Understanding Adverse Impact in the Hiring Process

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SELECT PERSPECTIVES

Introduction

Adverse impact, something that all organizations want to avoid in their employment decisions, has a long history in the United States legal system. It is rooted in the language of Title VII of the 1964 Civil Rights Act, Supreme Court decisions in *Griggs v. Duke Power* (1971) and *Albemarle v. Moody* (1975), and subsequently codified in the 1978 *Uniform Guidelines on Employee Selection Procedures*.

The following sections discuss a number of relevant issues surrounding adverse impact in employment practice, and specifically in the hiring process. In addition, we provide a summary of important court cases related to adverse impact; and, more importantly, we address how Select helps reduce adverse impact in our selection systems.

1. What is adverse impact?

Adverse impact, defined by the *Uniform Guidelines*, is **"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."**

Sometimes, adverse impact is referred to as *disparate impact*[1]. This should not be confused with *disparate treatment*, where a cause for exclusion is selectively applied, indicating an intentional motive for discrimination. Adverse impact occurs when *facially neutral* employment practices negatively affect some selected groups of people more than other practices do. For example, disparate treatment would occur when the job advertisement explicitly states, "only white males may apply." On the other hand, establishing a minimum height requirement as a selection criterion, may adversely impact females and Asian/Pacific Islanders, even though on the surface it is a facially neutral employment practice. The key difference between the two practices is that disparate treatment is intentional discrimination, while adverse (or disparate) impact may or may not be.

The hallmark court case for adverse impact is *Griggs v. Duke Power* (1971). The Supreme Court decision in *Griggs* established an important and lasting precedent in employment discrimination litigations. Duke Power, before Title VII went into effect, only hired blacks for low wage labor positions, such as janitors. On the same day Title VII became law, Duke Power implemented a new policy stipulating that only individuals who possessed a high school diploma and could pass two cognitive ability tests could be placed into higher wage operation jobs. Blacks were allowed to apply for these positions. For the cognitive ability tests, one of which was the Wonderlic and the other was Bennett Mechanical Comprehension Test, 58% of white applicants and only 6% of black applicants passed. At the time, the high school diploma also excluded significantly more blacks than whites, in that the high school graduation rate was 34% for whites vs. just 12% for blacks.

Without any inferences regarding Duke Power's motive for this new policy, which could potentially be discriminatory, the Supreme Court made the critical ruling that the employers are responsible for "the consequence of employment" and mandated employers to prove a "manifest relationship" (or job relatedness) between the challenged practices and the employment in question. The legality of adverse impact in employment practices and professional guidelines was thus born.

2. What do you have to do to show that adverse impact exists?

Determining the occurrence of adverse impact entails determining whether or not there is a "substantially different rate of selection." Several statistical procedures can be used to examine the presence of adverse impact against protected groups. The following two statistical approaches are commonly used to establish *prima facie* evidence (or initial proof) of adverse impact.

- **Four-fifth's (4/5th) Rule:** This approach is so common that it is described as the Rule of Thumb in the Uniform Guidelines. In sum, the selection rates are compared between the group with the highest selection rate and specific subgroups, as long as those groups make up at least 2% of the labor or applicant pool. If the

[1] The EEOC and the Courts make no distinction between adverse impact and disparate impact and use two terms interchangeably. However, the OFCCP noted in their Compliance Manual that, for the purpose of clarity, adverse impact is used referring to statistical results (i.e., a *prima facie* case) whereas disparate impact is used for a legal finding.

ratio is below 80% (or 4/5ths), indicating a substantially higher percentage of applicants from one group are passing more than the other groups, there is evidence of adverse impact.

- **2-Standard Deviation (2-SD) Rule:** Others have proposed using an inferential statistical test, namely Fisher's exact test, and confidence intervals[2]. Among these, the 2-SD rule has been adopted by some courts (e.g., *Hazelwood School District v. United States* (1977); *Rich v. Martin-Marietta* (1979) and recommended in the OFCCP Compliance Manual (1993) as the threshold for determining if substantial pass rates between groups truly exist or simply occur by chance.

With either approach, the statistical analysis relies on information about:

- The number of applicants that have gone through the selection process
- The number of applicants that have passed or been selected through the selection process
- The demographic characteristics (e.g., race, gender, age) of these applicants

Even though the statistical methods rely on the same information, the challenge with these two approaches is that they can result in different outcomes. For instance, the 4/5th Rule does not consider sample size, while the 2-SD Rule does. This can have a substantial impact when the sample sizes are extremely large.

