




 **Approaches to Addressing Adverse Impact: Opportunities, Facades, and Pitfalls**

**John M. Ford
Michael D. Blair**




June 26, 2006 CWH Research, Inc. ¹

 **Overview**

- What is Adverse Impact?
- Importance Considerations Regarding Adverse Impact
- Practical Advice to Addressing Adverse Impact


June 26, 2006 CWH Research, Inc. ²

 **What is Adverse Impact?**

“A substantially different rate of selection in hiring, promotion, or other employment decision which works to the disadvantage of members of a race, sex, or ethnic group.”


--EEOC Uniform Guidelines

June 26, 2006 CWH Research, Inc. ³

 **Adverse Impact Ratio
The 4/5ths Rule**


- A practical rule of thumb used by enforcement agencies to identify serious discrepancies in hiring and promotion.
- A substantially different rate of selection is indicated when the selection rate for a protected group is less than 4/5ths (80%) of the selection rate for the group with the highest selection rate.
- The 4/5ths rule is the most commonly used measure for determining if adverse impact is present.

June 26, 2006 CWH Research, Inc. ⁴


 **The *d*-statistic**

- Much of the research on group differences in selection presents effect sizes in standard deviation units.
- The *d*-statistic expresses the difference between groups on a standardized scale so that different predictors and samples can be compared.
- Higher *d*-statistics represent greater differences between groups.

June 26, 2006 CWH Research, Inc. ⁵

 **Important Considerations Regarding Adverse Impact**


June 26, 2006 CWH Research, Inc. ⁶



Adverse Impact Is Complex

- No single decision or policy is likely to eliminate Adverse Impact.
- A variety of decisions throughout the selection process influence the level of Adverse Impact.
- Adverse Impact is impacted by factors unrelated to group differences (e.g., total sample, number of minorities in sample, selection ratio).


June 26, 2006 CWH Research, Inc. 7



Adverse Impact Is Complex

- Many suggestions for addressing adverse impact don't always work out the way one would intuitively expect them to.
- Adverse Impact ratios are difficult to interpret
 - Many false positives
 - Non-biased predictors which measure constructs with group differences.
 - Predictors that contain bias.
 - Actual discrimination in process.
 - Combination of the above


June 26, 2006 CWH Research, Inc. 8



Adverse Impact Can Be Evaluated at Individual Stage and Cumulative Level

- Many people track and evaluate Adverse Impact solely on the basis of the individual stages of the selection process
 - In other words, all one needs to do is meet the 4/5ths rule at each stage of the process in order to meet the legal requirements
- The legal system clearly indicates that adverse impact is a function of the total selection process
 - In other words, calculating adverse impact only at the stage level can get you in trouble!
- Let's look at an example...

June 26, 2006 CWH Research, Inc. 9




Example of a Stage-Wise Adverse Impact Calculation

1000 Applicants: 700 White & 300 Black					
Selection Stage	Whites Selected	Blacks Selected	White Rate	Black Rate	AI
MQ Screen	600	220	85.71	73.33	0.86
Written Test	230	70	38.33	31.82	0.83
Assessment Center	80	20	34.78	28.57	0.82
Oral Interview	33	7	41.25	35.00	0.85

- Based on MQ screen, 600 whites & 220 blacks move on to WT
- Based on WT, 230 whites and 70 blacks move on to AC
- Based on AC, 80 whites and 20 blacks move on to oral interview
- Based on oral interview, 33 whites and 7 blacks are selected

June 26, 2006 CWH Research, Inc. 10




Example of a Cumulative Adverse Impact Calculation

1000 Applicants: 700 White & 300 Black					
Selection Stage	Whites Selected	Blacks Selected	White Rate	Black Rate	AI
MQ Screen	600	220	85.71	73.33	0.86
Written Test	230	70	32.86	23.33	0.71
Assessment Center	80	20	11.43	6.67	0.58
Oral Interview	33	7	4.71	2.33	0.49

