

<sup>24</sup> Google PMQ Witness, Ong Dep. Dated Feb. 7, 2019 Exhibit 577 (Goog-Ellis-00004402).

[REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] appear in Section

V, paragraph 37 of this report.]

- d. [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

---

<sup>25</sup> Google PMQ Witness, Ong Dep. Dated Feb. 7, 2019 Exhibit 577 (Goog-Ellis-00004402).



[REDACTED]  
[REDACTED].<sup>26</sup> ([REDACTED]  
for specific job codes are provided in later sections of this report.) [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] appear in Section V, paragraph 38 of this report.]

28. Google’s company-wide human resource management systems are integrated with each other. [REDACTED]

[REDACTED]. [REDACTED]  
[REDACTED]  
[REDACTED].<sup>27</sup> Candidates for promotion are

evaluated in terms of the extent to which they have performed consistently and effectively the work at the next higher level of their current job code (as described in job codes contained in the job ladders).<sup>28</sup> These job expectations and requirements are based on job code and they are used company-wide.

29. The human resource management tools that Google has developed for use company-wide contain information about the tasks, activities, responsibilities, knowledges, skills, abilities, difficulty, complexity, influence, decision making discretion, effort, and work context.

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<sup>26</sup> Google’s strategy for [REDACTED] is described in Google PMQ Witness, Ong Dep. dated Feb. 7, 2019, Exhibit 572 (Goog-Ellis-00016103-Goog-Ellis-00016109).

<sup>27</sup> Google PMQ Witness, Tietbohl Dep. Dated Feb. 25, 2019 re: Promotions at 45:18-46:16 ([REDACTED]); Google PMQ Witness, Ong Dep. Dated Feb. 7, 2019 at 72:22-24 (“you’re evaluated against the job ladder.”). *See also* Goog-Ellis-00024077, at 24082 (“[REDACTED]”) (emphasis in original); Goog-Ellis-00009666, at 9666 (2013 document stating that “[REDACTED] [REDACTED]”); Goog-Ellis-00010230, at 10257 (same, in 2014 document); Goog-Ellis-00010351, at 10352 (2015 document stating “[REDACTED] [REDACTED]”); Goog-Ellis-00009846, at 9847 (same, in 2016 document); Goog-Ellis-00010044, at 10047 (same, in 2018 document).

<sup>28</sup> Google PMQ Witness, Tietbohl Dep. Dated Feb. 5, 2019 Exhibit 565 (Goog-Ellis-00003190) and Exhibit 539 (Goog-Ellis-00003849).

V. Software Engineer – [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

30. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

31. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

32. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

- a. [REDACTED]
- [REDACTED]  
[REDACTED]
  - [REDACTED]  
[REDACTED]
  - [REDACTED]

---

<sup>29</sup> Goog-Ellis-00001691-01.

- [Redacted]
- [Redacted]
- [Redacted]

b. [Redacted]

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

c. [Redacted]

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

d. [Redacted]

- [Redacted]
- [Redacted]



- f. [REDACTED]
- [REDACTED]
  - [REDACTED]
  - [REDACTED]
  - [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

33. [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

34. [REDACTED]
- [REDACTED]
- |            |            |
|------------|------------|
| [REDACTED] | [REDACTED] |
| [REDACTED] | [REDACTED] |
| [REDACTED] | [REDACTED] |
| [REDACTED] | [REDACTED] |

---

<sup>30</sup> Goog-Ellis-00099060\_Confidential.

[REDACTED]

35. [REDACTED]

a. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

36. [REDACTED]

[REDACTED]

<sup>31</sup> Google PMQ Witness, Ong Dep. Dated Feb. 7, 2019 Exhibit 577 (Goog-Ellis-00004402 at GCA L2-3).

<sup>32</sup> Google PMQ Witness, Ong Dep. Dated Feb. 7, 2019 re: [REDACTED] at 190:20-191:9 stated that Exhibit 573 lists the [REDACTED] are listed in Exhibit 573.

<sup>33</sup> Google PMQ Witness, Ong Dep. Date Feb. 7, 2019 Exhibit 577 (Goog-Ellis-00004402 at [REDACTED]). See also Goog-Ellis-00016110 at 16323.

b. [REDACTED]

c. [REDACTED]

d. [REDACTED]

e. [REDACTED]

f. [REDACTED]

[REDACTED]

37. [REDACTED]

a. [REDACTED]

[REDACTED]

[REDACTED]

<sup>34</sup> Google PMQ Witness, Ong Dep. Dated Feb. 7, 2019 re: [REDACTED] at 190:20-191:9 stated that Exhibit 573 lists the [REDACTED] are listed in Exhibit 573.

<sup>35</sup> Google PMQ Witness, Ong Dep. Date Feb. 7, 2019 Exhibit 577 (Goog-Ellis-00004402 at [REDACTED] L2-3). See also Goog-Ellis-00016110 at 16324.

d. [Redacted]

[Redacted]

38. [Redacted]

a. [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

<sup>36</sup> Goog-Ellis-00016110 at 16192-3.



f. [REDACTED]

[REDACTED]

39. Importantly, Google has conducted a [REDACTED]  
[REDACTED]  
[REDACTED] [REDACTED] [REDACTED] :

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]<sup>38</sup>

The document goes on to state:

[REDACTED]  
[REDACTED]  
[REDACTED]<sup>39</sup>

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

---

<sup>37</sup> Goog-Ellis-00155761 to Goog-Ellis-00156763.

<sup>38</sup> Goog-Ellis-00155761.

<sup>39</sup> Goog-Ellis-00155761.

40. This type of information and level of specificity contained in paragraphs 32-38 are similar to what I-O psychologists use to determine which persons in an organization have similar skills and responsibilities, are performing substantially the same work, and should be peers for compensation purposes. It is detailed, and it is sufficient to conclude that people who are in the same Google job code (same level within same job ladder) are performing substantially similar work. It is also the kind of information and the level of specificity that Google uses to determine whether people are performing sufficiently similar work that they should be evaluated using the same standards and be compensated using the same pay scale, i.e., they are in the same job code performing substantially similar work.

**VI. [REDACTED] <sup>40</sup> indicate employees within job codes perform substantially similar work.**

41. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

---

<sup>40</sup> Goog-Ellis-00156144 to Goog-Ellis-00156174, document entitled [REDACTED].  
Goog-Ellis-00156819 to Goog-Ellis-00157119, document entitled [REDACTED].

<sup>41</sup> [REDACTED] See Goog-Ellis-00156144 to Goog-Ellis-00156174, document entitled [REDACTED], specially Goog-Ellis-000156158 to Goog-Ellis-00156161.

[REDACTED]

[REDACTED]

- [REDACTED]  
[REDACTED]
- [REDACTED]  
[REDACTED]
- [REDACTED]  
[REDACTED]  
[REDACTED]
- [REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]  
[REDACTED]
- [REDACTED]  
[REDACTED]  
[REDACTED]
- [REDACTED]  
[REDACTED]  
[REDACTED]
- [REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]

42. [REDACTED]

43. The number of Google employees in the Software Engineer job ladder as of December 2019 ([REDACTED]) is [REDACTED]<sup>43</sup>. It is one of the largest job families in Google and includes several of the “covered positions” in this case. I, therefore, focused on the June 2020 [REDACTED] addendum containing data for the Software Engineer job family which [REDACTED].

44. Using data reported in the Software Engineer Addendum,<sup>44</sup> I used a well-accepted I-O Psychology analysis described in Section III, paragraph 20 (page 12) of this report to determine the similarity of the work performed in Software Engineer job ladder work roles. The data used for the analyses are described below:

- a. The *mean importance ratings* for each of the Work Activities and Behaviors (WABs) that reach a threshold of  $\geq 2.00$  are reported in Tables 1 thru 6, one table each for Levels 3 thru 8, respectively. Values are provided separately for each of the

<sup>42</sup> Goog-Ellis-00156825.

<sup>43</sup> Goog-Ellis-00156832,

<sup>44</sup> Goog-Ellis-00156819 to Goog-Ellis-00157119, document entitled “[REDACTED]”

8 domains as well as the overall group for each job level and for each work activity/behavior. For example, Table 1 contains the mean importance rating for Software Engineer II, Level 3 (██████████) for each domain for each work activity and behavior with 10 or more raters<sup>45</sup>. It also contains the mean importance rating across all Level 3 software engineers. A threshold importance rating of  $\geq 2.00$  ██████████ ██████████, and it is a generally-accepted threshold in the practice of Industrial-Organizational Psychology. Tables 2 thru 6 contain the same information for Software Engineer III, Level 4 (██████████) Senior Software Engineer, Level 5 (██████████), Staff Software Engineer, Level 6 (██████████), Senior Staff Software Engineer, Level 7 (██████████), and Principal Software Engineer, Level 8 (██████████), respectively.

- b. The *mean importance ratings* for each of the knowledges, skills, and abilities (KSAs) that reach a threshold of  $\geq 2.00$  are reported in Tables 7 thru 11, one table each for Levels 3 thru 7. Values are provided separately for each of the 8 domains. For example, Table 7 contains the mean importance rating for Software Engineer II, Level 3 (██████████) for each domain for each KSA with 10 or more raters.<sup>46</sup> A threshold importance rating of  $\geq 2.00$  ██████████ ██████████, and it is a generally-accepted threshold in the practice of I-O Psychology. Tables 8 thru 11 contain the same information for Software Engineer III, Level 4 (██████████), Senior Software Engineer, Level 5 (██████████), Staff Software Engineer, Level 6 (██████████), and Senior Staff Software Engineer, Level 7 (██████████), respectively.
- c. Table 12 reports the Similarity Index values for each comparison for the critical work behaviors, i.e., work activities and behaviors. Table 13 reports the Similarity Index values for each comparison for the KSAs. As described in Section III,

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<sup>45</sup> A criterion of 10 ratings for each data point ensured a reasonably stable estimate of the importance level of the work activity and behavior.

<sup>46</sup> A criterion of 10 ratings for each data point ensured a reasonably stable estimate of the importance level of the knowledge, skill, or ability.

paragraph 20 (page 12) of this report, the Similarity Index quantifies the extent of similarity of work elements in two jobs. The formula is shown again below:

$$SI = \frac{N_C}{\sqrt{N_S * N_T}}$$

where  $N_S$  and  $N_T$  are the number of elements for the source and target jobs, respectively, and  $N_C$  is the number of elements common to both jobs. SI is Similarity Index.

The Similarity Index ranges from 0.00 to 1.00. Values greater than 0.75 are generally accepted as evidence that the jobs are substantially similar. (p. 70, Gibson & Caplinger, 2007).

- d. As can be seen in Tables 12 and 13, a total of 54 Similarity Indices were calculated. Only 2 of 54 comparisons are below the threshold of approximately 0.75, with Similarity Index values of 0.70 and 0.63 for Machine Learning domain Level 5 and Level 6 roles, respectively.

- 45. These analyses indicate that, except for one Software Engineer domain (Machine Learning – and only two levels within that domain), the work is substantially similar within job codes in the Software Engineer job family. It is important to note that Google did not differentiate Software Engineers according to “domain” from September 14, 2013 to the present.

**VII. Reasons job code is most reasonable unit at which analyses of gender pay equity should be conducted.**

- 46. [REDACTED]

[REDACTED]<sup>47</sup> Thus, the work performed in each job code is similar in terms of tasks and activities performed, work context, required knowledge, skills, abilities, and level of responsibility and complexity.<sup>48</sup>

47. [REDACTED]  
confirm that work performed by employees within job codes perform substantially similar work.

48. [REDACTED]<sup>49</sup>

49. Google collects market data by job code<sup>50</sup> and sets the market-based part of its pay structure at the level of job codes, i.e., the intersection of career ladder (job family) and level of responsibility and complexity of the work. According to Frank Wagner, a job family is made up of people with similar job duties and responsibilities, stratified at different levels. People at the same level in the same job family (career ladder) are, in his words, at a “job performing like level of duties and responsibilities within that job family.”<sup>51</sup>

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<sup>47</sup> Google PMQ Witness, Williams Dep. Dated Jan. 23, 2019 at 99:16-100:2.

<sup>48</sup> See Exhibit 555 ([REDACTED]); Wagner OFCCP Testimony at 174:21-24; Google PMQ Witness, Wagner Dep. Dated Jan. 30, 2019 at 93:11-94:7; Goog-Ellis-00001681 ([REDACTED]); Goog-Ellis-00001691 ([REDACTED]); Goog-Ellis-00004286 ([REDACTED]); Goog-Ellis-00004293 ([REDACTED]); Goog-Ellis-00004301 ([REDACTED]); Goog-Ellis-00004303 ([REDACTED]); Goog-Ellis-00004305 ([REDACTED]); Goog-Ellis-00004311 ([REDACTED]); Goog-Ellis-00004329 ([REDACTED]); Goog-Ellis-00004337 ([REDACTED]); Goog-Ellis-00004349 ([REDACTED]); Goog-Ellis-00004363 ([REDACTED]); Goog-Ellis-00004379 ([REDACTED]); Goog-Ellis-00004389 ([REDACTED]); Goog-Ellis-00004397 ([REDACTED]); Goog-Ellis-00004403 ([REDACTED]); Goog-Ellis-00004440 ([REDACTED]); Goog-Ellis-00004442 ([REDACTED]); Goog-Ellis-00004974 ([REDACTED]); Goog-Ellis-00004977 ([REDACTED]); Goog-Ellis-00004980 ([REDACTED]); Goog-Ellis-00008310 ([REDACTED]); Goog-Ellis-00008315 ([REDACTED]); Goog-Ellis-00010907.

<sup>49</sup> Google PMQ Witness, Williams Dep. Dated Jan. 23, 2019 at 99:16-103:5.

<sup>50</sup> Wagner OFCCP Testimony at 169:17-25.

<sup>51</sup> Wagner OFCCP Testimony at 174:21-24.

## VIII. Conclusions.

50. Google's detailed job classification system, including its job ladders and [REDACTED] [REDACTED] establish that employees within job codes share skills, abilities, responsibility levels, effort, and basic job duties. Within the purposes of I-O Psychology, they are performing substantially similar work. Thus, analyses of pay for men and women are appropriately conducted at the job code level.

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**Table 1:** [REDACTED]

Work Activities and Behaviors (WAB) Text <sup>2</sup>	Mean Importance Rating <sup>3</sup> for Work Activities and Behaviors (WABs) [REDACTED]							
	ALL SWE-L3 [REDACTED] (N=[REDACTED]) <sup>5</sup>	DOMAIN (with 10 or more raters)						
		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]						2.00		
2. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.08	2.10	2.59		2.07	2.00	2.06	2.03
3. [REDACTED] [REDACTED] [REDACTED]	2.17	2.17	2.29	2.23	2.17	2.00	2.19	2.09
4. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.12	2.17	2.41		2.15		2.18	2.00
5. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.74	2.78	2.65	2.84	2.76	2.65	2.67	2.53
6. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.46	2.46	2.65	2.47	2.46	2.35	2.54	2.34

7. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.73	2.73	2.59	2.81	2.77	2.71	2.71	2.67
8. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.10	2.15	2.00		2.30	2.12	2.04	2.03
9. [REDACTED] [REDACTED] [REDACTED] [REDACTED]								
10. [REDACTED] [REDACTED] [REDACTED] [REDACTED]						2.00		
11. [REDACTED] [REDACTED] [REDACTED] [REDACTED]								
12. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.19	2.19	2.71	2.18	2.21	2.00	2.10	2.28
13. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.04	2.05	2.24		2.09	2.00		2.17
14. [REDACTED] [REDACTED] [REDACTED]								
15. [REDACTED] [REDACTED] [REDACTED]						2.24		
16. [REDACTED] [REDACTED] [REDACTED]								

17. [REDACTED] [REDACTED] [REDACTED] [REDACTED]								
18. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]								2.35
19. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]								
20. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]			2.06					
21. [REDACTED] [REDACTED] [REDACTED]						2.71		

<sup>1</sup> Critical Work Behaviors are work activities and behaviors that are examined to assess whether jobs are substantially similar. (See Section III, paragraph 20 of this report.)

<sup>2</sup> WABs text, see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>3</sup> Mean importance ratings [REDACTED] (specifically, Goog-Ellis-00156158).

Mean ratings in this table are from [REDACTED], see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>4</sup> [REDACTED] (specifically, Goog-Ellis-00156164).

<sup>5</sup> Sample sizes from Goog-Ellis-00156837-8.

**Table 2:** [REDACTED]

Work Activities and Behaviors (WAB) Text <sup>2</sup>	Mean Importance Rating <sup>3</sup> for Work Activities and Behaviors (WABs) that Meet [REDACTED]								
	ALL SWE-L4 [REDACTED] <sup>5</sup>	DOMAIN							
		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]				2.06				2.01	
2. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.22	2.26	2.12	2.24	2.20	2.09	2.20	2.11	2.33
3. [REDACTED] [REDACTED] [REDACTED]	2.04	2.04		2.14		2.08	2.24	2.00	
4. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.34	2.41	2.12	2.30	2.39	2.11	2.26	2.20	2.04
5. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.74	2.78	2.67	2.84	2.67	2.52	2.75	2.74	2.50
6. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.61	2.63	2.42	2.71	2.58	2.38	2.74	2.59	2.54

7. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.65	2.68	2.40	2.73	2.66	2.33	2.74	2.56	2.43
8. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.18	2.21	2.09	2.18	2.24		2.25	2.23	
9. [REDACTED] [REDACTED] [REDACTED] [REDACTED]									
10. [REDACTED] [REDACTED] [REDACTED] [REDACTED]						2.23			
11. [REDACTED] [REDACTED] [REDACTED] [REDACTED]									
12. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.31	2.30	2.30	2.40	2.43	2.08	2.32	2.27	2.30
13. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.04	2.02	2.07	2.02	2.06	2.11	2.08	2.16	
14. [REDACTED] [REDACTED] [REDACTED]					2.03				
15. [REDACTED] [REDACTED] [REDACTED]						2.36			
16. [REDACTED] [REDACTED] [REDACTED]									



17. [REDACTED] [REDACTED] [REDACTED] [REDACTED]								2.11	
18. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]								2.38	
19. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]								2.01	
20. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]									
21. [REDACTED] [REDACTED] [REDACTED]						2.74			

<sup>1</sup> Critical Work Behaviors are work activities and behaviors that are examined to assess whether jobs are substantially similar. (See Section III, paragraph 20 of this report.)

<sup>2</sup> WABs text, see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>3</sup> Mean importance ratings [REDACTED] specifically, Goog-Ellis-00156158).

Mean ratings in this table are from [REDACTED], see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>4</sup> [REDACTED] (specifically, Goog-Ellis-00156164).

<sup>5</sup> Sample sizes from Goog-Ellis-00156837-8.