For example, consider a case when there are 5,000 white applicants and 2,000 black applicants. The white pass rate is 45% and the black pass rate is 40%. According to the 4/5th Rule, the ratio would be 40% / 45% = a comparative pass ratio of 89%. Therefore, according to the EEOC guidelines, there would be no adverse impact. However, with the 2-SD test used by the OFCCP, this would be a significant difference and therefore there would be evidence of adverse impact. In contrast, if the samples were smaller (e.g., 500 and 200 respectively), neither method would find evidence of adverse impact. Given the potential different conclusions that may be reached by the two approaches described above, Select recommends using both methods to analyze whether or not adverse impact exists.

What is the appropriate sample size for conducting an adverse impact analysis?

As we just saw, adverse impact analysis results are affected by the sample size. With a small sample, the results are less stable and are more likely to occur by chance. In some cases, having one or two more minority applicants pass the test could drastically change the comparative pass ratio from below 80% to above that threshold.

Consider an example where 10 females and 20 males apply for a sales position. Two females and six males pass the assessment test. The comparative pass ratio is 20% / 30% = 67%, and adverse impact exists based on the 4/5th Rule. However, if one more female would have passed the test, the comparative pass ratio is 30% / 30% = 100%, well above 80%, and thus there is no adverse impact. This result also indicates that the prior finding of adverse impact, with such a small sample size, has no *practical significance*. In practice, small sample sizes are not uncommon. Fortunately, the Uniform Guidelines offer the following guideline for small samples:

> "Where the use's evidence concerning the impact of a selection procedure indicates adverse impact but is based upon numbers which are too small to be reliable, evidence concerning the impact of the procedure *over a longer period of time* and/or evidence concerning the impact which the selection procedure had when *used in the same manner in similar circumstances elsewhere* may be considered in determining adverse impact (*Sec. 1607.4D*)." (emphasis added)

The other extreme occurs when there are exceptionally large sample sizes. As we saw earlier, the 4/5th Rule is not affected by sample size, but the 2-SD test is. In cases where the sample size is very large, it doesn't take much to flag a significant difference with the 2-SD approach. For instance, in a case where the male applicant sample was 10,000 and the female sample was 5,000, a difference of just 3% would be statistically significant.

To date, U.S. Courts have not employed a clear standard to set the minimum sample size. However, Biddle (2005) recommends that, in order to reach meaningful conclusions, one should have at least 30 individuals in your candidate pool and at least five individuals in your expected hire group, for the demographic category in question[3]. This is a 6:1 hiring ratio. Therefore, if your expected applicant to hire ratio is greater than this (e.g., 30:1),

[2] Interested readers can review Morris and Lobsenzs (2000) for technical details of different statistical tests used for adverse impact analyses.

[3] Biddle (2005) presented several court cases where the sample was deemed too small for adverse impact analysis. For example, in Shutt v. Sandoz Corp. (1991), 21 was considered too small.

then even having 30 applicants in your demographic group is not enough to reach meaningful conclusions.

Is it legal to use a test that has adverse impact?

The presence of adverse impact does not ultimately equal employment discrimination. Rather, the presence of adverse impact only gives rise to a *prima facie case* of discrimination. In other words, it is lawful to use a test that has adverse impact, as long as the test is "job related and consistent with business necessity."

The key term here is *job-related*. To support that any given test is job-related, it is very important to first conduct a thorough job analysis, involving job content experts. A good job analysis establishes what competencies, skills, abilities, etc. are deemed critical to perform the job and serves as a basis for subsequent validation studies. Test validation may involve approaches referred to as content validation, construct validation, criterion related validation and/or validity generalization. A validation study conducted in accordance to the professional guidelines and standards can provide necessary support that the assessment used is a valid predictor of job performance for targeted positions and, therefore is, "job-related." For example, in *Williams et al. v. Ford Motor Co.* (1999), a multipart ability test used to select production workers was upheld by the 6th Circuit Court, even though there was adverse impact. The court considered the extensive evidence contained in the job analysis and the four types of validity evidence (i.e., content validity, concurrent and predictive criterion-related validity, validity generalization). The victory for Ford may be due to the Court's belief that Ford made a genuine and good faith effort to use a job relevant, fair and accurate system.

However, it's important to note that a validation study that lacks quality and/or neglects professional standards will not provide legal defensibility for a selection process. The Supreme Court made this clear in *Albemarle Paper Co. v. Moody* (1975). In this case, a hasty validation effort was used, the results suffered from an inadequate sampling strategy (only job-experienced white workers were included), it included unknown job performance criteria, a subjective supervisor ranking, and was conducted on upper-level jobs rather than the lower-level job in question.