- Based on MQ screen, 600 whites & 220 blacks move on to WT
- Based on WT, 230 whites and 70 blacks move on to AC
- Based on AC, 80 whites and 20 blacks move on to oral interview
- Based on oral interview, 33 whites and 7 blacks are selected


June 26, 2006 CWH Research, Inc. 11



Addressing Adverse Impact Does Not Require Lowering Standards

- The default assumption often seems to be that efforts to increase diversity are equivalent to lowering standards.
- Although lowering the selection ratio, reducing minimum qualifications, or evaluating skills at a lower level can sometimes be justified and effective, it can also have serious political, performance, and safety implications.
- There are methods that have been shown to reduce Adverse Impact while increasing or maintaining standards and requirements.


June 26, 2006 CWH Research, Inc. 12



Adverse Impact Should Be Evaluated on a Continuum

- All adverse impact is not created equally.
 - Although they both violate the 4/5ths rule, an Adverse Impact ratio of .70 is preferable to .20.
- Higher Adverse Impact ratios provide a variety of results:
 - More diversity in your organization
 - Greater likelihood of meeting the 4/5ths rule in individual samples
 - Lower likelihood of grievances, EEOC investigations, lawsuits, and bad press


June 26, 2006 CWH Research, Inc. 13



Addressing Adverse Impact Sometimes Involves Tradeoffs

- Typical goals of selection processes:
 - High quality candidates (i.e., high validity)
 - Low adverse impact (i.e., diverse hires)
 - Low cost
 - Positive political, organizational, and applicant reactions
- Undue focus on any one of these goals can result in sub-optimal (and sometimes dangerous) decisions.


June 26, 2006 CWH Research, Inc. 14



Adverse Impact Ratios Are an Imperfect Indicator of Adverse Impact

- The 4/5ths rule is not adverse impact. It is an indicator of underlying adverse impact.
 - “The 4/5ths rule merely establishes a numerical basis for drawing an initial inference and for requiring additional information” (*Uniform Guidelines, Questions & Answers*)
- The 4/5ths rule is not the only (or even the most optimal) indicator of Adverse Impact.
- The 4/5ths rule can indicate Adverse Impact even when no adverse impact exists (False Positives) and the 4/5ths rule can be met even when adverse impact does exist (False Negatives).

June 26, 2006 CWH Research, Inc. 15



Adverse Impact Ratios Are an Imperfect Indicator of Adverse Impact

- Adverse Impact ratios can vary substantially over different administrations (even using the same exact process).
- Adverse Impact ratios should be interpreted extremely cautiously in small sample sizes.
- National/regional samples, aggregated samples over time, and meta-analyses provide a better estimation of adverse impact compared to individual samples.


June 26, 2006 CWH Research, Inc. 16



Validity Is Not a Justification To Ignore Adverse Impact

- Although validity is a legal defense to Adverse Impact, ignoring Adverse Impact can have serious negative consequences:
 - Even a successful defense to an EEOC investigation or court case can be extremely costly and time-consuming.
 - Negative political, social, and organizational implications
 - Tarnished organizational image
 - Fewer top quality minority candidates

June 26, 2006 CWH Research, Inc. 17



Changing the Presentation Medium Is Not a Panacea

- Research on the impact of using video or computer-based tests is inconsistent.
- Research suggests that reduced Adverse Impact may be the result of something other than the change in medium:
 - These tests are assumed to reduce adverse impact by reducing the reading comprehension demands of a test. However, this can hurt validity if the acquisition of job knowledge or classroom training is required.
 - These tests may expand the domain of constructs being measured (the same could be done with a written test)
 - Reduced adverse impact may be result of reduced reliability.
- Computer-based and video-based tests should be evaluated just like any other test—in terms of validity, reliability, adverse impact, cost, and practicality.