**Table 3:** [REDACTED]

[REDACTED]

Work Activities and Behaviors (WAB) Text <sup>2</sup>	Mean Importance Rating <sup>3</sup> for Work Activities and Behaviors (WABs) that Meet [REDACTED]								
	ALL SWE-L5 ( [REDACTED] [REDACTED] [REDACTED] ) <sup>5</sup>	DOMAIN							
		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.24	2.27		2.18	2.18	2.10	2.31	2.23	2.25
2. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.44	2.46	2.46	2.36	2.54	2.14	2.46	2.25	2.53
3. [REDACTED] [REDACTED] [REDACTED]	2.07	2.07		2.12	2.07		2.04	2.11	2.19
4. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.47	2.50	2.43	2.36	2.60	2.24	2.30	2.38	2.50
5. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.52	2.54	2.59	2.48	2.51	2.45	2.52	2.54	2.36
6. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.61	2.62	2.51	2.73	2.67	2.41	2.62	2.70	2.56

7. [REDACTED] [REDACTED] [REDACTED]	2.46	2.47	2.38	2.33	2.53	2.28	2.35	2.54	2.56
8. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.19	2.19		2.12	2.33		2.06	2.33	2.28
9. [REDACTED] [REDACTED] [REDACTED] [REDACTED]									
10. [REDACTED] [REDACTED] [REDACTED] [REDACTED]						2.15			
11. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.08	2.07	2.00	2.27	2.15	2.00	2.06		2.19
12. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.25	2.26	2.35	2.12	2.32		2.15	2.41	2.22
13. [REDACTED] [REDACTED] [REDACTED] [REDACTED]			2.03					2.11	2.19
14. [REDACTED] [REDACTED] [REDACTED]									
15. [REDACTED] [REDACTED] [REDACTED]						2.24			
16. [REDACTED] [REDACTED] [REDACTED]									

17. [REDACTED] [REDACTED] [REDACTED] [REDACTED]								2.07	
18. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]								2.42	
19. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]									
20. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]			2.17						
21. [REDACTED] [REDACTED] [REDACTED]						2.73			

<sup>1</sup> Critical Work Behaviors are work activities and behaviors that are examined to assess whether jobs are substantially similar. (See Section III, paragraph 20 of this report.)

<sup>2</sup> WABs text, see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>3</sup> Mean importance ratings [REDACTED] (specifically, Goog-Ellis-00156158).

Mean ratings in this table are from [REDACTED], see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>4</sup> [REDACTED] (specifically, Goog-Ellis-00156164).

<sup>5</sup> Sample sizes from Goog-Ellis-00156837-8.

**Table 4:** [REDACTED]

Work Activities and Behaviors (WAB) Text <sup>2</sup>	Mean Importance Rating <sup>3</sup> for Work Activities and Behaviors (WABs) that Meet [REDACTED]							
	ALL SWE-L6 [REDACTED] <sup>5</sup>	DOMAIN (with 10 or more raters)						
		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.39	2.39	2.42	2.49	2.00	2.60	2.24	2.50
2. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.49	2.47	2.46	2.61	2.11	2.45	2.47	2.85
3. [REDACTED] [REDACTED] [REDACTED]	2.00		2.04	2.01		2.20	2.12	2.00
4. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.43	2.43	2.29	2.55	2.07	2.63	2.47	2.31
5. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.19	2.17	2.17	2.21	2.33	2.45	2.18	
6. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.47	2.45	2.50	2.55	2.26	2.80	2.41	2.31

7. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.14	2.11	2.29	2.15	2.19	2.30	2.29	
8. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.03	2.06		2.09			2.24	
9. [REDACTED] [REDACTED] [REDACTED] [REDACTED]								
10. [REDACTED] [REDACTED] [REDACTED] [REDACTED]					2.26			
11. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.29	2.25	2.38	2.43		2.45	2.29	2.38
12. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.09	2.01	2.21	2.31		2.35	2.06	2.15
13. [REDACTED] [REDACTED] [REDACTED] [REDACTED]							2.18	
14. [REDACTED] [REDACTED] [REDACTED]								
15. [REDACTED] [REDACTED] [REDACTED]					2.38			
16. [REDACTED] [REDACTED] [REDACTED]						2.00		2.15

17. [REDACTED] [REDACTED] [REDACTED] [REDACTED]							2.18	
18. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]							2.18	
19. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]								
20. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]								
21. [REDACTED] [REDACTED] [REDACTED]					2.70			

<sup>1</sup> Critical Work Behaviors are work activities and behaviors that are examined to assess whether jobs are substantially similar. (See Section III, paragraph 20 of this report.)

<sup>2</sup> WABs text, see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>3</sup> Mean importance ratings [REDACTED] (specifically, Goog-Ellis-00156158).

Mean ratings in this table are from [REDACTED], see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>4</sup> [REDACTED] (specifically, Goog-Ellis-00156164).

<sup>5</sup> Sample sizes from Goog-Ellis-00156837-8.

**Table 5:** [REDACTED]

[REDACTED]

Work Activities and Behaviors (WAB) Text <sup>2</sup>	Mean Importance Rating <sup>3</sup> for Work Activities and Behaviors (WABs) that Meet [REDACTED]		
	ALL SWE-L7 [REDACTED]	DOMAIN (with 10 or more raters)	
		[REDACTED]	[REDACTED]
1. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.47	2.49	2.35
2. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.60	2.64	2.62
3. [REDACTED] [REDACTED] [REDACTED]	2.00		
4. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.32	2.27	2.32
5. [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
6. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.09		2.32



7. [REDACTED] [REDACTED] [REDACTED] [REDACTED]			2.00
8. [REDACTED] [REDACTED] [REDACTED] [REDACTED]			2.16
9. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
10. [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
11. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.61	2.73	2.35
12. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
13. [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
14. [REDACTED] [REDACTED] [REDACTED]			
15. [REDACTED] [REDACTED] [REDACTED]			
16. [REDACTED] [REDACTED] [REDACTED]	2.19	2.31	2.00

17. [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
18. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
19. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
20. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
21. [REDACTED] [REDACTED] [REDACTED]			

<sup>1</sup> Critical Work Behaviors are work activities and behaviors that are examined to assess whether jobs are substantially similar. (See Section III, paragraph 20 of this report.)

<sup>2</sup> WABs text, see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>3</sup> Mean importance ratings [REDACTED] (specifically, Goog-Ellis-00156158).

Mean ratings in this table are from [REDACTED], see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>4</sup> [REDACTED] (specifically, Goog-Ellis-00156164).

<sup>5</sup> Sample sizes from Goog-Ellis-00156837-8.

**Table 6:** [REDACTED]

Work Activities and Behaviors (WAB) Text <sup>2</sup>	Mean Importance Rating <sup>3</sup> for Work Activities and Behaviors (WABs) that Meet [REDACTED]		
	ALL SWE-L8 [REDACTED]	DOMAIN (with 10 or more raters)	
		[REDACTED]	[REDACTED]
1. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.62	2.47	2.71
2. [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.69	2.63	2.82
3. [REDACTED] [REDACTED] [REDACTED]		2.16	
4. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	2.18	2.26	2.12
5. [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
6. [REDACTED] [REDACTED] [REDACTED] [REDACTED]			

7. [REDACTED]			
8. [REDACTED]			
9. [REDACTED]			
10. [REDACTED]			
11. [REDACTED]	2.74	2.74	2.76
12. [REDACTED]			
13. [REDACTED]			
14. [REDACTED]			
15. [REDACTED]			
16. [REDACTED]	2.23	2.42	2.06

17. [REDACTED] [REDACTED] [REDACTED] [REDACTED]		2.11	
18. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
19. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
20. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]			
21. [REDACTED] [REDACTED] [REDACTED]			

<sup>1</sup> Critical Work Behaviors are work activities and behaviors that are examined to assess whether jobs are substantially similar. (See Section III, paragraph 20 of this report.)

<sup>2</sup> WABs text, see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>3</sup> Mean importance ratings [REDACTED] (specifically, Goog-Ellis-00156158).

Mean ratings in this table are from [REDACTED], see Goog-Ellis-00156839 to Goog-Ellis-00156964.

<sup>4</sup> [REDACTED] (specifically, Goog-Ellis-00156164).

<sup>5</sup> Sample sizes from Goog-Ellis-00156837-8.

**Table 7:** [Redacted]

KSA <sup>2</sup>	Domain (with 10 or more raters)						
	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
1. [Redacted]	X	X	X	X	X	X	X
2. [Redacted]	X	X	X	X	X	X	X
3. [Redacted]							
4. [Redacted]							
5. [Redacted]							
6. [Redacted]							
7. [Redacted]							
8. [Redacted]							
9. [Redacted]	X			X			X
10. [Redacted]							
11. [Redacted]							
12. [Redacted]							
13. [Redacted]							
14. [Redacted]							
15. [Redacted]	X	X	X	X		X	
16. [Redacted]							
17. [Redacted]							
18. [Redacted]							
19. [Redacted]							
20. [Redacted]							
21. [Redacted]							
22. [Redacted]							
23. [Redacted]							
24. [Redacted]							
25. [Redacted]							
26. [Redacted]							
27. [Redacted]							
28. [Redacted]							
29. [Redacted]							
30. [Redacted]							
31. [Redacted]			X				
32. [Redacted]							
33. [Redacted]			X				
34. [Redacted]			X				
35. [Redacted]							
36. [Redacted]							
37. [Redacted]							
38. [Redacted]							
39. [Redacted]							
40. [Redacted]							
41. [Redacted]							
42. [Redacted]							

43.	[REDACTED]							
44.	[REDACTED]							
45.	[REDACTED]							
46.	[REDACTED]							
47.	[REDACTED]							
48.	[REDACTED]							
49.	[REDACTED]							
50.	[REDACTED]							
51.	[REDACTED]							
52.	[REDACTED]							
53.	[REDACTED]							
54.	[REDACTED]							
55.	[REDACTED]							
56.	[REDACTED]							
57.	[REDACTED]							
58.	[REDACTED]							
59.	[REDACTED]							
60.	[REDACTED]							
61.	[REDACTED]							
62.	[REDACTED]							
63.	[REDACTED]							
64.	[REDACTED]							
65.	[REDACTED]	X	X	X	X	X	X	X
66.	[REDACTED]							
67.	[REDACTED]	X	X	X	X	X	X	X
68.	[REDACTED]	X	X	X	X	X	X	X
69.	[REDACTED]	X	X	X	X	X	X	X
70.	[REDACTED]	X	X	X	X	X	X	X
71.	[REDACTED]							
72.	[REDACTED]							
73.	[REDACTED]							
74.	[REDACTED]							
75.	[REDACTED]							
76.	[REDACTED]							
77.	[REDACTED]							
78.	[REDACTED]							
79.	[REDACTED]							
80.	[REDACTED]							
81.	[REDACTED]							
82.	[REDACTED]							

<sup>1</sup> Mean importance ratings [REDACTED] specifically, Goog-Ellis-00156160). [REDACTED] (specifically, Goog-Ellis-00156165). Mean ratings in this table are from [REDACTED], see Goog-Ellis-00156965 to Goog-Ellis-00157097.

<sup>2</sup> Knowledge, Skill, & Ability (KSA) definitions – see Goog-Ellis-00156965 to Goog-Ellis-00157097.

<sup>3</sup> Sample sizes from Goog-Ellis-00156837-8.

**Table 8:** [REDACTED]

KSA <sup>2</sup>	Domain (with 10 or more raters)						
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1. [REDACTED]	X	X	X	X	X	X	X
2. [REDACTED]	X	X	X	X	X	X	X
3. [REDACTED]							
4. [REDACTED]					X		
5. [REDACTED]							
6. [REDACTED]							
7. [REDACTED]							
8. [REDACTED]					X		
9. [REDACTED]	X			X			X
10. [REDACTED]							
11. [REDACTED]							X
12. [REDACTED]							
13. [REDACTED]						X	
14. [REDACTED]	X		X			X	X
15. [REDACTED]	X	X	X	X	X	X	X
16. [REDACTED]							
17. [REDACTED]							
18. [REDACTED]							
19. [REDACTED]		X				X	
20. [REDACTED]							
21. [REDACTED]							
22. [REDACTED]							
23. [REDACTED]							
24. [REDACTED]							
25. [REDACTED]							
26. [REDACTED]							
27. [REDACTED]							
28. [REDACTED]							
29. [REDACTED]							
30. [REDACTED]							
31. [REDACTED]							
32. [REDACTED]							
33. [REDACTED]							
34. [REDACTED]							
35. [REDACTED]							
36. [REDACTED]							
37. [REDACTED]							
38. [REDACTED]							
39. [REDACTED]							
40. [REDACTED]							
41. [REDACTED]							





**Table 9:** [REDACTED]

KSA <sup>2</sup>	Domain (with 10 or more raters)							
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1. [REDACTED]	X	X	X	X	X	X	X	X
2. [REDACTED]	X	X	X	X	X	X	X	
3. [REDACTED]								
4. [REDACTED]	X	X	X	X	X	X	X	X
5. [REDACTED]								
6. [REDACTED]								
7. [REDACTED]	X	X	X	X		X	X	
8. [REDACTED]					X			
9. [REDACTED]	X	X	X	X	X	X	X	X
10. [REDACTED]	X	X	X	X		X	X	
11. [REDACTED]	X	X	X	X		X	X	
12. [REDACTED]	X	X	X	X	X	X	X	X
13. [REDACTED]	X	X	X	X	X	X	X	X
14. [REDACTED]	X	X	X	X	X	X	X	
15. [REDACTED]	X	X	X	X	X	X	X	X
16. [REDACTED]	X		X	X		X	X	
17. [REDACTED]	X	X	X	X		X	X	
18. [REDACTED]	X	X	X	X		X	X	X
19. [REDACTED]		X		X		X		
20. [REDACTED]								
21. [REDACTED]								
22. [REDACTED]		X						
23. [REDACTED]								
24. [REDACTED]								
25. [REDACTED]		X						
26. [REDACTED]		X						
27. [REDACTED]								
28. [REDACTED]		X						
29. [REDACTED]								
30. [REDACTED]		X						
31. [REDACTED]			X					
32. [REDACTED]			X					
33. [REDACTED]			X					
34. [REDACTED]			X					
35. [REDACTED]								
36. [REDACTED]								
37. [REDACTED]				X				
38. [REDACTED]								
39. [REDACTED]								
40. [REDACTED]								
41. [REDACTED]								

42.	[REDACTED]								
43.	[REDACTED]					X			
44.	[REDACTED]								
45.	[REDACTED]								
46.	[REDACTED]								
47.	[REDACTED]								
48.	[REDACTED]						X		
49.	[REDACTED]						X		
50.	[REDACTED]							X	
51.	[REDACTED]							X	
52.	[REDACTED]							X	
53.	[REDACTED]								
54.	[REDACTED]							X	
55.	[REDACTED]								
56.	[REDACTED]								
57.	[REDACTED]								
58.	[REDACTED]								
59.	[REDACTED]								X
60.	[REDACTED]								
61.	[REDACTED]								X
62.	[REDACTED]								
63.	[REDACTED]								
64.	[REDACTED]	X	X	X	X	X	X	X	X
65.	[REDACTED]	X	X	X	X	X	X	X	X
66.	[REDACTED]	X	X	X	X	X	X	X	X
67.	[REDACTED]	X	X	X	X	X	X	X	X
68.	[REDACTED]	X	X	X	X	X	X	X	X
69.	[REDACTED]	X	X	X	X	X	X	X	X
70.	[REDACTED]	X	X	X	X	X	X	X	X
71.	[REDACTED]	X	X	X	X	X	X	X	X
72.	[REDACTED]	X	X	X	X	X	X	X	X
73.	[REDACTED]								
74.	[REDACTED]	X	X	X	X	X	X	X	X
75.	[REDACTED]	X	X	X	X	X	X	X	X
76.	[REDACTED]	X	X	X	X	X	X	X	X
77.	[REDACTED]	X	X	X	X	X	X	X	X
78.	[REDACTED]	X	X	X	X	X	X	X	X
79.	[REDACTED]	X	X	X	X	X	X	X	X
80.	[REDACTED]	X	X	X	X	X	X	X	X
81.	[REDACTED]	X	X	X	X	X	X	X	X
82.	[REDACTED]	X	X	X	X	X	X	X	X

<sup>1</sup> Mean importance ratings [REDACTED] (specifically, Goog-Ellis-00156160). [REDACTED] (specifically, Goog-Ellis-00156165). Mean ratings in this table are from [REDACTED], see Goog-Ellis-00156965 to Goog-Ellis-00157097.

<sup>2</sup> Knowledge, Skill, & Ability (KSA) definitions – see Goog-Ellis-00156965 to Goog-Ellis-00157097.

<sup>3</sup> Sample sizes from Goog-Ellis-00156837-8.

**Table 10:** [Redacted]

KSA <sup>2</sup>	Domain (with 10 or more raters)		
	[Redacted]	[Redacted]	[Redacted]
1. [Redacted]	X	X	X
2. [Redacted]	X	X	
3. [Redacted]			
4. [Redacted]	X	X	X
5. [Redacted]			
6. [Redacted]			
7. [Redacted]	X	X	X
8. [Redacted]			X
9. [Redacted]	X	X	X
10. [Redacted]	X	X	X
11. [Redacted]	X	X	X
12. [Redacted]	X	X	X
13. [Redacted]	X	X	X
14. [Redacted]	X	X	X
15. [Redacted]	X	X	X
16. [Redacted]	X	X	
17. [Redacted]	X	X	
18. [Redacted]	X	X	X
19. [Redacted]		X	
20. [Redacted]			
21. [Redacted]			
22. [Redacted]			
23. [Redacted]			
24. [Redacted]			
25. [Redacted]			
26. [Redacted]			
27. [Redacted]			
28. [Redacted]			
29. [Redacted]			
30. [Redacted]		X	
31. [Redacted]			
32. [Redacted]			
33. [Redacted]			
34. [Redacted]			
35. [Redacted]			
36. [Redacted]			
37. [Redacted]		X	
38. [Redacted]			
39. [Redacted]			
40. [Redacted]			
41. [Redacted]		X	
42. [Redacted]			
43. [Redacted]			X
44. [Redacted]			
45. [Redacted]			X

46.	[REDACTED]			
47.	[REDACTED]			
48.	[REDACTED]			
49.	[REDACTED]			
50.	[REDACTED]			
51.	[REDACTED]			
52.	[REDACTED]			
53.	[REDACTED]			
54.	[REDACTED]			
55.	[REDACTED]			
56.	[REDACTED]			
57.	[REDACTED]			
58.	[REDACTED]			
59.	[REDACTED]			
60.	[REDACTED]			
61.	[REDACTED]			
62.	[REDACTED]			
63.	[REDACTED]			
64.	[REDACTED]	X	X	X
65.	[REDACTED]	X	X	X
66.	[REDACTED]	X	X	X
67.	[REDACTED]	X	X	X
68.	[REDACTED]	X	X	X
69.	[REDACTED]	X	X	X
70.	[REDACTED]	X	X	X
71.	[REDACTED]	X	X	X
72.	[REDACTED]	X	X	X
73.	[REDACTED]			
74.	[REDACTED]	X	X	X
75.	[REDACTED]	X	X	X
76.	[REDACTED]	X	X	X
77.	[REDACTED]	X	X	X
78.	[REDACTED]	X	X	X
79.	[REDACTED]	X	X	X
80.	[REDACTED]	X	X	X
81.	[REDACTED]	X	X	X
82.	[REDACTED]	X	X	X

<sup>1</sup> Mean importance ratings [REDACTED] (specifically, Goog-Ellis-00156160). [REDACTED] (specifically, Goog-Ellis-00156165). Mean ratings in this table are from [REDACTED], see Goog-Ellis-00156965 to Goog-Ellis-00157097.