Therefore, the best recommendation to companies using any type of selection instruments (e.g., applications, standardized tests, personality inventories, interviews) is to always ensure job-relatedness through job analysis and some type of well thought out validation study conducted in accordance to the Uniform Guidelines and professional standards. This serves two primary purposes. It will (a) increase the likelihood of selecting candidates who will successfully perform the job and (b) provide supporting evidence and required defensibility if the practices are ever challenged in court.

What if there is no bottom line adverse impact, but there is adverse impact at different phases of the process?

This question is particularly relevant to a multi-stage selection process. For example, a manufacturing company may utilize an automated application process (EZ App®), a short online pre-screen fit assessment (Secure*Fit*®), a comprehensive test battery (Select Assessment® for Manufacturing) and a structured interview (Select Interviewing®) in a manner that only applicants who pass the prior stage would move on to the next stage of the selection process. Employers may mistakenly disregard the importance of a validation study if no adverse impact is found at the final stage (i.e., on the bottom line).

This mistake is understandable. If there is no bottom line adverse impact, the Uniform Guidelines take the stand that "in *most circumstances* there is no obligation under the Guidelines to investigate adverse impact for the components, or to validate the selection procedures used for that job."[4] On the other hand, it is clear that if adverse impact is found for the total selection process, the individual components should be evaluated for adverse impact to identify the cause for adverse impact. However, caution is warranted, for the Supreme Court has proven willing to overturn the bottom line concept dictated in the Uniform Guidelines. In *Connecticut v. Teal* (1982), the bottom line promotion rates were higher for blacks (22.9%) than for whites (13.5%). Despite this, the comparative pass ratio for a written test, the first step of a multiple hurdle process, was 68%, well below 80% with regard to the 4/5th Rule. Thus, even when there was no bottom line adverse impact, the disparity in pass rates at one stage sufficed to establish a *prima facie* case for adverse impact.

The real challenge in this particular situation is one in which a prior stage screens out a disproportionate percentage of minorities, and therefore the final pool of minorities who are available to be selected is depleted.

[4] See Uniform Guideline Section 4C and Questions and Answers #13 and #15

	Majority *Candidates*	Group *Pass Rate*	Minority *Candidates*	Group *Pass Rate*
Phase 1—Resume Screen	500	60%	100	20%
Phase 2—Test	300	60%	50	40%
Phase 3—Final Interview	180	50%	20	80%
Job Offers	90		16	

In this example, there is no bottom line adverse impact, because the overall pass ratio for the minority group candidates is 89% of the majority groups (e.g., 16% for minority / 18% for majority = 89%). However, in looking at each phase of the selection process, we see that adverse impact does exist at Phase 2. Specifically, only 40% of the minority candidates passed the test as compared to 60% of the majority candidates. This results in a comparative pass ratio of 67%, which may provide support for a *prima facie* case of adverse impact.

This Supreme Court decision set the precedent and is reflected in the Civil Right's Act of 1991:

> "The complaining party shall demonstrate that each particular challenged employment practice causes a disparate impact, except that if the complaining party can demonstrate to the court that the elements of a respondent's decision making process are not capable of separation for analysis, the decision making process may be analyzed as one employment process."

In other words, all components of a selection procedure should be evaluated in terms of adverse impact if they can be examined individually. However, it's important to point out that if there is no adverse impact for the overall selection process (i.e., from the first stage through the last) then this will not likely flag further investigation. Having said this, the safest approach is to assess the existence of disparity in pass rates at the final stage as well as at each step and document relevant validity evidence for each selection element.

6. What is the legal process for a discrimination claim involving a test with adverse impact?

Three enforcement agencies are important in enforcing employment law, especially as it relates to Title VII: (a) the Department of Justice (DOJ) for public entities, (b) the Office of Federal Contract Compliance Programs (OFCCP) for federal contractors and subcontractors, and (c) the Equal Employment Opportunity Commission (EEOC) for other private businesses. The legal process is slightly different depending into which judicial area the employer falls.

Applicants or employees for private businesses with alleged discrimination cases have the right to sue individually or under the EEOC. Applicants or employees within the OFCCP's jurisdiction, however, have no right to sue, but the OFCCP can impose remedies on contractors without court action.

Most employment discrimination lawsuits are resolved outside of court. In 2004, the EEOC received 58,328 charges. From this, 63.6% of those were found to have "no reasonable cause," and only 415 lawsuits were filed by EEOC. Nevertheless, understanding the judicial process during a trial helps employers prepare a legally defensible selection system in the first place. Like most civil trials, the judicial scenario for adverse impact cases involves phases where the burden shifts between claimant and employers and the trial can be ended in any phase.