June 26, 2006 CWH Research, Inc. 18



Practical Advice to Addressing Adverse Impact

June 21, 2005 June 26, 2006

CWH Research, Inc. 19



Reevaluate How Your Organization Defines Job Performance

- For many years, job performance was operationalized as a unidimensional construct focused on the performance of tasks.
- However, more recent research supports a broader conceptualization of job performance

June 26, 2006

CWH Research, Inc. 20



Multidimensional Conceptualizations of Job Performance

- Non-task related performance dimensions demonstrate smaller group differences.
 - Task $d = .21$
 - Contextual $d = .13$
 - Personality-applied Social Skills $d = .07$McKay & McDaniel, 2006
- Non-task related performance dimensions provide support for including non-cognitive predictors in your selection system.

June 26, 2006

CWH Research, Inc. 21



Additional Benefits of Broader View of Job Performance

- More complete, accurate performance evaluations for incumbents.
- Broader conceptualization of job performance can result in more equal career advancement opportunities between races in your organization.
- Non-task related aspects of performance may become more important in the future as the need for customer service, adaptability, and team-based performance increases (Borman & Motowidlo, 1997)

June 26, 2006

CWH Research, Inc. 22



Add Low-Impact Predictors To Your Process

- Adverse Impact can be reduced and validity can be strengthened by adding additional predictors to your process.
 - Tests that measure non-cognitive abilities, work orientation, personality tests, integrity tests, practical intelligence, biodata, and interviews can provide incremental validity over cognitive ability.
 - These tests also demonstrate smaller group differences than cognitive ability tests.

June 26, 2006

CWH Research, Inc. 23



Cautions To Adding Additional Predictors

- Not all alternative predictors are relevant to all jobs. Make sure you can defend the use of each of your predictors.
- Your choice of predictors should go hand-in-hand with your operational definition of job performance and your job analysis.
- In some cases, adding alternative predictors can reduce validity coefficients and increase adverse impact.
- Adding additional predictors can significantly increase the cost of your process.

June 26, 2006

CWH Research, Inc. 24



Evaluate the Weighting of Your Predictors

- Although criterion-related validity is maximized by using regression weights, alternative weighting schemes can provide similar validity with much less Adverse Impact (Hornick & Axton, 1998).
- Valuing non-task related aspects of performance will support giving increased weight to low-impact predictors.

June 26, 2006

CWH Research, Inc. ²⁵

Evaluate the Sequence of Your Predictors

- Many agencies Use a Multiple Hurdle or Multi-stage Approach.
- Predictors that are inexpensive, less time consuming, and amenable to large-group administrations are often given first.
- The order in which you administer your predictors can have a substantial impact on the adverse impact of your process.

June 26, 2006

CWH Research, Inc. ²⁶

Research on Sequencing of Predictors

De Corte, Lievens, & Sackett, 2006

- With two predictors of roughly equivalent validity, it is generally better to administer the high impact predictor first.
 - The sequencing has little to no effect on the quality of the candidates selected.
 - Administering the high impact predictor first results in lower Adverse Impact as long as it is not applied more selectively than the second predictor.

June 26, 2006

CWH Research, Inc. ²⁷

Measure a Broad Range of Skills Early in the Process

- Some agencies administer a cognitive test in the first stage and measure non-cognitive skills in a later stage (e.g., interview).
- This strategy will screen out many individuals who have strong non-cognitive skills and would make more complete candidates.
- Measuring a broad range of skills can increase the validity (i.e., the quality of the candidate pool) and minimize the Adverse Impact of your first stage (as well as your total process).

June 26, 2006

CWH Research, Inc. ²⁸

Consider Innovative Ways to Measure Relevant Constructs

- Situational Judgment Tests
- Conditional Reasoning Tests
- Assessment Centers
 - Exercises that emphasize a more realistic reproduction of job performance

June 26, 2006

CWH Research, Inc. ²⁹

Periodically Reevaluate Your Selection Process

- New research is conducted on predictors, job performance, and Adverse Impact on a consistent basis.
- You could become legally vulnerable if you are unaware of new, superior alternatives.
- Conferences, Journals, IPMAAC Listserv are excellent avenues for keeping abreast of current state of science and practice.
- Get advice from professional consultants or trusted colleagues who have experience with the issues you are facing.

June 26, 2006

CWH Research, Inc. ³⁰