<sup>2</sup> Knowledge, Skill, & Ability (KSA) definitions – see Goog-Ellis-00156965 to Goog-Ellis-00157097.

<sup>3</sup> Sample sizes from Goog-Ellis-00156837-8.

**Table 11:**

KSA <sup>2</sup>	Domain (with 10 or more raters)	
	[Redacted]	[Redacted]
1. [Redacted]	X	X
2. [Redacted]		X
3. [Redacted]	X	X
4. [Redacted]	X	X
5. [Redacted]		
6. [Redacted]		
7. [Redacted]	X	X
8. [Redacted]		
9. [Redacted]	X	X
10. [Redacted]	X	X
11. [Redacted]	X	X
12. [Redacted]	X	X
13. [Redacted]	X	X
14. [Redacted]		X
15. [Redacted]		X
16. [Redacted]		X
17. [Redacted]	X	X
18. [Redacted]	X	X
19. [Redacted]		X
20. [Redacted]		
21. [Redacted]		
22. [Redacted]		
23. [Redacted]		
24. [Redacted]		
25. [Redacted]		
26. [Redacted]		
27. [Redacted]		
28. [Redacted]		
29. [Redacted]		
30. [Redacted]		X
31. [Redacted]		
32. [Redacted]		
33. [Redacted]		
34. [Redacted]		
35. [Redacted]		
36. [Redacted]		
37. [Redacted]		X
38. [Redacted]		
39. [Redacted]		
40. [Redacted]		
41. [Redacted]		
42. [Redacted]		
43. [Redacted]		
44. [Redacted]		
45. [Redacted]		

46.	[REDACTED]		
47.	[REDACTED]		
48.	[REDACTED]		
49.	[REDACTED]		
50.	[REDACTED]		
51.	[REDACTED]		
52.	[REDACTED]		
53.	[REDACTED]		
54.	[REDACTED]		
55.	[REDACTED]		
56.	[REDACTED]		
57.	[REDACTED]		
58.	[REDACTED]		
59.	[REDACTED]		
60.	[REDACTED]		
61.	[REDACTED]		
62.	[REDACTED]		
63.	[REDACTED]		
64.	[REDACTED]	X	X
65.	[REDACTED]	X	X
66.	[REDACTED]	X	X
67.	[REDACTED]	X	X
68.	[REDACTED]	X	X
69.	[REDACTED]	X	X
70.	[REDACTED]	X	X
71.	[REDACTED]	X	X
72.	[REDACTED]	X	X
73.	[REDACTED]	X	X
74.	[REDACTED]	X	X
75.	[REDACTED]	X	X
76.	[REDACTED]	X	X
77.	[REDACTED]	X	X
78.	[REDACTED]	X	X
79.	[REDACTED]	X	X
80.	[REDACTED]	X	X
81.	[REDACTED]	X	X
82.	[REDACTED]	X	X

<sup>1</sup> Mean importance ratings [REDACTED]  
[REDACTED]  
[REDACTED] t (specifically, Goog-Ellis-00156160). [REDACTED]  
[REDACTED]  
[REDACTED] (specifically, Goog-Ellis-00156165). Mean ratings in this table are from  
[REDACTED], see Goog-Ellis-00156965  
to Goog-Ellis-00157097.

<sup>2</sup> Knowledge, Skill, & Ability (KSA) definitions – see Goog-Ellis-00156965 to Goog-Ellis-00157097.

<sup>3</sup> Sample sizes from Goog-Ellis-00156837-8.

**Table 12: Similarity Index Values<sup>1</sup> for Google Software Engineers – Critical Behaviors (WABs):  
Separately by Level and Domain – [REDACTED]**

<b>Comparison</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>	<b>Level 7</b>	<b>Level 8</b>
All SWE vs. Generalist	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>.95</b>	<b>.85</b>	<b>.85</b>
All SWE vs. Embedded/Low Level	<b>.95</b>	<b>.94</b>	<b>.74</b>	<b>.95</b>		
All SWE vs. Web	<b>.75</b>	<b>.95</b>	<b>1.00</b>			
All SWE vs. Infrastructure	<b>1.00</b>	<b>.89</b>	<b>1.00</b>	<b>1.00</b>	<b>.80</b>	<b>1.00</b>
All SWE vs. Machine Learning	<b>.77</b>	<b>.80</b>	.70	.63		
All SWE vs. Mobile	<b>.94</b>	<b>1.00</b>	<b>1.00</b>	<b>.90</b>		
All SWE vs. Engineering Productivity	<b>.95</b>	<b>.83</b>	<b>.82</b>	<b>.88</b>		
All SWE vs. Privacy/Security		<b>.82</b>	<b>.95</b>	<b>.78</b>		

Note: Empty cells indicate fewer than 10 people provided ratings.

<sup>1</sup> Similarity Index Values range from .00 to 1.00; larger numbers indicate greater similarity. A threshold value of approximately .75 indicates jobs are substantially similar. See Section III, paragraph 20 (p. 12) this report for discussion of Similarity Index and its use to assess similarity of jobs. Similarity Index Values in bold indicate jobs are substantially similar.



**Table 13: Similarity Index Values<sup>1</sup> for Google Software Engineers –KSAs:  
Separately by Level and Domain – [REDACTED]**

<b>Comparison</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>	<b>Level 7</b>	<b>Level 8</b>
Generalists vs. Embedded/Low Level	<b>.94</b>	<b>.90</b>	<b>.90</b>			
Generalists vs. Web	<b>.80</b>	<b>.96</b>	<b>.94</b>			
Generalists vs. Infrastructure	<b>1.00</b>	<b>.96</b>	<b>.97</b>	<b>.94</b>	<b>.90</b>	
Generalists vs. Machine Learning	<b>.88</b>	<b>.88</b>	<b>.87</b>	<b>.91</b>		
Generalists vs. Mobile	<b>.94</b>	<b>.86</b>	<b>.96</b>			
Generalists vs. Engineering Productivity	<b>.94</b>	<b>.92</b>	<b>.94</b>			
Generalists vs. Privacy/Security			<b>.85</b>			

Note: Empty cells indicate fewer than 10 people provided ratings.

<sup>1</sup> Similarity Index Values range from .00 to 1.00; larger numbers indicate greater similarity. A threshold value of approximately .75 indicates jobs are substantially similar. See Section III, paragraph 20 (p. 12) this report for discussion of Similarity Index and its use to assess similarity of jobs. Similarity Index Values in bold indicate jobs are substantially similar.

**Appendix A:**  
**Curriculum Vitae of Dr. Leaetta M. Hough**



**Leaetta M. Hough, Ph.D.**

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**OVERALL IMPACT**

Dr. Hough is known for her independent thinking and work challenging “received wisdom” about what is and is not useful for predicting important outcomes in organizational settings. She is one of the world’s leaders in developing and implementing innovative staffing and performance management tools and systems that are aligned with organizational goals and are compatible with increased diversity in an organization’s work force. She designs new, non-traditional assessment strategies that show a solid payoff and mitigate adverse impact against protected classes. She is expert in designing, implementing, and evaluating systems that measure people, work and performance.

She is president and founder of the Dunnette Group, Ltd. and a past president of the Society for Industrial and Organizational Psychology (SIOP; a 10,000+ member organization of Industrial and Organizational Psychologists from around the world) and of FABBS (Federation of Associations in Behavioral and Brain Sciences consisting of 26 scientific societies and 64 University affiliates). She was a co-founder of Personnel Decisions Research Institute (PDRI), Minnesota Professionals for Psychology Applied to Work (MPPAW), and Invent Minnesota. She is a past board member of the American Composers Forum, the U.S. Delegation for Friendship among Women around the World, Personnel Decisions, Inc., A Toast to Bread, and is currently an officer of the Society for Industrial and Organizational Psychology (SIOP) Foundation, FABBS (Federation of Associations in Behavioral and Brain Sciences, and a member of Regions Hospital Foundation.

Dr. Hough received the Society for Industrial and Organizational Psychology (SIOP) Distinguished Professional Contributions award (a life-time career award generally awarded annually to one person) as well as its Scientist-Practitioner Presidential Recognition award. She is a fellow of four professional organizations: Association for Psychological Science (APS), American Psychological Association (APA), APA’s Division 14 (SIOP), and APA’s Division 5 (Division of Evaluation, Measurement, and Statistics). She received FABBS’ “In Honor of” award acknowledging her contributions to the behavioral and brain sciences. She received a Ph.D. from the University of Minnesota Psychology Department in 1981 and was the recipient of its 2020 Distinguished Alumni Award.

Dr. Hough has developed new methods of work analysis, performance measurement systems, selection methods, and personnel coaching, training, and development programs and developed hundreds of assessment and performance measures. Many of these methods (such as the *Accomplishment Record*) are innovative, non-traditional assessment strategies that have shown excellent validities with minimal adverse impact against protected groups.

One of Dr. Hough's most important accomplishments has been her role in resurrecting personality and temperament measures as important predictors of such critical areas of job performance as effort, leadership, innovation, persistence, accountability, engagement, and retention. She and her colleagues were the first to summarize criterion-related validities of personality scales according to both predictor and criterion constructs revealing replicable relationships between personality constructs and theoretically-relevant outcomes. She developed a nomological-web clustering approach to build a better taxonomic structure of personality variables for applied psychology and has, along with her colleagues, proposed working taxons and strategies for using the taxons to produce more useful information than other models of personality. She continues to contribute to the literature about the importance of a construct-oriented approach to predicting work-related outcomes.

She has also made important contributions to the profession through her volunteer work in SIOP. For example, as president of the Society, she initiated in 2005 the *Leading Edge Consortium* (LEC), structuring it to be the annual forum for practice and science to highlight advances in important topical areas for the field of I-O. She also was instrumental in founding and shaping the *I-O Psychology Perspectives on Science and Practice* (IOP) journal into a venue for discussing I-O issues, highlighting contributions from both science and practice. Both LEC and IOP continue to have significant influence in the field of I-O. In addition, as president, she led a strategic planning process and articulated the vision, mission, and values that still guide and focus the Society's activities.

Hough has been a very active contributor to the scientific and professional literature. She has published dozens of articles in refereed journals, book chapters, and reviews. Noteworthy has been her role as co-editor of the four-volume *Handbook of Industrial and Organizational Psychology*, lead author of the personnel selection chapter for the *Annual Review of Psychology*, the biodata chapter in the *Handbook of Workplace Assessment: Selecting and Developing Talent*, and personality chapters in the *International Handbook of Work & Organizational Psychology*, the *Handbook of Personnel Selection*, both editions of the I-O Psychology volume of the *Comprehensive Handbook of*, and the *APA Handbook on Testing and Assessment*.

Three of her articles were reprinted in *Employee Selection and Performance Management*, a book consisting of articles that I-O psychologists identified as the seminal publications in the last 100 years. Her work has helped shape the science and practice of I-O Psychology.

## **EDUCATION**

- 1965** Bagley High School, Bagley, MN – Valedictorian; National Honor Society; State Speech Alternate (Extemporaneous Poetry); “Outstanding Vocal Performance” (Tristate – Minnesota, Iowa, Wisconsin)
- 1970** University of Minnesota, Minneapolis, MN  
*BA*, Sociology/Economics – Summa Cum Laude; Phi Beta Kappa (1969)
- 1973** University of Minnesota, Minneapolis  
*MA*, Psychology
- 1981** University of Minnesota, Minneapolis  
*Ph.D.*, Major: Industrial-Organizational Psychology  
*Minor*: Differential Psychology, Measurement, Statistics, and Personality

## **PROFESSIONAL WORK HISTORY**

<b>1996 to Present</b>	<b>The Dunnette Group, Ltd.</b> Founder & President
<b>1982 to Present</b>	<b>Department of Psychology (I-O) University of Minnesota</b> Adjunct Appointment
<b>2013 to 2016</b>	<b>HirePayoff</b> Co-founder & Chief Science Officer
<b>1975 to 1995</b>	<b>Personnel Decisions Research Institutes, Minneapolis</b> Co-founder, Chief Financial Officer, & Research Psychologist Executive Vice President Vice President
<b>1971 to 1975</b>	<b>Marvin D. Dunnette</b> Editorial Assistant for Dunnette's first <i>Handbook of I-O Psychology</i>
<b>1973 to 1974</b>	<b>University of Minnesota, Minneapolis, Department of Psychology</b> Teaching Assistant
<b>1970 to 1973</b>	<b>Personnel Decisions, Inc.</b> Research Assistant
<b>1969 to 1970</b>	<b>University of Minnesota, Minneapolis</b> Administrative Fellow for Professors John Campbell and Marvin Dunnette

## **LEADERSHIP ACTIVITIES & HONORS**

- **SIOP (Society for Industrial & Organizational Psychology)**
  - Scientist-Practitioner Presidential Recognition Award, 2019
  - Distinguished Professional Contributions Award (life-time achievement award), 2016
  - Past President, 2006
  - President, 2005
  - President-elect, 2004
  - Chair, General; *SIOP Leading Edge Consortium* – Leadership at the Top: Selection, Globalization, and Ethics of Executive Talent, 2005
  - Chair, General; *SIOP Leading Edge Consortium* – Enabling Innovation in Organizations, 2007
  - Chair, Election Committee, 2006
  - Chair, Awards Committee, 2011 to 2013
  - Founded SIOP's KARE (Katrina Aid & Relief Effort), 2005; State of Louisiana Senate passed resolution honoring SIOP for its contributions
  - Chair, Fellowship Committee, 2002 to 2004
  - Member, Fellowship Committee, 1994 to 1997
  - Member, Awards Committee, 1991
  - SIOP Police Initiative Committee, 2015 to 2018
  - *SIOP Principles* – Committee member, 2015 Revision
  - *SIOP Principles* – Advisory Panel member, 2003 Revision

- Distinguished Case Review Panel, 1995 to 1996, *Ethical Practice of Psychology of Organizations*, Lowman (Ed.), 1998
- Member, Program Review Committee, 1996
- Fellow, 1995
- Member, Scientific Affairs Committee, 1990 to 1991
- **SIOP Foundation**
  - Treasurer, board member, 2017 to present
  - Trustee/board member, 2012 to present
  - Chair, SIOP Foundation Awards Task Force, 2018 to 2019
  - Co-chair, SIOP Foundation Awards Implementation Task Force, ongoing
- **APA (American Psychological Association)**
  - Fellow, 1995
  - Fellow, APA Division 5, Evaluation, Measurement, & Statistics
  - Fellow, APA Division 14, Society for Industrial and Organizational Psychology (SIOP)
  - APA Committee on Psychological Tests and Assessment, 1996 to 2000
  - APA Test User Qualifications Task Force, 1998 to 2000
  - Member, APA Amicus Brief Committee - Soroka v. Target, 1992
  - Chair, Fellowship Committee, APA Division 5 (Evaluation, Measurement, & Statistics), 2004 to 2005
  - Member, Fellowship Committee, APA Division 5 (Evaluation, Measurement, & Statistics), 2003 to 2004
  - Member, APA Division 19, Military Psychology
- **FABBS (Federation of Associations in Behavioral and Brain Sciences)** – Federation of 26 scientific societies and 64 University affiliates
  - Board Member; Treasurer, 2018 to present
  - Received “In Honor of” award recognizing contributions to the behavioral and brain sciences, 2015
  - Past President, 2010 to 2011
  - President, 2008 to 2009
  - President-elect, 2006 to 2007
  - Board Member, FABBS Foundation, 2005 to 2012
- **APS (Association for Psychological Science)**
  - Charter Member
  - Fellow, 1995
- **University of Minnesota**
  - Department of Psychology’s 2020 Distinguished Alumni Award
  - Phi Beta Kappa, 1969
- **National Academy of Sciences**
  - Committee member, Committee on Measuring Human Capabilities: Performance Potential of Individuals and Collectives
  - Book published: National Research Council. (2015). *Measuring Human Capabilities: An Agenda for Basic Research on the Assessment of Individual and Group*

*Performance Potential for Military Accession.* Lead author (with Kyllonen & Oswald) of chapter entitled “Adaptability and Inventiveness”

- **Other Professional Organizations**
  - Summit Group, 2000 to present
  - California Psychological Association’s Award for Contributions to Industrial/Organizational Psychology, 2001
  - Minnesota Professionals for Psychology Applied to Work (MPPAW)
    - Co-founder, 1998
    - Steering committee, 1998-1999
    - Member, 1998 to present
  
- **Federal Agencies/Departments and Other Associations**
  - Member, Advisory Board, Association of American Medical Colleges (AAMC), 2012 to 2014
  - Member, Advisory Board (Board of Examiners), U. S. Department of State, 2007 to 2012
  - Member, Oversight Committee – development of selection standards for entry-level firefighter position, New York City; U.S. Department of Justice, 2010 to 2013
  - Member, Oversight Committee – development of selection standards for entry-level police officer position, Nassau County, New York; U.S. Department of Justice, 1992 to 1995; 1997
  - Member, Advisory Board, U.S. Department Justice, 2000
  - National Skill Standards Board (NSSB) Technical Advisory Group & Endorsement Review Panel, 1999 to 2003
  - National Skill Standards Board (NSSB) Expert Panel on Assessment, 1999
  
- **Other For-Profit & Not-For-Profit Organizations**
  - Director, Regions Hospital Foundation, 2015 to present
    - Executive Committee, 2017 to present
    - Chair, Nominating Committee, 2015 to present
  - Co-founder & Director, Invent Minnesota, 2007 to 2016
  - Co-founder & Director, Clarence Johnston Society, 2011 to present
  - Member, Minnesota Women’s Economic Roundtable, 1991 to present
  - American Composers Forum, 1997 to 2013
    - Director & Vice President, 2011 to 2013
    - Executive Committee member, 2011 to 2013
    - Chair of Governance Committee, 2007 to 2011
    - Chair of Personnel Committee, 1997 to 2004
    - Board member, 1997 to 2013
  - Officer, U. S. Delegation for Friendship Among Women Around the World, 1990 to 2011
    - Cuba, 2002
    - Western Samoa and Tonga, 1995
    - Albania and Hungary, 1993
    - Yemen, Oman, and Morocco, 1990
  - Director & Officer, A Toast to Bread, Ltd., 1988 to 2003



- Director, Personnel Decisions International, 1994 to 1998
- Director & Officer, Personnel Decisions Research Institutes, Inc., 1975 to 1995
- **Journals** – Associate Editor, Consulting Editor, Review Board, Reviewer
  - *Journal of Applied Psychology*, Consulting Editor, 1994 to 2015
  - *Industrial and Organizational Psychology: Perspectives on Science and Practice*, Editorial Review Board, 2008 to present
  - *International Journal of Selection and Assessment*, Editorial Review Board, 2001 to 2006
  - *Journal of Business and Psychology*, Editorial Review Board, 2012 to present
  - *Journal of Organizational Behavior*, Associate Editor, 1991 to 1999
  - *Organizational Behavior and Human Decision Processes*, Editorial Review Board, 1998 to 2005
  - *Human Performance*, Occasional Reviewer
  - *Journal of Counseling Psychology*, Occasional Reviewer
  - *Journal of Personality*, Occasional Reviewer
  - *Personnel Psychology*, Occasional Reviewer
  - *Psychological Bulletin*, Occasional Reviewer

## **CONSULTING PROJECTS**

### ***Integrated HRM Systems, Organizational Change, Organizational Restructuring Projects***

- Directed project involving entire NYNEX Family of Companies (now Verizon) during its restructuring efforts.
  - Developed competency model that addressed needed changes in corporate structure and culture.
  - Designed integrated HRM systems including selection, performance appraisal, training and development, and succession planning for all management and executive levels in all functional areas that reinforced needed change and aligned with organizational goals.
  - Involved survey development and administration, data analysis, system design, and implementation.
  - Time period: Early 1990s.
- Directed development of organization-wide competency model & integrated HRM systems and tools for Microsoft.
  - Identified organization-wide success factors as well as unit-specific areas of competence, roles, and responsibilities.
  - Developed integrated system of tools for recruitment, selection, project staffing, performance appraisal, 360° feedback, training, development, career planning, and promotion.
  - Design emphasized flexibility and adaptability, enabling performance management activities to continually align and reinforce organizational goals.
  - Time Period: Mid and late 1990s.

- Developed competency model and integrated HRM systems and tools for all SONY Corporation of America managers and executives.
  - Identified new behaviors and skills needed for SONY to achieve its vision of delivering electronic services through a then newly-emerging technology.
  - Identified organization-wide success factors.
  - Identified unit-specific technical competencies.
  - Included performance evaluation, 360° feedback, training guides, and career planning and development.
  - Required working with SONY information technology (IT) specialists and other contractors to design features and functionality of an intranet delivery system.
  - Time Period: Late 1990s.
- Developed company-wide competency model and performance appraisal tool relevant for entry-level through lower-level management for Thomson Corporation.
  - Incorporated Thomson's strategic initiative in the area of e-commerce.
  - Integrated all HRM systems in and for a frequently changing environment.
  - Highlighted needed new skills and behaviors.
  - Time Period: Late 1990s.
- Developed tools for organizational restructuring for Electric Power Research Institute (EPRI).
  - Identified skills, competencies, and knowledges needed in the new work roles.
  - Developed an *Accomplishment Record* and two self-assessment tools to measure the level of competence of each candidate (i.e., employee) in each of the required skills and competencies.
  - Worked with another contractor to deliver the tools via the company intranet.
  - Time Period: Mid 1990s.
- Developed and implemented a practical and valid promotion and performance management system for the U.S. General Accounting Office (GAO) administrative, professional, management, support, and skilled trade positions.
  - 74 different job series characterized by:
    - Multiple job families (from skilled trade positions such as electricians, locksmiths, and forklift operators to professional positions such as psychologists, editors, and librarians).
    - Diverse job responsibilities within job series (positions in each series range from entry level to middle management).
    - Geographic diversity (locations included Europe and Asia).
  - System addressed:
    - Great diversity of work.
    - Validity, regardless of the small number of incumbents in some job series.
    - Validity and reliability, in spite of changing work and organizational structure.
    - Validity and reliability of performance ratings for compensation, training, and promotion decisions.
  - Project team developed a hybrid validation strategy that
    - Integrated the theoretical underpinnings of both content and component (synthetic) validation.

- Ensured the job-relatedness of the promotion and performance management system for positions in a diverse and changing community.
  - Considerable organization, coordination, communication, innovative problem solving, and technical expertise were required.
  - Time period: Late 1980s.
- Developed and implemented performance management system for U.S. General Accounting Office (GAO) lawyers.
  - Included development and implementation of selection, performance appraisal, promotion, training and development, and performance-based compensation systems.
  - Involved task and job analysis, behavioral analysis, organizational analysis, training needs analysis, systems development, and documentation.
  - Required significant and sensitive discussions with senior executive service (SES) level managerial attorneys to ensure the acceptability, practicality, and utility of the entire performance management system.
  - Time period: Mid 1980s.
- Developed methodology and directed project team that identified managerial competencies and validated the components of the U.S. Army Civilian Career Evaluation System (ACCES) and Training, Education, and Development System (ACTEDS) for all civilian manager positions in the supply, materiel maintenance, and transportation management career programs.
  - Included designing centralized, computerized evaluation and referral system for staffing and training.
  - Resulted in centralized, computerized evaluation and referral system for:
    - Selecting and promoting civilian managers.
    - Enhancing relevancy of training provided to the Army's civilian work force.
  - Procedures (both technical and administrative) and analyses the team developed were used as the model for developing content valid, legally defensible selection, promotion, and training components for other Army civilian career programs.
  - Required considerable technical and managerial skill.
    - Communication and coordination among the participants, their top management, and the research staff were critically important.
    - Project team was sizable, geographically dispersed, and consisted of research staff from four different organizations.
    - Job incumbents were located worldwide and numbered several thousand.
    - Job analysis included empirically identifying job groupings (26).
  - Time period: Mid 1980s.

### ***Identification of Future Skill Sets/Competencies***

- Member of National Academy of Sciences (NAS) National Research Council committee established to address current and future state-of-the-science strategies for measuring individual capability and collective capacity. Committee charged with going beyond tests of cognitive ability and personality to identify new and unique methods for measuring individual capabilities that predict individual and collective performance.

- Lead author of the chapter on measuring characteristics predictive of creativity and innovation.
- Time period: Early and mid-2010s.

### ***Expatriate/International Consulting Projects***

- Developed and validated *Global Mindset Inventory* for Thunderbird School of Global Management's Najafi Global Mindset Institute.
  - Refined the construct "Global Mindset."
  - Conceptualized as the ability to influence individuals, groups, organizations, and systems that are unlike those of the leader, "Global Mindset" consists of three broad dimensions: *Intellectual Capital*, *Psychological Capital*, and *Social Capital*.
  - Hough and her colleagues developed an item pool and analyzed four major data sets to derive scales to measure these broader dimensions.
  - Project team analyzed performance data (criteria) against which to criterion validate the Global Mindset scales, providing additional evidence of the nomological net and construct validity of the scales.
  - Thunderbird School of Global Management built a Global Mindset Institute, renamed Najafi Global Mindset Institute, to educate and consult with industry using the concepts defined and measured by the *Global Mindset Inventory*.
  - Time Period: Late 2000s (first decade, late).
- Directed project for AT&T that developed valid predictors of successful job performance and personal adjustment of U.S. managers and professionals living and working abroad.
  - Identified 11 factors contributing to an individual's adjustment and success both on and off the job.
  - Developed strategies and items ("Foreign Assignment Career Decisions Inventory", interview, and rating and scoring guidelines) to measure the 11 individual difference variables.
  - Tools were used to:
    - Identify persons likely to perform effectively abroad;
    - Identify persons likely to adjust to living abroad, and
    - Counsel persons about difficulties they are likely to encounter while working abroad.
  - Time period: Late 1980s.

### ***Personnel Selection, Credentialing, Promotion, & Performance Evaluation Projects***

- Member of expert advisory committee to the Association of American Medical Colleges (AAMC).
  - Charged with helping AAMC respond to the changing medical practice model of an individual physician practicing within an often fragmented, hierarchical structure towards a more team-based, collaborative approach to providing health care.
  - Investigated strategies (such as situational judgment inventories and accomplishment record inventories) and constructs (such as teamwork and interpersonal effectiveness) to predict medical training performance and actual physician effectiveness better than measures of cognitive ability (i.e., MCAT) alone.

- Time period: Early 2010s.
- Worked with Corporate Executive Board (CEB).
  - Developed valid cognitive, situational judgment, and non-cognitive predictors of “Challenger” sales behavior.
  - Developed tools for identifying developmental needs and providing feedback for sales personnel.
  - Time period: Early 2010s.
- Worked with North Central Ministry Development Center and Midwest Ministry Development to identify ministerial competencies (such as resiliency, self-management, conflict management/resolution, problem solving, communication, relationship building, and self-awareness, and leadership) that could be used to evaluate ministerial effectiveness in religious communities. Time period: Early 2010s.
- Worked with Boalt School of Law (project directors Marjorie Shultz and Shelly Zedeck) to successfully define, measure, and predict law school performance and successful lawyering with validity similar to college grades and the Law School Admission Test (LSAT) but with less adverse impact using:
  - Situational judgment inventory,
  - Personality scales, and an
  - Accomplishment record/experience inventory.
  - Time period: Entire first decade 2000s.
- Worked with Golden Gate University School of Law (in conjunction with Marjorie Shultz) to confirm the fairness for protected groups of law school applicants of the Accomplishment and Experience Record (AER) developed in the Boalt School of Law project. Time period: Early 2010s.
- Defined the core competencies of community-oriented police behavior and developed a prototype test battery to predict effective community-oriented policing. Work performed for Community Policing Consortium, Office of Community Oriented Policing Services (U.S. Department of Justice).
  - Identified relevant experts and gathered extensive information (published and unpublished).
  - Summarized information to define core competencies of effective community-oriented policing.
  - Identified and evaluated existing (commercially-available) tests to identify tests that measure the core competencies.
  - Recommended a set of tests that capture the essence of hiring in the spirit of service.
  - Time period: Early 2000s (first decade, early).
- Conducted “Hiring in the Spirit of Service” demonstration project designed to change public policy and policing activities (crime prevention and law enforcement) through proactive involvement with citizens and neighborhoods.
  - Involved working with the Community Policing Consortium (CPS), a partnership of five leading police organizations in the United States, i.e., International Association of Chiefs of Police (IACP), National Organization of Black Law Enforcement

- Executives (NOBLE), National Sheriffs' Association (NSA), and Police Executive Research Forum (PERF), and the Police Foundation (PF).
  - Included evaluation and recommendations for improving the hiring practices and performance management practices of King County Sheriff's Office (KCSO).
  - Advanced the understanding and practice of community policing.
  - Time period: Early 2000s (first decade, early).
- Worked with Caliber Associates and OPM to define, measure, and predict (using fair and valid measures) effectiveness of administrative law judges (ALJs).
  - Included an *Accomplishment Record*, rating scales, and reference check (verification of accomplishments).
  - Included a structured interview and rating scales.
  - Time period: Mid 2000s (first decade, mid).
- Member of 3-person, expert advisory panel to National Skill Standards Board (NSSB) which was created in 1994 when Congress enacted the National Skill Standards Act.
  - NSSB was charged with developing a national, skill standards and credentialing system that industries throughout the U.S. would endorse and use.
  - U.S. economy was segmented into 15 industry clusters (e.g., manufacturing, sales and service, education and training, information and communication technology, and so forth).
  - Expert advisory panel oversaw development of unified skill standards for work performance throughout the U.S. economy, ensuring that the industry coalitions' work products accomplished the goals of the National Skills Standards Act.
  - Skill standards needed to provide:
    - Linkages and paths to training and curriculum development.
    - Diagnostic and continuous improvement feedback to participants.
    - Information about types and levels of skills, knowledge, and performance valued and required in the workplace.
    - Foundation for development of valid measurement systems.
  - Credentialing system for each industry coalition had to be:
    - Valid and fair for all workers and potential workers.
    - Legally defensible.
  - Time period: Late 1990s and early 2000s.
- Worked with NASA and colleagues at Michigan State University to identify valid predictors of astronaut team cohesiveness and effectiveness for long-duration missions to outer space. Time period: late 1990s.
- Member of 3-person oversight committee that provided expert technical advice and direction to GTE Corporation (now Verizon) and Personnel Decisions Research Institutes in their development of a computerized, criterion-valid selection system for all GTE non-management employees. Time period: Late 1990s and early 2000s.
- Directed PDRI's development and implementation of the *Universal Test Battery (UTB)* for Bell Atlantic (now Verizon) – first fully automated criterion-valid personnel selection and placement system in the U.S. The computer-administered *UTB* measured core skills,

abilities, temperament characteristics, and interests important for success for all non-management positions in the company. Accomplishments included:

- Development of a single job description instrument appropriate for the entire spectrum of 101 specific non-exempt jobs.
  - Design of an interpretive strategy for use by lay persons in summarizing hundreds of job elements according to eleven job families.
  - Development of a practical, empirically-based job family structure.
  - Development of job specific performance appraisal forms for all 101 jobs.
  - Development of measures (including parallel forms) of ability, skill, and personality characteristics required in the different job families.
  - Development and implementation of software to manage the administration, scoring, and reporting of *UTB* results.
  - Coordination and management of all data collection, analyses, and interpretation for job analysis, predictor measures, criterion constructs, and criterion-related validities, and fairness analyses for all job families.
  - Development and operational implementation for on-going data base management procedures.
  - Training of company employees in how to use and manage the system.
  - On-schedule implementation in spite of severe time constraints; the time span from beginning of validation study to full scale, company-wide implementation was sixteen months.
  - Time Period: Early 1990s.
- Worked with the Navy Personnel Research and Development Center (NPRDC) in a joint services effort to incorporate the new Army personality scales and tests developed by NPRDC into the U.S. Armed Services selection system.
    - Developed strategies to detect and deter intentional distortion of self-report measures.
    - Time period: Early 1990s.
- Headed the “non-cognitive” project team of Project A (a 3-organization consortium project funded by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) devoted to developing predictors for enlisted personnel in the Army).
    - Conducted comprehensive literature review of criterion-related validities of personality, interest, biodata, and physical fitness measures for predicting work-related criteria.
    - Aggregated data across personality measures within constructs providing first replicable evidence that criterion-related validities, when summarized within personality constructs, correlated with appropriate work-related criterion constructs.
    - Developed psychometrically sound measures of non-cognitive variables.
    - Conducted experimental and field studies of effects of intentional response distortion to items in the personality inventory on criterion-related validity.
    - Others demonstrated in a criterion-related validity involving thousands of soldiers that personality variables predict theoretically-related, will-do criteria (e.g., effort, dependability, and personal discipline) better than cognitive ability measures.
    - Time period: Entire 1980s.

- Developed performance appraisal (behavior summary) rating scales for Army Brigade Commander and Program Manager positions.
  - Used critical incident methodology to analyze general-level positions.
  - Army general officers finalized the job dimensions and rated the effectiveness level of each critical incident.
  - Resulted in behavior summary performance appraisal rating scales for Army Brigade Commander and Program Manager positions.
  - Time period: Mid 1980s.
- Developed prototype selection and behavioral reliability monitoring program for sensitive duty positions for the Defense Nuclear Agency.
  - Involved extensive literature review and site visits to learn how government and private organizations with sensitive duty positions develop and administer behavioral reliability programs.
  - Involved interviews with personnel very knowledgeable about reliability programs for such positions as undercover FBI agents, U.S. Marine Corps embassy guards, L.A. SWAT team members, Olympic Games guards, nuclear power plant operators and guards.
  - Resulted in a practical and valid prototype selection and monitoring system.
  - Time period: Early and mid-1980s.
- Developed and content-validated job knowledge promotion exam for Library of Congress police force sergeant position.
  - Identified needed knowledges.
  - Developed content-valid measure of job knowledges.
  - Combined content-valid job knowledge measure and criterion-valid overall predictor to form content-valid composite to predict overall sergeant performance.
  - Time period: Mid 1980s.
- Developed and criterion-validated innovative selection and performance management system for Library of Congress police force – private, sergeant, lieutenant, captain, and civilian head.
  - Conducted job analysis.
  - Developed biodata-task scales, personality scales, interest scales, and behavioral interview protocol and rating scales.
  - Developed content valid performance rating system.
  - New selection system – fair and criterion-valid with little or no adverse impact.
  - Time period: Early 1980s.
- Developed and validated innovative selection and performance management systems for all professional positions (included reference, subject cataloger, descriptive cataloger, acquisition librarians, as well as lawyers, economists, foreign affair analysts, social science analysts, technical information analysts, computer analysts, copyright catalogers, copyright examiners, information specialists, and supervisors) at the Library of Congress.
  - Candidates applied from sites around the world, making traditional cognitive ability testing (at that time) impossible.
  - Developed *Accomplishment Record* inventory and rating scales, biodata inventory, and interests and opinions inventory – “alternative” selection inventories.
  - Developed content valid performance rating system tailored to each profession.



- New selection system – fair and criterion-valid with little or no adverse impact.
- Time period: Early 1980s.
- Evaluated criterion-related validity of existing Library of Congress police force selection system.
  - Determined actual system.
  - Gathered predictor and criterion data.
  - Found little or no criterion-related validity.
  - Time period: Early 1980s.
- Developed and validated innovative selection and performance management systems for all professional positions (included lawyers, economists, accountants, managers, research analysts, computer specialists) at the Federal Trade Commission.
  - Professionals objected to traditional psychological (cognitive) testing.
  - Developed *Accomplishment Record* inventory and rating scales, biodata inventory, interest inventory, task and experience inventory, and personality inventory – “alternative” selection inventories.
  - Developed content valid performance rating system tailored to each profession.
  - New selection system – fair and criterion-valid with little or no adverse impact.
  - Time period: Late 1970s.
- Developed new or introduced innovations to existing measurement methods that often involved difficult-to-measure characteristics and hard-to-predict behavior in a wide variety of settings. Examples of measurement methods developed include scored (weighted) application blanks, biodata inventories, accomplishment record inventories, personality inventories, interest inventories, situational judgment inventories, prior experiences inventories, structured interviews and rating scales, task experience inventories, cognitive ability tests, skills tests, work samples, simulations, and performance rating scales. Time period: career.

***Court-involved Selection/Promotion/Measurement Projects, Cases, & Consent Decrees – Advisor, Litigation Support, & Expert Witness***

- Expert witness for plaintiff.
  - Included expert witness report and deposition to date. [Confidential]
  - Case: Jewett, et al. v. Oracle America, Inc.
  - Issue: Pay equity for women, class action.
  - Time period: Ongoing.
- Expert witness for plaintiff.
  - Included expert witness report to date. [Confidential]
  - Case: Kelly Ellis, et al. v. Google, LLC.
  - Issue: Pay equity for women, class action.
  - Time period: Ongoing.
- Expert witness for plaintiff.
  - Included expert witness report, deposition, and testimony in court.

- Provided opinion regarding “alternative” tests – their validity, adverse impact, and availability.
- Police promotion.
- Case: Bruce Smith, et al. v. City of Boston
- EEO discrimination; minorities.
- Judge stated: This is a profoundly important case, one that evokes the finest of our nation’s aspirations to give everyone equal opportunity and a fair shot.”
- Time period: Mid 2010s.
- Expert witness for plaintiff.
  - Included expert witness report and deposition. [Confidential]
  - Provided opinion regarding employment practices used in implementing Section 19 of the FDIA (terminations resulting from failing a background investigation).
  - Provided opinion regarding “alternative” practices.
  - Case: Cara Williams, et al., v. Wells Fargo, N.A.
  - EEO discrimination; minorities.
  - Time period: Mid 2010s.
- Expert for U.S. Department of Justice.
  - Worked with opposing experts, monitoring their work to develop a fair and valid selection system that had less adverse impact and was legally defensible.
  - Entry-level police.
  - Case: U.S. v. Lubbock Texas Police Department.
  - EEO discrimination; Latinos.
  - Time period: Mid 2010s.
- Expert advisor to City of Pittsburgh.
  - Overseeing E.B. Jacobs’ revision of entry-level police selection system.
  - Overseeing and monitoring implementation.
  - Case: James M. Foster, Sharp, et al. v. City of Pittsburgh – settlement.
  - EEO discrimination; minorities.
  - Time period: Mid 2010s.
- Neutral expert for the City of Pittsburgh, the American Civil Liberties Union – Pennsylvania (ACLU-PA), and Feinstein Dole Payne & Kravec (FDPK) law firm.
  - Evaluated City of Pittsburgh’s entry-level police selection system.
  - Required interviewing police officers and their supervisors and the highest-level officers, civil servants, elected officials, and community representatives – gaining their trust and confidence that Hough was/is neutral (unbiased, objective) and knowledgeable (an expert) in matters related to personnel selection and how to reduce adverse impact against protected classes.
  - Required diplomacy in dealing with parties involved in a highly charged, highly visible law suit.
  - Recommended changes to increase validity and reduce adverse impact against minorities that were acceptable to all parties.
  - Law suit settled; settlement required that Hough continue to be the neutral expert overseeing the revision and implementation of a new selection system.

- Case: James M. Foster, Sharp, et al. v. City of Pittsburgh.
  - EEO discrimination; minorities.
  - Time period: Early to mid-2010s.
- Reviewed and evaluated validity studies and selection practices for conformance to legal and professional guidelines and standards for [Confidential] County in [Confidential]. Time period: Mid 2010s.
- Expert witness for U.S. Department of Justice. Member of court-ordered expert team to develop new, valid, entry-level selection system for the City of New York fire department (NYFD).
  - City had hired virtually all white, male firefighters after the loss of a large number of firefighters during the terrorist attack on the twin towers of the World Trade Center.
  - Worked with court-appointed master, Psychological Services, Inc. (PSI) experts, Vulcan Society's (Black firefighter union) expert, other U.S. Department of Justice experts, and NYC representatives to develop and validate new selection system.
  - Significant technical and interpersonal skill required to deal with variety of stakeholders and experts in highly-charged situation.
  - Case: United States, Vulcan Society, and Candido Nunez, et al. v. City of New York, et al.
  - EEO discrimination; minorities.
  - Time period: Early 2000s (first decade and early 2010s).
- Expert witness for U.S. Department of Justice. Member of court-ordered expert team to develop new, valid, entry-level selection system for Nassau County Police Department (NCPD).
  - Nassau County had been involved in years of litigation and had conducted three previous criterion-related studies that they had been unsuccessful in defending.
  - Worked cooperatively with other experts to develop a fair and valid selection system that had less adverse impact and was legally defensible.
  - Case: United States, Nassau County Guardians Assoc., Inc., Nassau County Police Hispanic Society, Terrence Clyburn, et al., and Anibal Aponte v. Nassau County, and the Nassau County Police Department.
  - EEO discrimination; minorities.
  - Time period: Early and mid-1990s.
- Expert for the U.S. Department of Justice; included writing expert witness reports and rebuttals, providing under-oath testimony in depositions and in court. Additional cases:
  - United States v. Jacksonville Fire & Rescue Department, Jacksonville, FL.
    - Promotion to Firefighter Engineer, Lieutenant, Captain, and District Chief positions.
    - EEO discrimination case, African Americans.
    - Settled 2017.
    - Time period: Mid 2010s.
  - United States v. City of Erie, PA.
    - Entry-level police.
    - EEO discrimination case; minorities.

- Time period: Early and mid-2000s (first decade, early and mid).
  - United States v. City of Los Angeles, CA.
    - Entry-level fire.
    - EEO discrimination case, minorities.
    - Time period: Early 2000s (first decade, early).
  - United States v. City of Garland, TX.
    - Entry-level police and fire.
    - EEO discrimination case; minorities.
    - Time period: Late 1990s and early 2000s.
  - United States v. City of Belleville, IL.
    - Entry-level police and fire.
    - EEO discrimination case; minorities.
    - Time period: Mid and late 1990s.
  - United States v. City of Torrance, CA.
    - Entry-level police and fire.
    - EEO discrimination case; minorities.
    - Time period: Mid 1990s.
  - United States v. City of Atlanta, GA.
    - Entry-level fire.
    - EEO discrimination case; minorities.
    - Time period: Early 1990s.
- Reviewed and evaluated documentation and validation studies submitted to Office of Federal Contract Compliance Programs (OFCCP) of the Department of Labor (DOL) for compliance with professional and legal guidelines and principles:
  - By Procter & Gamble (P&G) in support of its personnel practices for a variety of jobs.
  - By Kimberly-Clark in support of its personnel selection practices for plant technician jobs.
  - Time period: Mid 2000s (first decade, mid).
- Advisor to Caliber, Associates project team in their activities to develop selection procedures for five classes of jobs in the Waste Water Treatment job family for the Personnel Board of Jefferson County of Alabama, which was involved in a long-standing consent decree and court order.
  - Included job analysis, test development, and validation studies (content validity and transportability methodologies).
  - Required significant technical and interpersonal skill to deal constructively with teams of lawyers and several sets of experts with different and often opposing interests.
  - Time period: Early and mid-2000s (first decade, early and mid).
- Expert consultant for plaintiff regarding validity of existing selection system and validity and availability of “alternative” tests.
  - Entry-level fire.
  - Case: Lewis v. City of Chicago.
  - EEO discrimination; minorities.

- Time period: Early 2000s (first decade, early).
- Expert witness for plaintiff (Douglas A. Hedin law firm).
  - Case: Karen Feist v. Nash Finch Company.
  - EEO discrimination; gender; promotion.
  - Time period: Mid 1990s.
- Developed content-valid, fair, panel interview to select entry-level firefighters for Minneapolis Fire Department that was acceptable to the fire department, plaintiff class, and a diverse constituency.
  - Developed interview questions and rating scales sensitive to the diverse cultural backgrounds of applicants.
  - Actual and perceived fairness – critically important.
  - Worked successfully with all parties – Fire Department, Office of the City Attorney, attorney for the plaintiff class, expert for the plaintiff class, Civil Rights Commission representatives, a steering committee composed of minorities and women, and Minneapolis City Council – to resolve many polarized and politicized issues.
  - Case: Gerald Carter, et al. v. Hugh Gallagher, et al. (Minneapolis Fire Department); settled.
  - Time period: Early 1990s.
- Member of American Psychology Association’s (APA) committee that wrote amicus brief in support of testing.
  - Soroka v. Target Corporation.
  - Conducted literature search; meta-analyzed criterion-related validities of Minnesota Multiphasic Personality Inventory (MMPI) and California Psychological Inventory (CPI) inventories for predicting job performance in protective service positions.
  - Time period: Early 1990s.
- Expert witness for plaintiff (Heart of the Earth Survival School) who charged U.S. Department of Education with using an unfair measurement system to evaluate its grant proposal.
  - Case involved use of score adjustments – raters’ evaluations of proposals were adjusted to correct for leniency and other rating errors.
  - Examined effects of score adjustments given small samples and extreme scores.
  - Case: Heart of the Earth Survival School v. U.S. Department of Education.
  - Time period: Early 1990s.
- Expert consultant for defendant charged with bias against placing women in higher paid jobs.
  - Developed gender-neutral standard for classifying applicants.
  - Compared and evaluated company decisions against standard.
  - EEO discrimination; gender; promotion.
  - Time period: Mid 1980s.
- Member of a team that examined whether a large multi-national, non-U.S. organization paid three, male American employees less than their Japanese counterparts for work that required similar skill, effort, responsibility, and working conditions.
  - Charges brought under Equal Pay Act and Title VII of the 1964 Civil Rights Act.

- Case: Michael E. Spiess, Jack K. Hardy and Benjamin F. Rountree v. C. Itoh & Co. (America) Inc.
- Time Period: Early 1980s.
- **Arbitration cases:**
  - Expert witness for Association of Administrative Law Judges (AALJ) to describe the methodology and results of a work analysis study designed to determine the amount of time required to adjudicate adult disability cases in accordance with Social Security Administration (SSA) guidance and guidelines about legally-sufficient decisions.
    - Issue: SSA requires ALJs to adjudicate a minimum of 500 adult disability cases and/or to schedule at least 50 hearings per month or lose the right to telework.
      - AALJ v. SSA, Office of Disability Adjudication and Review (ODAR)
      - AALJ (Judge Moises Penalver; NYC) v. SSA, ODAR.
      - AALJ (Judge Kathleen Harrington; New Haven) v. SSA, ODAR
      - AALJ (Judge Jerry Meade; Huntington, WV) v. SSA, ODAR
      - AALJ (Judge Francis Hurley; Boston) v. SSA, ODAR
      - AALJ (Judge Bryce Baird; Buffalo) v. SSA, ODAR
      - AALJ (Judge Bryce Baird, different grievance; Buffalo) v. SSA, ODAR
      - AALJ (Judge Margaret Donaghy; Queens) v. SSA, ODAR
    - Time Period: Mid to late 2010s.
  - Expert witness for claimants charging General Mills, Inc. with age discrimination in its reduction-in-force termination decisions.
    - Issue: claimants argue that they were terminated not because of their job performance but because they were older than their colleagues who were not terminated.
      - Nancy Lykkehoy v. General Mills, Inc.
      - Michael Allard v. General Mills, Inc.
      - David Kirk v. General Mills, Inc.
      - Michael Murray v. General Mills, Inc.
      - Denise Holtz v. General Mills, Inc.
      - Peggy Maxe v. General Mills, Inc.
      - Tom King v. General Mills, Inc.
    - Prepared expert witness reports and rebuttal reports. [Confidential]
    - Testified about the existence of negative age stereotypes, their accuracy, and their impact on employment decisions; testified about the susceptibility of General Mills' talent assessments (i.e., ratings of "potential") to negative age stereotypes; testified about the validity of General Mills' ratings of long-term potential; testified about the merits of opposing expert's "economic theory".
    - Case settled. [Confidential]
    - Time period: Mid to late 2010s.

- Designed and conducted work/time analysis study and gave expert testimony for the Association of Administrative Law Judges (AALJ), the union representing administrative law judges handling adult disability cases employed at the Social Security Administration (SSA).
  - Issue: AALJ claimed quotas established by SSA for administrative law judges to schedule hearings and adjudicate cases were excessive.
  - Administered work samples (3 cases) to sample of administrative law judges to determine time required to read, decide, and write decision instructions following agency directions regarding legally sufficient decisions.
  - Administered task analysis survey to sample of administrative law judges to determine time required to perform all job-required activities.
  - Testified about study and results to hearing officer.
  - Time period: Mid 2010s.
- Expert witness for defendant (Bell Atlantic Legal Department) involving Bell Atlantic's use of the *Universal Test Battery (UTB)* to select entry-level applicants.
  - Issue: union argued that *UTB* lacked validity.
  - Prepared report summarizing the 10-volume *UTB* technical report.
  - Testified about the validity evidence in support of the *UTB* and its fairness for all ethnic groups.
  - Time period: Late 1990s.
- Prepared expert report for defendant (Bell Atlantic Legal Department) involving Bell Atlantic's use of the *Universal Test Battery (UTB)* to select entry-level applicants.
  - Issue: union argued that only measures of "abilities" could be used to select applicants and interpersonal skills were not abilities.
  - Prepared report documenting that the social sciences considered interpersonal skills to be abilities.
  - Time period: Late 1990s.
- Expert witness for defendant (Farrell & Ricci law firm) involving Bell Atlantic's use of the *Universal Test Battery (UTB)* to select entry-level applicants.
  - Case: Gary Stauffer v. Francine Taylor.
  - Age discrimination.
  - Prepared expert report documenting the evidence that *UTB* did not discriminate on the basis of age; testified to the same.
  - Time period: Late 1990s.

***Evaluation of Staffing Systems, HRM Services, Leadership, Programs, & Organizations (not legal/court-related)***

- Worked with Corporate Executive Board (CEB) to vet testing, assessment, and survey companies for merger and acquisition. Time period: Early 2010s.
- Evaluated NASA astronaut selection system (part of a Congressionally-mandated expert review panel) after astronaut Lisa Novak drove cross country from Texas to Florida in diapers to confront and assault a woman who was involved with Novak's astronaut lover. Time period: Mid 1990s.

- Conducted a national needs assessment for a large financial planning/investment company to improve organizational effectiveness.
  - Identified current and future leadership needs.
  - Identified roadblocks and obstacles that were interfering with meeting key organizational objectives.
  - Identified actions and systems needed to support leaders in achieving their goals.
  - Time period: Mid 1990s.
- Evaluated controversial busing program.
  - Included interviewing students, parents, and teachers about sensitive issues.
  - Involved obtaining difficult-to-get current as well as archival data.
  - Required skill dealing with highly charged issues in highly visible/public situations.
  - Required knowledge of sociological and psychological principles and a variety of measurement methods.
  - Time period: Early 1970s.

### ***Other Projects***

Dr. Hough has worked closely on the following additional studies:

- Development of selection system for electrical power plant operators. Time period: Late 1970s and early 1980s.
- Evaluation of effectiveness of a very large nation-wide retail chain's Affirmative Action Plan in meeting various staffing requirements and development of new staffing strategy.
  - Identified nontraditional internal sources of talent for redressing EEO imbalances.
    - Developed job description questionnaire to describe all the "time-card" positions; administered questionnaire to stratified random sample of employees; clustered the 70 jobs.
    - Identified career opportunities within the company and probable internal sources of labor; identified external labor supply sources.
  - Time period: Late 1970s.
- Reenlistment motivations of first-term enlisted men and women. Time period: Late 1970s.
- Satisfaction and commitment among sales representatives. Time period: Late 1970s.
- Development of selection system for entry-level firefighters (nation-wide project). Time period: Mid and late 1970s.
- Investigation of performance ratings – the reliability, accuracy and relationships between individual differences and rater error. Time period: Mid 1970s.
- Investigation of motivation, morale, and job satisfaction among enlisted personnel in the U.S. Army. Time period: Mid 1970s.
- Evaluation of impact of an "awareness" training workshop designed to educate and alleviate the problems encountered by persons in non-traditional work roles.
  - Evaluated intended and unintended consequences.
  - Developed attitude questionnaires, in-baskets, other role-playing simulations, and an organizational impact questionnaire.



- Time period: Mid 1970s.
- Development of selection system for entry-level, detective, supervisory, and mid-level command positions for police (nation-wide project). Time period: Mid 1970s.
- Study of Merrill Lynch account executive job. Time period: Mid 1970s.
- Development of a “readiness index” for Navy personnel. Time period: Early 1970s.

## **CLIENTS**

Altshuler Berzon LLP (Law Firm)  
 Association of American Medical Colleges (AAMC)  
 American Civil Liberties Union, PA  
 American Telephone & Telegraph  
 Aon Consulting  
 Army Research Institute  
 Association of Administrative Law Judges  
 Balch & Bingham, LLP (Law Firm)  
 Bell Atlantic  
 Bernard Jacobs Architects, Ltd.  
 Boalt Hall School of Law (UC Berkeley)  
 Bureau of Naval Personnel  
 C. Itoh Company  
 Caliber Associates  
 Chicago Lawyers’ Committee for Civil Rights Under Law, Inc.  
 City of Minneapolis Fire Department  
 City of Pittsburgh  
 Consulting Psychologists Press (CPP)  
 Corporate Executive Board  
 Defense Nuclear Agency  
 Defense Supply Service  
 Douglas A. Hedin (Law Firm)  
 Edison Electric Institute  
 Electric Power Research Institute  
 Eli Lilly & Company  
 Farrell & Ricci, P.C. (Law Firm)  
 Federal Trade Commission  
 Feinstein Doyle Payne & Kravec, LLC  
 Ford Motor Company  
 Fulbright & Jaworski  
 Golden Gate University School of Law  
 Goldstein Borgen Dardarian & Ho (Law Firm)  
 Government of South Africa  
 GTE Corporation  
 Heart of the Earth Survival School  
 HumRRO

IDS Financial Services  
Institute of Nuclear Power Operations  
International Business Machines, Inc.  
Josten's  
Katz, Marshall & Banks, LLP (Law Firm)  
King County Sheriff's Office  
Klamann & Hubbard, P.A. (Law Firm)  
Leads Corporation  
Library of Congress  
Law Enforcement Assistance Administration (LEAA)  
Leventhal & Associates (Law Firm)  
Lichten & Liss-Riordan, P.C. (Law Firm)  
Lieff Cabraser Heimann & Bernstein, LLP (Law Firm)  
MDA Leadership Consulting  
Merrill Lynch, Pierce, Fenner & Smith  
Microsoft Corporation  
Miles Homes, Inc.  
Minneapolis Public Schools  
Minnesota Department of Economic Security  
National Academy of Sciences (NAS)  
National Aeronautics & Space Administration (NASA)  
National Skill Standards Board (NSSB)  
Navy Personnel Research & Development Center  
Newkirk Zwagerman, PLC (Law Firm)  
Nichols Kaster (Law Firm)  
North Central Ministry Development Center  
NYNEX  
Office of Naval Research  
Oppenheimer, Wolff, Foster, Shepard & Donnelly (Law Firm)  
Outten & Golden, LLP (Law Firm)  
Pennsylvania Civil Liberties Union  
Personnel Decisions International  
Personnel Decisions Research Institutes  
Procter & Gamble  
Rudy, Exelrod, Zieff & Lowe, LLP (Law Firm)  
Sears, Roebuck & Company  
Snyder & Brandt, P.A. (Law Firm)  
Sony Electronics Corporation  
Sony Corporation of America  
State of Louisiana  
Target Corporation  
Tennant Company  
Thomson Corporation  
Thunderbird School of Global Management  
U. S. Air Force  
U. S. Army Civilian Personnel Center

U. S. Army Research Institute for the Behavioral and Social Sciences  
U. S. Civil Service Commission  
U. S. Department of State  
U. S. Department of Labor  
U. S. Department of Justice  
U. S. General Accounting Office  
University of Minnesota  
University of Toronto  
Waterfront International, Ltd.  
West Group  
William Mitchell College of Law

## **PUBLICATIONS**

- Hough, L. M. & Oswald, F. L. (in press). Examining personality determinants of engagement: Which employees will be engaged and who will engage them? In J. P. Meyer & B. Schneider (Eds.), *Research Agenda for Employee Engagement in the Changing World of Work*. Cheltenham, UK: Elgar Publishing.
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- Hough, L. M., Dunnette, M. D., & Keyes, M. A. (1983). Evaluation of three "alternative" selection strategies. *Personnel Psychology*, *36*, 261-276.



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- Hough, L. M. (1973). Interviewers beware! [Review of Dean Peskin's book, *Human Behavior and Employment Interviewing*]. *Contemporary Psychology*, 18, 488.

## **TALKS & COLLOQUIA**

- Hough, L. M. (2020, February). *Current research and professional activities: Hough update*. Presentation, Summit Group, Sanibel, FL.
- Hough, L. M. (2019, April). Seeking gender equality: Reflections, mentors, & I-O allies in action. In C. Demsky, J. Rineer, R. Crain, & A. Ellis (Chairs), *Advancing the Women of I-O: Allies in Action*. Symposium conducted at the 34<sup>th</sup> Annual Convention for Industrial and Organizational Psychology, Baltimore.
- Hough, L. M. (2018, April). Work content: Effects on personality and leadership – Discussant comments. In A. B. Yost (Chair), *Work Context Effects on Personality & Leadership: Advancing Theory and Practice*. Symposium conducted at the 33<sup>rd</sup> Annual Convention for Industrial and Organizational Psychology, Chicago.
- Hough, L. M. (2018, April). Deniz Ones' premises are correct but her conclusions are not. In J. J. Donovan & E. J. Kutcher (Chairs), *I-O Psychology and the Scientist-Practitioner Model: Have We Really Lost Our Way?* Panel discussion conducted at the 33<sup>rd</sup> Annual Convention for Industrial and Organizational Psychology, Chicago.
- Hough, L. M. (2018, April). Person-centered analytic approaches to study relationships between personality and work outcomes – Discussant comments. In R. S. Muhammad (Chair), *Innovations in Personality Research in I-O: Person-centered Analytic Approaches*. Symposium conducted at the 33<sup>rd</sup> Annual Convention for Industrial and Organizational Psychology, Chicago.
- Hough, L. M. (2017, May). *Personality validities in the .50s: What?! How? When?* Presentation at Personnel & Human Resources Research Group, Dublin City University: Dublin, Ireland.
- Hough, L. M. (2017, April). Challenging received wisdom: My journey. *Disruptors in the Field – Distinguished Professional Contributions Award Invited Address*. Special event conducted at the 32<sup>nd</sup> Annual Convention for Industrial and Organizational Psychology, Orlando.
- Hough, L. M. (2017, April). How to boost the validity of personality predictors: 50+ Year Saga. In C. DuBois (Chair), *Conceptual foundations of personality assessment in organizations: "Useful" to "Optimal"*. Symposium conducted at the 32<sup>nd</sup> Annual Convention for Industrial and Organizational Psychology, Orlando.

- Hough, L. M. (2016, April). Enhancing person-job fit. In H. Wolters (Chair), *Innovations in job assignment: Challenges and opportunities using noncognitive measures*. Panel conducted at the 31<sup>st</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Anaheim.
- Hough, L. M. (2016, April). Person-centered leadership research – Discussant’s comments. In W. H. Macey (Chair), *Current perspectives on person-centered leadership research*. Symposium conducted at the 31<sup>st</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Anaheim.
- Oswald, F., Shaw, A., & Hough, L. M. (2016, April). Considering vocational interests in personnel selection. In C. D. Nye (Chair), *Rethinking the study of vocational interests at work*. Symposium conducted at the 31<sup>st</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Anaheim.
- Hough, L. M. (2015, October). *Improving Soldier-Army Outcomes through Better Fit/Classification Indices*. Paper presented to U.S. Army Research Institute for Behavioral and Social Sciences. Fort Belvoir, VA.
- Hough, L. M. (2014, May). Discussant. In R. Su (Chair), *Interests: New Frontier for Personnel Selection*. Symposium conducted at the 29<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Honolulu.
- Jones, D. P., & Hough, L. M. (2013, October). *Can They? And Will They? – How “Will Do” Drives Employee Engagement and Builds the Bottom Line*. Invited address, Minnesota Professionals for Psychology Applied to Work, Minneapolis.
- Hough, L. M. (2013, April). Panel member. In B. Chambers (Chair), *Scientist-Practitioner Divide: Try to eliminate or accept as inevitable*. Panel discussion conducted at the 28<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Houston.
- Hough, L. M. (2013, April). Discussant. In J. Hedge (Chair), *SIOP Honors and Awards: Navigating the requirements for career recognition*. Session conducted at the 28<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Houston.
- Ock, J., Oswald, F., & Hough, L. M. (2013, April). Theoretical and empirical structures of personality. In N. Christiansen (Chair), *Personality at Work: Expanding the nomological network*. Symposium conducted at the 28<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Houston.
- Hough, L. M. (2013, April). *SIOP awards presentation*. Plenary session conducted at the 28<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Houston.
- Hough, L. M. (2013, April). *SIOP Foundation awards presentation*. Foundation reception held at the 28<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Houston.
- Hough, L. M. (2012, April). *Racial differences in personnel selection: Complex findings and ongoing research*. Chair, Symposium conducted at the 27<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, San Diego.
- Hough, L. M. (2012, April). *SIOP awards presentation*. Plenary session conducted at the 27<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, San Diego.

- Hough, L. M. (2011, October). *Innovation & creativity: Climate is important...but don't forget selection*. Invited address, Minnesota Professionals for Psychology Applied to Work, Minneapolis.
- Hough, L. M. (2011, April). What do the results mean for practice? In T. S. Heffner & L. White (Chairs), *Advancing personality assessment for selection*. Symposium conducted at 26<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Chicago.
- Hough, L. M. (2011, April). My view after 35 years. In C. Scheu (Chair), *(Consulting) Women with a view*. Panel discussion conducted at the 26<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Chicago.
- Hough, L. M. (2011, April). *SIOP awards presentation*. Plenary session conducted at the 26<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Chicago.
- Hough, L. M. (2010, April). Others' reports of personality: Implications and cautions for practice. In B. S. Connelly & L. Chang (Chairs), *Stop being so self-centered! Researching and applying personality via observer reports*. Symposium conducted at 25<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Atlanta.
- Hough, L. M. (2010, April). The importance of sharing data. In S. E. Humphrey & K. Delaney-Klinger (Chairs), *Archiving data: Pitfalls and Possibilities*. Panel discussion conducted at the 25<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Atlanta.
- Hough, L. M. (2009, April). Career turning points – my story. In E. L. Hartman & J. Thompson (Chairs), *From surviving to thriving: Seven leaders share stories worth knowing*. Presentation and panel discussion conducted at the 24<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, New Orleans.
- Hough, L. M. (2009, April). *Getting to know your SIOP Fellows*. In N. Bencaz, D. Diaz Granados, & R. D. Pritchard (Chairs), Panel discussion conducted at the 24<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, New Orleans.
- Hough, L. M., & Dilchert, S. (2008, October). Inspiring creativity is important...but don't forget about selection. Invited presentation at the University of Toronto, Rotman School of Business and SIOP Conference *Inspiring Creative Thinking in Your Employees*. Toronto, Canada.
- Hough, L. M. (2007, November). *Staffing for innovation*. Invited presentation at Bowling Green State University, Bowling Green, OH.
- Hough, L. M. (2008, April). *Enabling innovation in organizations – 2007 Leading Edge Consortium*. Chair. Symposium conducted at 23<sup>rd</sup> Annual Convention of the Society for Industrial and Organizational Psychology, San Francisco.
- Hough, L. M. (2008, April). *Creative possibilities for federal funding of I-O scientists*. Chair. Executive Committee invited session at 23<sup>rd</sup> Annual Convention of the Society for Industrial and Organizational Psychology, San Francisco.
- Hough, L. M., & Dilchert, S. (2007, October). Inventors, innovators, and their leaders: Selecting for conscientiousness will keep you “inside the box.” Invited presentation at SIOP's *Enabling Innovation in Organizations: The Leading Edge*. Kansas City, MO.

- Hough, L. M. (2007, April). How can we be anything but scientist-practitioners? What's all the fuss about? In D. J. Beal & D. E. Rupp (Chairs), *Checking in with the Scientist-Practitioner Model: How are we doing?* Panel discussion conducted at the 22<sup>nd</sup> Annual Convention of the Society for Industrial and Organizational Psychology, NYC.
- Hough, L. M. (2007, April). Presenter and panelist. In A. J. Colella (Chair), *SIOP KARES (Katrina Aid and Relief Effort): Dealing with Disaster*. Panel discussion conducted at the 22<sup>nd</sup> Annual Convention for the Society for Industrial and Organizational Psychology, NYC.
- Hough, L. M. (2007, March). *Misconceptions & Milestones of Personality Testing for Personnel Selection*. Invited presentation at Minnesota State University, Mankato, MN.
- Hough, L. M. (2006, September). *Misconceptions & Milestones of Personality Testing for Personnel Selection*. Invited presentation at Houston Area Industrial and Organizational Psychologists, Houston, TX.
- Hough, L. M. (2006, June). *Myths, misconceptions, and milestones of personality testing for personnel selection*. Keynote speaker at the Chicago Industrial Organizational Psychologists Annual Meeting, Chicago.
- Hough, L. M. (2006, May). *Shaping our destiny: SIOP presidential address*. Presented at the 21<sup>st</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Dallas.
- Hough, L. M. (2006, April). Expert witness experiences. Invited presentation in *Fairness and Bias in Personnel Selection*, University of Minnesota, Minneapolis, MN.
- Ones, D. S., Viswesvaran, C., Hough, L. M., & Dilchert, S. (2005). *Managers, leaders, and executives: Successful personality*. Paper presented at the International Symposium on Personality at Work, Lüneburg, Germany.
- Hough, L. M., & Ones, D. S. (2005, April). *Power of personality: Longitudinal studies and meta-analyses*. Chairs. Symposium presented at the 20<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Los Angeles.
- Hough, L. M. (2005, April). *Gaining visibility for your work: Learn from the experts*. Facilitator. Panel discussion conducted at the 20<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Los Angeles.
- Hough, L. M. (2005, April). *Gaining credibility for your work*. Panelist. Panel discussion at the Doctoral Consortium at the 20<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Los Angeles.
- Hough, L. M., & Johnson, J. W. (2003, April). *The Science and Art of Selection and Assessment*. Workshop presented at the 18<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Orlando.
- Hough, L. M. (2003, April). Emerging thoughts on emerging views of validity. Presenter and panelist. In W. H. Macey (Chair), *Emerging Views of Validity*. Panel discussion conducted at the 18<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Orlando.

- Curnow, C. K., Hough, L. M., & Baranowski, L. (2003, April). Applications and modifications of the Accomplishment Record development process. In D. L. Whetzel (Chair), *New Twists on Several Measurement Methods*. Symposium presented at the 18<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Orlando.
- Jackson, H. L., Ones, D. S., Sinangil, H. K., & Hough, L. M. (2003, May). Impression management as a predictor of expatriate job performance. Paper presented at the 11<sup>th</sup> European Congress on Work and Organizational Psychology, Lisbon, Portugal.
- Hough, L. M. (2002, April). Emerging trends and needs in personality research and practice. In M. R. Barrick (Chair). *Personality and Work*. Symposium conducted at the 17<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Toronto.
- Hough, L. M. (2002, April). Chair. *Compound Traits: The Next Frontier of I/O Personality Research*. Symposium conducted at the 17<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Toronto.
- Hough, L. M. (2002, April). Panelist. In M. Campion (Chair), *What I/O Psychologists Need to Know About the Skill Standards Movement*. Panel discussion conducted at the 17<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Toronto.
- Hough, L. M. (2002, February). *Personality predictors of managerial performance*. Paper presented at the Summit Group meeting, Charleston, SC.
- Wanberg, C. R., Hough, L. M., & Song, Z. (2001, June). *Predictive validity of a multidisciplinary model of reemployment success*. Paper presented at America's Workforce Network Research Conference, Washington, DC.
- Hough, L. M. (2001, April). My career experiences. In L. L. Koppes (Chair), *Preeminent Women I-O Psychologists: Historical and Contemporary Perspectives*. Panel discussion conducted at the 16<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, San Diego.
- Hough, L. M. (2001, April). My views on being an expert witness. In M. L. Connerley (Chair), *Everything You Want to Know About Being an Expert Witness*. Panel discussion conducted at the 16<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, San Diego.
- Hough, L. M. (2001, April). Impact of social desirability on validity: The facts. In C. E. Miller (Chair), *What Conclusions can be drawn from Social Desirability Measure Research?* Panel discussion conducted at the 16<sup>th</sup> Annual Conference for the Society for Industrial and Organizational Psychology, San Diego.
- Wanberg, C., Hough, L. M., & Song, Z. (2001, April). New directions for the selection and referral of job-seekers to reemployment services. In M. Fugate (Chair), *Job Loss and Reemployment Research: Critical New Directions*. Symposium conducted at the 16<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, San Diego.
- Hough, L. M. (2001, March). *Personality changes I/O psychology*. Invited address at 54<sup>th</sup> Annual Conference of the California Psychological Association, Los Angeles.

- Hough, L. M., & Ones, D. S. (2000, August). *Personality and performance in leadership positions: Presidents, CEO's and managers* (Chairs). Symposium presented at the 108<sup>th</sup> Annual Convention of the American Psychological Association, Washington, DC.
- Ones, D. S., Hough, L. M., & Viswesvaran, C. (2000, August). Personality of managers: Mean differences and predictors of performance. In L. M. Hough & D. S. Ones (Chairs), *Personality and performance in leadership positions: Presidents, CEO's and managers*. Symposium presented at the 108<sup>th</sup> Annual Convention of the American Psychological Association, Washington, DC.
- Viswesvaran, C., Ones, D. S., Hough, L. M. (2000, August). Personality constructs predictive of leadership performance for managers and executives. In L. M. Hough & D. S. Ones (Chairs), *Personality and performance in leadership positions: Presidents, CEO's and managers*. Symposium presented at the 108<sup>th</sup> Annual Convention of the American Psychological Association, Washington, DC.
- Hough, L. M. (2000, March). *Personnel selection – 1995-2000: Trends, key findings, and implications*. Invited address at Minnesota Professional Psychologists at Work, Minneapolis, MN.
- Hough, L. M. (2000, February). *Personality's contributions to I.O. Psychology*. Invited address at Summit Group, Fort Myers, FL.
- Hough, L. M. (1999, May). *I/O owes its advances to personality*. Invited address at Applied Personality Psychology Conference University of Tulsa, Tulsa, OK.
- Hough, L. M. (1999, May). *Integrating HR systems conceptually and technologically with business objectives*. In L. M. Hough (Chair), Practitioner forum conducted at the 14<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, Atlanta.
- Hough, L. M. (1998, October). New Horizons for Personality Testing. Keynote address at Personnel Testing Council of Southern California conference *Unearthing Hidden Potential: Exploring Non-traditional Means of Assessment*, Los Angeles.
- Hough, L. M. (1998, July). *Solving real-world problems: Creating competitive advantage through HRM Systems*. Workshop conducted at the 6<sup>th</sup> Conference of the International Society for the Study of Work and Organizational Values, Istanbul, Turkey.
- Hough, L.M. (1998, June). *Directions in personality testing*. Invited address at Annual Conference of the IPMA Assessment Council on Public Personnel Assessment, Chicago.
- Hough, L.M., Ones, D. S., & Viswesvaran, C. (1998, April). Personality correlates of managerial performance constructs. In R. Page (Chair), *Personality Determinants of Managerial Potential, Performance, Progression, and Ascendancy*. Symposium conducted at the 13<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Dallas.
- Ones, D. S., Hough, L.M., & Viswesvaran, C. (1998, April). Validity and adverse impact of personality-based managerial potential scales. In R. Page (Chair), *Personality Determinants of Managerial Potential, Performance, Progression, and Ascendancy*. Symposium conducted at the 13<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Dallas.

- Viswesvaran, C., Ones, D. S., & Hough, L.M. (1998, April). Construct validity of managerial potential scales. In R. Page (Chair), *Personality Determinants of Managerial Potential, Performance, Progression, and Ascendancy*. Symposium conducted at the 13<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Dallas.
- Hough, L. M. (1998, April). *Job performance models and personality taxonomies*. In J. C. Hogan (Chair). Symposium conducted at the 13<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Dallas.
- Hough, L M. (1998, April). *A Mock Ethics Tribunal: Cases from SIOP's Revised Ethics Casebook*. Panel Discussion at 13<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, Dallas.
- Ellingson, J. E., Sackett, P. R., & Hough, L. M. (1998, April). *Correcting Response Distortion: Issues of Fairness and Trait Construct Validity*. Paper presented at the 13<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Dallas.
- Hough, L. M. (1997, August). Personality variables and prediction of job performance: The nature of the taxonomies makes a difference. In J. Collins (Chair), *Which Trait Theory Should Psychologists Adopt and Why?* Symposium at the 105<sup>th</sup> Annual Convention of the American Psychological Association, Chicago.
- Hough, L. M. (1997, August). Overview of APA task force on Test User Qualifications. In L. M. Hough (chair), *Are You Qualified to Use Tests?* Symposium conducted at the 105<sup>th</sup> Annual Convention of the American Psychological Association, Chicago.
- Hough, L. M. (1997, July). *What's New in Personality Testing in the World of Work*. Invited address at the National Research Council/National Academy of Sciences. Woods Hole, MA.
- Hough, L. M., & Sackett, P. (1997, April). Personality and integrity testing for personnel selection: Issues and controversies. Workshop presented at 12th Annual Conference of the Society for Industrial and Organizational Psychology, St. Louis.
- Hough, L. M. (1997, April). Nassau County personality measures: Issues & evidence. In J. R. Hollenbeck (Chair), *Police Selection in Nassau County: Validity and Demographic Diversity*. Invited address and panel discussion at the 12th Annual Convention of the Society for Industrial and Organizational Psychology, St. Louis.
- Hough, L. M. (1997, April). Issues and evidence: Use of personality variables for predicting job performance. In F. L. Schmidt & D. S. Ones (Chairs), *Improving Prediction with Personality Constructs: Concerns and Non-Concerns*. Symposium conducted at the 12th Annual Convention of the Society for Industrial and Organizational Psychology, St. Louis.
- Hough, L. M. (1997, April). Faking: What is the evidence? What does it mean? (Discussant). In G. J. Lautenschlager (Chair), *Faking on Non-Cognitive Measures: The Extent, Impact, and Identification of Dissimulation*. Symposium conducted at the 12th Annual Convention of the Society for Industrial and Organizational Psychology, St. Louis.
- Hough, L. M. (1997, January). *Personality: New Horizons or Good Old Daze*. Invited address at Industrial Relations Center, University of Minnesota, Minneapolis.

- Hough, L. M. (1996, October). *Personality - Who Needs It?* Invited address at Industrial/Organizational Seminar, Psychology Department of the University of Minnesota, Minneapolis.
- Hough, L. M. (1996, June). *Personnel Assessment: Issues and Trends - Our Future*. Keynote Address at Annual Conference of the IPMA Assessment Council on Public Personnel Assessment, Boston.
- Hough, L. M., & Sackett, P. (1996, April). *Personality and Integrity Testing for Personnel Selection: Issues and Controversies*. Workshop presented at 11<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, San Diego.
- Hough, L. M. (1996, April). Personality measurement and personnel selection: Implementation issues. In J. Hogan (Chair), *Personality Measurement and Employment Decisions: Questions and Answers*. Practitioner forum conducted at the 11<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, San Diego.
- Hough, L. M. (1996, February). *Displacement and Outplacement: What Makes a Difference?* Invited address at National Academy of Sciences & Department of Defense, Washington, DC.
- Hough, L. M. (1995, May). Applicant self-descriptions: Evaluating strategies for reducing distortion. In F. L. Schmidt (Chair), *Response Distortion and Social Desirability in Personality Testing for Personnel Selection*. Symposium conducted at the 10<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Orlando.
- Hough, L. M. (1995, May). Competency modeling: HR systems that reinforce organizational transformations. In L. M. Hough (chair), *Strategic Competency Modeling: Rethinking and Reengineering Job Analysis*. Practitioner's Forum conducted at the 10<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Orlando.
- Hough, L. M. (1995, January). *The Future of I.O. Psychology: A Changing Practice*. Invited address at Metro New York Association for Applied Psychology, NYC.
- Hough, L. M. (1994, October). Personality at work: Issues and evidence. Invited address Bowling Green State University Conference *Evaluating Alternatives to Traditional Testing for Selection*, Toledo.
- Hough, L. M. (1994, September). *Importance and Growing Role of Personality Assessment in Selection*. Invited address at National Staffing Forum annual conference, Chicago.
- Hough, L. M., & Tippins, N. T. (1994, April). New designs for selection and placement systems: The Universal Test Battery. In N. W. Schmitt (Chair), *Cutting Edge Developments in Selection*. Symposium presented at the 9<sup>th</sup> Annual Convention of the Society for Industrial and Organizational Psychology, Nashville.
- Hough, L. M. (1994, April). Recommended revisions to the Standards: A consulting psychologist's point of view. In W. J. Camara (Chair). *Revising the Testing Standards: Invited Comments from I/O Psychology*. Symposium presented at the 9th Annual Meeting of the Society for Industrial and Organizational Psychology, Nashville.



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- Hough, L. M. (1993, November). *Validity of Personality Constructs for Predicting Work Performance: The 'Big Five' are Too Fat*. Colloquium presented at University of East London, London, England.
- Hough, L. M. (1993, November). *Validity of Personality Constructs for Predicting Work Performance: The 'Big Five' are Too Fat*. Colloquium presented at Centre for Interdisciplinary Business Research at Katholieke Universiteit Leuven, Leuven, Belgium.
- Hough, L. M. (1993, June). *Putting Some Personality in Assessment*. Keynote address at IPMA Assessment Council Conference on Public Personnel Assessment, Sacramento, CA.
- Hough, L. M. (1993, May). Summary of validity studies that used MMPI and CPI scales to predict police officer performance. In W. F. Cascio (Chair), *Soroka v. Dayton Hudson and Implications for Personality Assessment in Employment*. Symposium presented at the 8th Annual Meeting of the Society for Industrial and Organizational Psychology, San Francisco.
- Dunnette, M. D., & Hough, L. M. (1993, May). The many faces of job performance. In R. M. Guion (Chair), *Personality at Work*. Symposium presented at the 8th Annual Meeting of the Society for Industrial and Organizational Psychology, San Francisco.
- Hough, L. M., & Dunnette, M. D. (1992). U.S. Managers abroad: What it takes to succeed. In R. Guzzo (Chair), *Expatriate Assignments: Identifying Candidates, Managing Retention, and Strategic Roles*. Symposium conducted at the 52<sup>nd</sup> Annual Meeting of the Academy of Management, Las Vegas.
- Hough, L. M. (1992, May). *Symposium: Incremental Validity of Personality Over Ability in Predicting Job Performance*, Chair. Symposium conducted at the 7<sup>th</sup> Annual Meeting of the Society for Industrial and Organizational Psychology, Montreal.
- Paullin, C. J., Hough, L. M., Dohm, T. E. (1992, May). *Development of a Content-valid Structured Interview for Selecting Entry-level Firefighters*. Poster session presented at the 7<sup>th</sup> Annual Meeting of the Society for Industrial and Organizational Psychology, Montreal.
- Hough, L. M. (1992, January). *Nine Faces of Personality Assessment*. Invited address presented at Metropolitan New York Association for Applied Psychology, New York City, NY.
- Hough, L. M. (1991, October). Use of personality assessment for employment decisions in the 90s and beyond. Presented at the PDI/Univ. of MN National Assessment Conference: *A Changing View - Moving Toward the 21st Century*. Minneapolis, MN.
- Hough, L. M. (1991, August). *Use of Personality Assessment for Employee Selection*. Workshop presented at 99th Annual Convention of the American Psychological Association, San Francisco.
- McKenna, D. D., Hough, L. M. (1991, August). Impact of personality in intragroup working relationships. In W. W. Tornow (Chair), *New Perspectives on Personality and Job Performance*. Symposium conducted at the 99th Annual American Psychological Association Convention, San Francisco, CA.

- Hough, L. M. (1991, July). Attributes of an effective work force. Presented at Cornell University conference *Better Schools, Better Jobs: Making School Pay Off in the Workplace*, Ithaca, NY.
- Hough, L. M. (1991, April). Validity of personality constructs for predicting job performance constructs. In K. J. Nilan (Chair), *Personality Measurement: Back to the Future*. Symposium conducted at the 6th Annual Conference of the Society for Industrial and Organizational Psychology, St. Louis, MO.
- Hough, L. M. (1990, October). The 'Big Five' personality factors: Construct confusion. Presented at Personnel Testing Council of Southern California Conference *Construct Validity: Issues and Opportunities*, Newport Beach, CA.
- Hough, L. M. (1990, January). *Personality Variables: From Scrap Heap to Winner's Circle*. Colloquium presented at University of Tulsa. Tulsa, OK.
- Hanson, M. A., Hallam, G. L., & Hough, L. M. (1989, November). Detection of response distortion in the Adaptability Screening Profile (ASP). In S. Selman (Chair), *Implementation of Biodata into Military Enlistment Screening*. Symposium conducted at the 31<sup>st</sup> Annual Convention for the Military Testing Association, San Antonio.
- Hough, L. M. (1989, April). Biodata and the measurement of individual differences. In T. Mitchell (Chair), *Biodata vs Personality: The Same or Different Classes of Individual Differences*. Symposium conducted at the 4th Annual Conference of the Society for Industrial and Organizational Psychology, Boston.
- Hough, L. M. (1988, October). *Personality—Does It Matter?* Invited address at Personnel Decisions, Inc. Professional Development Workshop, Minneapolis.
- Hough, L. M. (1988, September). *Development of Personality Measures to Supplement Selection Decisions*. Paper presented at the 24th Annual International Congress of Psychology Convention; Sydney, Australia.
- Hough, L. M. (1988, April). *Personality Assessment for Selection and Placement Decisions*. Workshop presented at 3rd Annual Conference of the Society for Industrial and Organizational Psychology, Dallas.
- Hough, L. M. (1988, March). *Behavioral Science, Employment Testing, and the Law*. Paper presented to the University of Minnesota Law School, Minneapolis.
- Hough, L. M. (1987, October). *Project A: Research Objectives and Results*. Paper presented at University of Minnesota Industrial Relations Center Staffing Seminar, Minneapolis.
- Hough, L. M. (1987, August). Overcoming objections to use of temperament variables in selection: Demonstrating their usefulness. In R. C. Page (Chair), *New Perspectives on Personality and Job Performance*. Symposium conducted at 95<sup>th</sup> Annual American Psychological Association Convention, New York City.
- Pulakos, E. D., Borman, W. C., & Hough, L. M. (1987, August). *Test Validation for Scientific Understanding: Studying Predictor-criterion Linkages*. Paper presented at the 95<sup>th</sup> Annual American Psychological Convention, New York City.

- Hough, L. M. (1987, April). Developing better science and better practice. In E. D. Pulakos (Chair), *What Lies at the Intersection of I/O Science and Practice?* Symposium conducted at the 2<sup>nd</sup> Annual Conference of the Society for Industrial and Organizational Psychology, Atlanta.
- Hough, L. M., & Ashworth, S. D. (1987, April). Assessment of temperament constructs as predictors of job performance: Predicting soldier performance. In R. T. Hogan (Chair), *Personality Measurement and I/O Psychology*. Symposium conducted at the 2<sup>nd</sup> Annual Conference of the Society for Industrial and Organizational Psychology, Atlanta.
- McHenry, J. J., Hough, L. M., Toquam, J. L., Hanson, M. A., & Ashworth, S. D. (1987, April). Project A validity results: The relationship between predictor and criterion domains. In J. P. Campbell (Chair), *Project A: When Science and Practice are Forced to Meet*. Symposium conducted at the 2<sup>nd</sup> Annual Conference of the Society for Industrial and Organizational Psychology, Atlanta.
- Peterson, N. G., Hough, L. M., Dunnette, M. D., Rosse, R. L., Houston, J. S., Toquam, J. L., & Wing, H. (1987, April). Identification of predictor constructs and development of new selection/classification tests. In J. P. Campbell (Chair), *Project A: When Science and Practice are Forced to Meet*. Symposium conducted at the 2<sup>nd</sup> Annual Conference of the Society for Industrial and Organizational Psychology, Atlanta.
- Wing, H., Hough, L. M., & Peterson, N. G. (1987, April). *Predictive Validity of Non-cognitive Measures for Army Classification and Attrition*. Paper presented at the 2<sup>nd</sup> Annual Conference of the Society for Industrial and Organizational Psychology, Atlanta.
- Hough, L. M. (1987, March). *Research on the Relationship of Personality Measures to Job Performance*. Paper presented at the California Psychological Inventory Conference, Minneapolis.
- Hough, L. M. (1987, February). *Employment Testing and the Law*. Paper presented to the University of Minnesota Law School, Minneapolis.
- Fisher, G. P., Hough, L. M., & Lilienthal, R. (1986, November). Using CODAP job analysis for training and selection: Retrospective considerations. In R. Lanterman (Chair), *CODAP*. Symposium conducted at the 28<sup>th</sup> Annual Military Testing Association Conference, Mystic, CT.
- Peterson, N. G., Hough, L. M., Ashworth, S. D., & Toquam, J. L. (1986, November). New predictors of soldier performance. In M. G. Rumsey (Chair), *Project A: Concurrent Validation*. Symposium conducted at the 28<sup>th</sup> Annual Military Testing Association Conference, Mystic, CT.
- Hough, L. M., Gast, I. F., White, L. A., & McCloy, R. A. (1986, August). The relation of leadership and individual differences to job performance. In M. G. Rumsey (Chair), *Individual Differences, Work Environment, and Performance in Military Jobs*. Symposium conducted at the 94<sup>th</sup> Annual American Psychological Association Convention, Washington, DC.

- White, L. A., Borman, W. C., Hough, L. M., & Hoffman, R. G. (1986, August). A path analytic model of job performance ratings. In H. R. Hirsh (Chair), *Causal Models of Job Performance*. Symposium conducted at the 94th Annual American Psychological Association Convention, Washington, DC.
- Fisher, G. P., Lilienthal, R., & Hough, L. M. (1986, April). *Using CODAP Job Analysis for the Development of Integrated Training Requirements for Three Army Civilian Career Fields*. Paper presented at the American Educational Research Association Annual Meeting, San Francisco.
- Hough, L. M. (1985, November). *Selection Guidelines, Testing & EEOC: An Update*. Paper presented at Center for Human Resources Programs, Institute of Industrial Relations, University of California-Berkeley.
- Fisher, G. P., Lilienthal, R., & Hough, L. M. (1985, October). Selecting and training logistics managers: Quantitative/qualitative approaches. In G. P. Fisher (Chair), *The Training and Selection of Army Managers: Quantitative/qualitative Approaches*. Symposium conducted at the 27th Annual Convention for the Military Testing Association, San Diego.
- Hough, L. M., McGue, M. K., Kamp, J. D., Houston, J. S., & Barge, B. N. (1985, October). Measuring personal attributes: Temperament, biodata, and interests. In H. Wing (Chair), *Predicting a Broad Variety of Criteria: Elaborating the Predictor Space*. Symposium conducted at the 27<sup>th</sup> Annual Convention for the Military Testing Association, San Diego.
- Wing, H., Barge, B. N., & Hough, L. M. (1985, October). Vocational interests as predictors of Army performance. In J. J. Pass (Chair), *Elements of a Military Occupational Exploration System*. Symposium conducted at the 27<sup>th</sup> Annual Convention for the Military Testing Association, San Diego.
- Hough, L. M., Barge, B. N., Houston, J. S., McGue, M. K., & Kamp, J. D. (1985, August). Problems, issues, and results in the development of temperament, biographical, and interest measures. In H. Wing (Chair), *Expanding the Measurement of Predictor Space for Military Enlisted Jobs*. Symposium conducted at the 93rd Annual American Psychological Association Convention, Los Angeles.
- Hough, L. M., Dunnette, M. D., Wing, H., Houston, J. S., & Peterson, N. G. (1984, August). *Covariance Analyses of Cognitive and Non-cognitive Measures in Army Recruits: An Initial Sample of Preliminary Battery Data*. Paper presented at the 92nd Annual American Psychological Association Convention, Toronto, Canada.
- Hough, L. M. (1981, November). *The "Accomplishment Record" Method as an Alternative Selection Procedure*. Paper presented at Minnesota Proseminar, Minneapolis.
- Hough, L. M. (1981, November). *Selecting High-level Professionals: The State-of-the-art*. Paper presented at University of Arkansas, Fayetteville.
- Hough, L. M., Dunnette, M. D., & Keyes, M. A. (1981, May). *Development and Evaluation of Three Traditional and Three "Alternative" Selection Procedures*. Paper presented at International Personnel Management Association (IPMA), Washington, DC.

Dunnette, M. D., & Hough, L. M. (1979, January). *New Strategies in Performance Appraisal and Selection Research*. Workshop for faculty and students, University of Puerto Rico, Psychology Department, San Juan, Puerto Rico.

## **TECHNICAL & EXPERT REPORTS**

- Hough, L. M. (2020, May). *Expert Report of Leaetta M. Hough, Ph.D. In the Matter of Ellis et al. Individually and All Others Similarly Situated, Plaintiffs v. Google, LLC, Defendant* (Case No. OGC-17-561299). CONFIDENTIAL. [Gender pay equity case]
- Hough, L. M. (2019, January). *Expert Report of Leaetta M. Hough, Ph.D. In the Matter of Jewett, Wang, and Murray, on behalf of themselves, and Petersen, Clark, and Kant, on behalf of themselves and a proposed class v. Oracle America, Inc.* (Case No. 17CIV02669). CONFIDENTIAL. [Gender pay equity case]
- Hough, L. M. (2018, March). *Expert Report of Leaetta M. Hough, Ph.D. In the Matter of Thomas King v. General Mills, Inc.* (Case No. 01-17-0053-0033). (DG #51.7). CONFIDENTIAL. [Age discrimination arbitration case]
- Hough, L. M. (2018, March). *Expert Report of Leaetta M. Hough, Ph.D. In the Matter of Peggy Maxe v. General Mills, Inc.* (Case No. 01-17-0005-2225). (DG #51.6). CONFIDENTIAL. [Age discrimination arbitration case]
- Hough, L. M. (2018, March). *Expert Report of Leaetta M. Hough, Ph.D. In the Matter of Denise Holtz v. General Mills, Inc.* (Case No. 01-17-0003-0928). (DG #51.5). CONFIDENTIAL. [Age discrimination arbitration case]
- Hough, L. M. (2017, October). *Expert Report of Leaetta M. Hough, Ph.D. In the Matter of Michael Murray v. General Mills, Inc.* (Case No. 01-17-0003-2025). (DG #51.4). CONFIDENTIAL. [Age discrimination arbitration case]
- Hough, L. M. (2017, October). *Expert Report of Leaetta M. Hough, Ph.D. In the Matter of David Kirk v. General Mills, Inc.* (Case No. 01-17-0002-4460). (DG #51.3). CONFIDENTIAL. [Age discrimination arbitration case]
- Hough, L. M. (2017, October). *Expert Rebuttal Report of Leaetta M. Hough, Ph.D. In the Matter of Michael Allard v. General Mills, Inc.* (Case No. 01-17-0003-0905). (DG #51.2.2). CONFIDENTIAL. [Age discrimination arbitration case]
- Hough, L. M. (2017, October). *Expert Report of Leaetta M. Hough, Ph.D. In the Matter of Michael Allard v. General Mills, Inc.* (Case No. 01-17-0003-0905). (DG #51.2.1). CONFIDENTIAL. [Age discrimination arbitration case]
- Hough, L. M. (2017, October). *Rebuttal Expert Report of Leaetta M. Hough, Ph.D. in the Matter of Nancy Lykkehoy v. General Mills, Inc.* (Case No. 01-17-0001-8445). (DG #51.1). CONFIDENTIAL. [Age discrimination arbitration case]
- Hough, L. M. (2017). *Review of Revised IOSolutions' Transportability Report for Lubbock TX Police*. Prepared in the Matter of United States of America v. City of Lubbock, TX. (Case No. 5:15-ev-234). (DG #48.3) [Police]

- Hough, L. M. (2016). *Expert Report of Leaetta M. Hough, Ph.D. Prepared in the Matter of Cara Williams, et al. individually and on behalf of a putative class of similarly situated individuals (Plaintiffs) v. Wells Fargo Bank, N. A. (Defendant) Case No. 4:15-cv-000038 – S.D. Iowa.* (2016, July 28). (DG #49). Confidential. [Background investigation; FDI Act, Section 19 waivers]
- Jones, D. P., & Hough, L. M. (2016). *Supplemental Expert Report Regarding City of Jacksonville Job Analysis Results Produced by JFRD for JFRD Captain (Suppression) and District Chief (Suppression Positions of October 7, 2016 by David P. Jones, Ph.D. and Leaetta M. Hough, Ph.D. Prepared in the Matter of United States of America v. Consolidated City of Jacksonville, Jacksonville Association of Firefighters, Local 122, IAAF (Case No. 3:12-cv00451-J-32MCR).* June 17, 2016. (DG #48.3) [Engineers, Lieutenants, Captains, District Chiefs – firefighters]
- Jones, D. P., & Hough, L. M. (2015). *Response to Barrett and Swander Rebuttals Regarding the Leaetta M. Hough, Ph.D. and David P. Jones, Ph.D. Expert Report of December 15, 2015 by David P. Jones, Ph.D. and Leaetta M. Hough, Ph.D. Prepared in the Matter of United States of America v. Consolidated City of Jacksonville, Jacksonville Association of Firefighters, Local 122, IAAF (Case No. 3:12-cv00451-J-32MCR).* June 17, 2016. (DG #48.2) [Engineers, Lieutenants, Captains, District Chiefs – firefighters]
- Jones, D. P., & Hough, L. M. (2015). *Expert Report of David P. Jones, Ph.D. & Leaetta M. Hough, Ph.D., Prepared in the Matter of United States of America v. Consolidated City of Jacksonville, Jacksonville Association of Firefighters, Local 122, IAAF (Case No. 3:12-cv00451-J-32MCR).* Dec. 15, 2015. (DG # 48.1) [Engineers, Lieutenants, Captains, District Chiefs – firefighters]
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- Paullin, C., Hough, L. M., & Caragno, J. (2015). *Administrative Law Judge Work Analysis Study.* HumRRO #2015-052). (DG #46.1.1) Alexandria, VA: HumRRO.
- AALJ/HumRRO & DG – Source Materials [Policy Directives] for ALJ Validation Time Study to accompany Final Report dated 2015 and Revised Final Report dated 2016. (DG # 46.1.2) Alexandria, VA: HumRRO.
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- Hough, L. M. (2014). *Bureau of Police Entry-Level Hiring Practices: Review and Recommendations (DG #44).* City of Pittsburgh, PA. [Confidential]
- Hough, L. M., Shultz, M., & Ock, J. (2012). *Special Project for Golden Gate Law School: Final Report (DG #43).* San Francisco, CA: Golden Gate Law School.
- Hough, L. M. (2010). *Validity Studies: Global Mindset Inventory (2010 Edition, Shortened Scales), Walmart and Rich Corporation Data (DG #36.2).* Glendale, AZ: Thunderbird School of Global Management.

- Hough, L. M. (2008). *Development of the Accomplishment and Experience Record Inventory and Rating Scales for Selecting Law School Applicants* (DG #38.1). Berkeley, CA: Boalt Hall School of Law, University of California at Berkeley.
- Jones, D. P., & Hough, L. M. (2008). *Expert Report Prepared in the Matter of the United States v. City of New York* (DG #37.1). Washington, DC: U.S. Department of Justice.
- Hough, L. M., Fandre, J., & Oswald, F. S. (2008). *Understanding and Measuring Global Mindset* (DG #36.1). Glendale, AZ: Thunderbird School of Global Management.
- Hough, L. M. (2005). *Evaluation of Validity Studies of Kimberly-Clark Operative Jobs at Chester, PA Facility* (DG #34). Washington, DC: U. S. Department of Labor, OFCCP.
- Jones, D. P., & Hough, L. M. (2004). *Rebuttal Report of David P. Jones, Ph.D. & Leaetta M. Hough, Ph.D. (Expert Report)*. U.S. v. City of Erie, PA (DG #35). Washington, DC: U. S. Department of Justice.
- Hough, L. M. (2004). *Evaluation of Procter & Gamble Dover Wipes Plant Technician Job Analysis and Validation Studies* (DG #33). Washington, DC: U. S. Department of Labor, OFCCP.
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- Ones, D. S., Hough, L. M., Dilchert, S., & Viswesvaran, C. (2004). *KCSO Deputy Sheriffs: Selection and Appraisal in the 21<sup>st</sup> Century* (DG #31). Seattle, WA: King County Sheriff's Office.
- Curnow, C., Bocketti, B., & Hough, L. (2004). *Waste Water Treatment Plant Operator Validation Report* (DG #29.20). Alabama: Personnel Board of Jefferson County.
- Hough, L. M., Curnow, C. (2004). *Evaluation of the Personnel Reaction Blank (PRB) for Selecting Waste Water Treatment Plant Operators* (DG #29.10). Alabama: Personnel Board of Jefferson County.
- Hough, L. M. (2002). *Evaluation of the City of Los Angeles Fire Department 1998 and 2000 Test Battery* (DG #28). Washington, DC: U. S. Department of Justice.
- Hough, L. M. (2002). *Hiring in the Spirit of Service: Definitions, Possibilities, Evidence, and Recommendations* (DG #27). Washington, DC: Community Policing Consortium, Office of Community Oriented Policing Services, U.S. Department of Justice.
- Hough, L. M. (2001). *B-PAD Results: Selection Ratios & Adverse Impact Ratios – Las Vegas, Nevada Metro Police Department* (DG #27.2). St. Paul, MN: Dunnette Group, Ltd.
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- Wanberg, C., Hough, L., Song, Z., & Tenneson, N. (2001). *MN Department of Economic Security (DES)/University of MN Profiling Study Descriptive Summary of Responses to Time 2 Survey* (DG #24). St. Paul, MN: MN Department of Economic Security.

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- Hough, L. M. (2000). *Material Prepared in Defense of Bell Atlantic's UTB: Labor Grievance Case 2* (DG #18). St. Paul, MN: The Dunnette Group, Ltd.
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## **Appendix B:**

**Materials Provided to Me, Leaetta Hough (Ph.D.), by  
Plaintiffs' Attorneys That I Reviewed**





**Materials Provided to Me, Leaetta Hough (Ph.D.),  
by Plaintiffs' Attorneys that I Reviewed**

**Hearing Transcripts:**

Transcript of Testimony from Friday, April 7, 2017 hearing in OFCCP v. Google. Inc.,  
No. 2017 OFC 08004 (Before Hon. Steven B. Berlin)

Transcript of Testimony from Friday, May 26, 2017 hearing in OFCCP v. Google. Inc.,  
No. 2017 OFC 08004 (Before Hon. Steven B. Berlin)

**PMQ Transcripts and Exhibits:**

Bucich Deposition Transcript (10/11/2018) with Exhibits 500-504

Williams Deposition Transcript (1/23/2019 with Exhibits 505-514

Wagner Deposition Transcript (1/30/2019) with Exhibits 515-536

Tietbohl Deposition Transcripts (2/5/2019) with Exhibits 537-565

Ong Deposition Transcript (2/7/2019) with Exhibits 566-578

Wolfe Deposition Transcript (2/14/2019) with Exhibit 579

Tietbohl Deposition Transcripts (7/31/2019) with Exhibit 596

Gangadharan Deposition Transcript (7/17/2019) with Exhibits 580-582

Rowe Deposition Transcript (8/7/2019) with Exhibits 597-609

**Plaintiff Transcripts and Exhibits:**

Pease Deposition Transcript (9/27/2018) with Exhibits 1-11

Wisuri Deposition Transcript (10/5/2018) with Exhibits 12-25

Ellis Deposition Transcript (10/8/2018) with Exhibits 26-42

Lamar Deposition Transcript (11/12/2018) with Exhibits 43-55

**Google Documents:**

- Goog-Ellis-00001681 – [REDACTED]
- Goog-Ellis-00001691 – [REDACTED]
- Goog-Ellis-00003189 – Performance Expectations
- Goog-Ellis-00003320 – Manager Assessments
- Goog-Ellis-00003847 – Key Elements of Perf
- Goog-Ellis-00003849 – Performance Rating Descriptions
- Goog-Ellis-00004275 – SWE Leveling Guide
- Goog-Ellis-00004286 – [REDACTED]
- Goog-Ellis-00004293 – [REDACTED]
- Goog-Ellis-00004301 – [REDACTED]
- Goog-Ellis-00004303 – [REDACTED]
- Goog-Ellis-00004305 – [REDACTED]
- Goog-Ellis-00004311 – [REDACTED]
- Goog-Ellis-00004329 – [REDACTED]
- Goog-Ellis-00004337 – [REDACTED]
- Goog-Ellis-00004349 – [REDACTED]
- Goog-Ellis-00004363 – [REDACTED]
- Goog-Ellis-00004379 – [REDACTED]
- Goog-Ellis-00004389 – [REDACTED]
- Goog-Ellis-00004397 – [REDACTED]
- Goog-Ellis-00004402 – [REDACTED]
- Goog-Ellis-00004403 – [REDACTED]
- Goog-Ellis-00004440 – [REDACTED]

Goog-Ellis-00004442 – [REDACTED]

Goog-Ellis-00004974 – [REDACTED]

Goog-Ellis-00004977 – [REDACTED]

Goog-Ellis-00004980 – [REDACTED]

Goog-Ellis-00008310 – [REDACTED]

Goog-Ellis-00008315 – [REDACTED]

Goog-Ellis-00009666 – [REDACTED]  
[REDACTED]

Goog-Ellis-00009846 – [REDACTED]

Goog-Ellis-00010044 – [REDACTED]  
[REDACTED]

Goog-Ellis-00010230 – [REDACTED]

Goog-Ellis-00010351 – [REDACTED]

Goog-Ellis-00010907 – [REDACTED]

Goog-Ellis-00011282 – Alignment Session – GBO/GAF Calibration Playbook

Goog-Ellis-00011370 - Tech Calibration Playbook Template, Mid-Year 2018

Goog-Ellis-00016110 - 16331 – [REDACTED]

Goog-Ellis-00016372 – [REDACTED]  
[REDACTED]

Goog-Ellis-00017716 – [REDACTED]

Goog-Ellis-00021325 – Performance Philosophy

Goog-Ellis-00021448 – [REDACTED]

Goog-Ellis-00022787 – [REDACTED]

Goog-Ellis-00022788 – [REDACTED]

Goog-Ellis-00022789 – [REDACTED]

Goog-Ellis-00022790 – [REDACTED]

Goog-Ellis-00022791 – [REDACTED]

Goog-Ellis-00022792 – [REDACTED]

Goog-Ellis-00022793 – [REDACTED]

Goog-Ellis-00022794 – [REDACTED]  
[REDACTED]  
[REDACTED]

Goog-Ellis-00022795 – [REDACTED]

Goog-Ellis-00022796 – [REDACTED]

Goog-Ellis-00022797 – [REDACTED]

Goog-Ellis-00022798 – [REDACTED]

Goog-Ellis-00022799 – [REDACTED]

Goog-Ellis-00022800 – [REDACTED]

Goog-Ellis-00022801 – [REDACTED]

Goog-Ellis-00024077 – [REDACTED]

Goog-Ellis-00024616 – SWE New Leveling Guide

Goog-Ellis-00025641 – May 10, 2019 Memo Regarding Leveling Guides

Goog-Ellis-00025641- New Leveling Guidelines Follow-Up Email

Goog-Ellis-00099060\_ [REDACTED]

Goog-Ellis-00099233 – Engineering Wide Leveling Guide

Goog-Ellis-00155749 – What does it mean to be Googley?

Goog-Ellis-00155753 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155755 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155761 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155764 – [REDACTED]

Goog-Ellis-00155766 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155769 – [REDACTED]

Goog-Ellis-00155772 – [REDACTED]

Goog-Ellis-00155774 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155777 – [REDACTED]

Goog-Ellis-00155781 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155785 – [REDACTED]

Goog-Ellis-00155789 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155791 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155803 – [REDACTED]

Goog-Ellis-00155813\_CONFIDENTIAL

Goog-Ellis-00155814\_CONFIDENTIAL

Goog-Ellis-00155815 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155820\_CONFIDENTIAL

Goog-Ellis-00155821 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155825 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155834 – [REDACTED]  
[REDACTED]

Goog-Ellis-00155840 – [REDACTED]

Goog-Ellis-00155857 – [REDACTED]

Goog-Ellis-00155859 – [REDACTED]  
Goog-Ellis-00155860 – [REDACTED]  
Goog-Ellis-00155870\_CONFIDENTIAL  
Goog-Ellis-00155871 – [REDACTED]  
Goog-Ellis-00155875 – [REDACTED]  
Goog-Ellis-00155878 – [REDACTED]  
Goog-Ellis-00155879 – [REDACTED]  
Goog-Ellis-00155883 – [REDACTED]  
Goog-Ellis-00155891 – [REDACTED]  
Goog-Ellis-00155914 – [REDACTED]  
Goog-Ellis-00155920 – [REDACTED]  
Goog-Ellis-00155928 – [REDACTED]  
Goog-Ellis-00155929 – [REDACTED]  
Goog-Ellis-00155932 – [REDACTED]  
Goog-Ellis-00155936 – [REDACTED]  
Goog-Ellis-00155963 – [REDACTED]  
[REDACTED]  
Goog-Ellis-00156012 – [REDACTED]  
[REDACTED]  
Goog-Ellis-00156066 – [REDACTED]  
[REDACTED]  
Goog-Ellis-00156144 – [REDACTED]  
[REDACTED]  
Goog-Ellis-00156175 – [REDACTED]  
[REDACTED]  
Goog-Ellis-00156239 – [REDACTED]  
[REDACTED]

Goog-Ellis-00156292 – [REDACTED]  
[REDACTED]

Goog-Ellis-00156369 – [REDACTED]  
[REDACTED]

Goog-Ellis-00156412 – [REDACTED]  
[REDACTED]

Goog-Ellis-00156470 – [REDACTED]  
[REDACTED]

Goog-Ellis-00156537 – [REDACTED]  
[REDACTED]

Goog-Ellis-00156618 – [REDACTED]  
[REDACTED]

Goog-Ellis-00156774 – [REDACTED]  
[REDACTED]

Goog-Ellis-00156819 – [REDACTED]  
[REDACTED]

Goog-Ellis-00157120 – [REDACTED]

Goog-Ellis-00157128 – [REDACTED]

Goog-Ellis-00157130 – [REDACTED]

Goog-Ellis-00157140 – [REDACTED]

Goog-Ellis-00157153 – [REDACTED]

Goog-Ellis-00157165 – [REDACTED]  
[REDACTED]

Goog-Ellis-00157175 – [REDACTED]  
[REDACTED]

Goog-Ellis-00157212 – [REDACTED]  
[REDACTED]

Goog-Ellis-00157223\_CONFIDENTIAL

Excerpt of Data File entitled “job responsibilities” from the data produced by Google on August 24, 2019, in the file entitled “Applicant\_OWF\_Offers”



## **Appendix C:**

# **Dr. Hough Expert Witness Work that Included Under-Oath Testimony**



### ***Dr. Hough Expert Witness Work that Included Under Oath Testimony***

- Case: Cara Williams, et al., v. Wells Fargo, N.A.
  - Expert witness for plaintiff.
  - Included expert witness report and deposition.
  - Provided opinion regarding employment practices used in implementing Section 19 of the FDIA (terminations resulting from failing a background investigation).
  - Provided opinion regarding “alternative” practices.
  - EEO discrimination; minorities.
  - Time period: mid 2010s.
- Case: Bruce Smith, et al. v. City of Boston
  - Expert witness for plaintiff.
  - Included expert witness report, deposition, and testimony in court.
  - Provided opinion regarding “alternative” tests – their validity, adverse impact, and availability.
  - Police promotion.
  - EEO discrimination; minorities.
  - Time period: mid 2010s.
- United States v. Jacksonville Fire & Rescue Department, Jacksonville, FL.
  - Expert for the U.S. Department of Justice.
  - Included writing expert witness reports and depositions.
  - Promotion to Firefighter Engineer, Lieutenant, Captain, and District Chief positions.
  - EEO discrimination case, African Americans.
  - Time period: mid 2010s.
- Nancy Lykkehoy v. General Mills, Inc. [CONFIDENTIAL]
  - Arbitration case.
  - Expert witness for claimant.
  - Included writing expert witness reports and testifying at hearing.
  - Provided opinion about age discrimination regarding General Mills, Inc.’s reduction-in-force termination decision of Lykkehoy.
  - Time period: 2018.
- Michael Allard v. General Mills, Inc. [CONFIDENTIAL]
  - Arbitration case.
  - Expert witness for claimant.
  - Included writing expert witness reports and testifying at hearing.
  - Provided opinion about age discrimination regarding General Mills, Inc.’s reduction-in-force termination decision of Allard.
  - Time period: 2018.
- David Kirk v. General Mills, Inc. [CONFIDENTIAL]
  - Arbitration case.
  - Expert witness for claimant.
  - Included writing expert witness reports and testifying at hearing.

- Provided opinion about age discrimination regarding General Mills, Inc.'s reduction-in-force termination decision of Kirk.
- Time period: 2018.
- Michael Murray v. General Mills, Inc. [CONFIDENTIAL]
  - Arbitration case.
  - Expert witness for claimant.
  - Included writing expert witness reports and testifying at hearing.
  - Provided opinion about age discrimination regarding General Mills, Inc.'s reduction-in-force termination decision of Murray.
  - Time period: 2018.
- Denise Holtz v. General Mills, Inc. [CONFIDENTIAL]
  - Arbitration case.
  - Expert witness for claimant.
  - Included writing expert witness reports and testifying at hearing.
  - Provided opinion about age discrimination regarding General Mills, Inc.'s reduction-in-force termination decision of Holtz.
  - Time period: 2018.
- Peggy Maxe v. General Mills, Inc. [CONFIDENTIAL]
  - Arbitration case.
  - Expert witness for claimant.
  - Included writing expert witness reports and testifying at hearing.
  - Provided opinion about age discrimination regarding General Mills, Inc.'s reduction-in-force termination decision of Maxe.
  - Time period: 2018.
- Judge Moises Penalver (NYC Region of SSA) v. Social Security Administration (SSA) [Office of Disability Adjudication and Review (ODAR)]
  - Arbitration case.
  - Expert witness for Association of Administrative Law Judges (AALJ).
  - Included testifying at hearing.
  - Provided opinion regarding methodology and results of a work analysis study designed to determine the amount of time required to adjudicate adult disability cases in accordance with Social Security Administration (SSA) guidance and guidelines about legally-sufficient decisions.
  - Time Period: mid to late 2010s.
- Judge Kathleen Harrington (New Haven Region of SSA) v. Social Security Administration (SSA) [Office of Disability Adjudication and Review (ODAR)]
  - Arbitration case.
  - Expert witness for Association of Administrative Law Judges (AALJ).
  - Included testifying at hearing.
  - Provided opinion regarding methodology and results of a work analysis study designed to determine the amount of time required to adjudicate adult disability cases

- in accordance with Social Security Administration (SSA) guidance and guidelines about legally-sufficient decisions.
  - Time Period: mid to late 2010s.
- Judge Jerry Meade (Hunting, WV Region of SSA) v. Social Security Administration (SSA) [Office of Disability Adjudication and Review (ODAR)]
  - Arbitration case.
  - Expert witness for Association of Administrative Law Judges (AALJ).
  - Included testifying at hearing.
  - Provided opinion regarding methodology and results of a work analysis study designed to determine the amount of time required to adjudicate adult disability cases in accordance with Social Security Administration (SSA) guidance and guidelines about legally-sufficient decisions.
  - Time Period: mid to late 2010s.
- Judge Francis Hurley (Boston Region of SSA) v. Social Security Administration (SSA) [Office of Disability Adjudication and Review (ODAR)]
  - Arbitration case.
  - Expert witness for Association of Administrative Law Judges (AALJ).
  - Included testifying at hearing.
  - Provided opinion regarding methodology and results of a work analysis study designed to determine the amount of time required to adjudicate adult disability cases in accordance with Social Security Administration (SSA) guidance and guidelines about legally-sufficient decisions.
  - Time Period: mid to late 2010s.
- Judge Bryce Baird (Buffalo Region of SSA) v. Social Security Administration (SSA) [Office of Disability Adjudication and Review (ODAR)]
  - Arbitration case.
  - Expert witness for Association of Administrative Law Judges (AALJ).
  - Included testifying at hearing.
  - Provided opinion regarding methodology and results of a work analysis study designed to determine the amount of time required to adjudicate adult disability cases in accordance with Social Security Administration (SSA) guidance and guidelines about legally-sufficient decisions.
  - Time Period: mid to late 2010s.
- Judge Bryce Baird (Buffalo Region of SSA) v. Social Security Administration (SSA) [Office of Disability Adjudication and Review (ODAR)]
  - Arbitration case – different grievance than previous case (listed above).
  - Expert witness for Association of Administrative Law Judges (AALJ).
  - Included testifying at hearing.
  - Provided opinion regarding methodology and results of a work analysis study designed to determine the amount of time required to adjudicate adult disability cases in accordance with Social Security Administration (SSA) guidance and guidelines about legally-sufficient decisions.

- Time Period: mid to late 2010s.
- Judge Margaret Donaghy (Queens Region of SSA) v. Social Security Administration (SSA) [Office of Disability Adjudication and Review (ODAR)]
  - Arbitration case.
  - Expert witness for Association of Administrative Law Judges (AALJ).
  - Included testifying at hearing.
  - Provided opinion regarding methodology and results of a work analysis study designed to determine the amount of time required to adjudicate adult disability cases in accordance with Social Security Administration (SSA) guidance and guidelines about legally-sufficient decisions.
  - Time Period: mid to late 2010s.
- Case: Jewett et al. v. Oracle America, Inc.
  - Expert witness for plaintiff.
  - Included expert witness report and deposition.
  - Provided opinion regarding work analysis, performance appraisal, compensation, HR practices.
  - Gender pay equity, class action.
  - Time Period: on-going.