Phase I: Proving Adverse Impact

The plaintiff must identify a test or policy that results in applicant flow disparity or disproportionate exclusion of a group because of some demographic characteristics, such as race, color, religion, sex and national origin.

This establishes a *prima facie* case. To do so, the plaintiff would show the statistical results of adverse impact analysis using one of the methods described earlier and identify the particular selection process, if feasible, that causes this differentiation.

Phase II: Employer Defense

If the plaintiff meets the burden of establishing a *prima facie* case, the burden then shifts to the defendant. The defendant is responsible for demonstrating that the practice is job-related and consistent with business necessity. In this phase, the plaintiff can challenge the quality of the validation evidence, such as in the Albemarle case. The defense burden of proof can be categorized into light, moderate and heavy, depending on the employment practices at issue[5]. Generally speaking, biographical factors (e.g., educational requirement, no drug use) are easier to defend and physical factors (e.g., height and weight criteria) are harder to defend than standardized tests.

[5] Gutman (2000) and Gutman (2005) labeled these three level of defense required in adverse impact cases.

Phase III: Less Discriminatory Alternatives

If the defendant can provide sufficient evidence to demonstrate the job relatedness of the selection process in Phase II, the burden shifts back to the plaintiff to prove that there is an *equally valid* practice with *less or no adverse impact*.

Probably one of the major implications of this legal process, other than the validity issue discussed earlier, is to search for alternative selection procedures. The plaintiff could show that using another assessment, applying different weights to combine predictor scores, or lower level of cutoffs could result in reduced adverse impact. However, it is often hard to show the alternative has equal validity, less adverse impact, and is also '*practical.*'

Fortunately, the court seems to follow the opinion that the proposed solution by the plaintiff should not be impossible/ unfeasible for employers to implement. For example, in *Watson v. Fort Worth Bank* (1988), the Supreme Court stated that, "Factors such as the cost or other burdens of proposed alternative selection devices are relevant in determining whether they would be equally as effective as the challenged practice in serving the employer's legitimate business goals."

To date, no plaintiff has won an adverse impact case on this ground. The common agreement among professionals in this field is that the search for alternatives is likely to receive increased attention as case law evolves[6]. As such, employers need to continually monitor their selection procedures for adverse impact and proactively consider viable alternatives if adverse impact is present.

7. How does the practice of matching employee representation with that of the local community work?

A number of organizations approach the issue of adverse impact, not from the components of the selection system per se, but from a comparison of the local labor market and their own distribution of minority groups. In essence, they try to mirror their workforce to match the percentages in the local labor market. While this approach is not one that is found in any EEOC regulations, it has been addressed by recent OFCCP guidelines.

Specifically, in their most recent commentary (2005) regarding the new rule on Internet Applicants, the OFCCP explicitly stated that they will use census data to compare the composition of workforce to that of available labor market in determining if the "basic qualification" would work against protected groups. In other words, the definition of "applicant" should not itself have an adverse impact on minorities or females, unless it is clearly job related.

To determine if this is occurring, the OFCCP may compare the composition of minorities or females in the resulting applicant pool, with their availability in the appropriate segment of the Census using the traditional two standard deviation thresholds for determining statistical significance.

There are at least two major weaknesses in using this type of defense. The first is that the definition of the labor market is ambiguous. For instance, suppose that you are staffing a manufacturing facility in a rural area 1-hour outside of a major city. The minority population in that area is very low. However, the OFCCP may argue that your relevant labor market extends to the city, which has a much higher minority population.

The second problem with this approach is that it does not focus on quality of hires, but instead only on relevant percentages. Keep in mind that there are no governmental requirements that an employer use a valid, accurate selection process. In fact, you could choose candidates at random and be within compliance. However, the quality of your workforce and the future of your organization would be severely compromised. Nonetheless, this is a strategy that seems popular among many attorneys and HR professionals.

Consequently, rather than trying to match your employee representation to that of some defined applicant pool, Select strongly recommends that you simply focus on developing job relevant and valid selection practices to begin with, as a means of dealing with adverse impact.

8. How does Select design, monitor and update its systems to reduce adverse impact?

One myth about eliminating adverse impact and increasing workforce quality is that only one or the other can be achieved. All of Select's assessment systems are designed to balance these two goals simultaneously.

For instance, in a review of multi-scale assessment tests, no predictor was found to have higher validity and lower adverse impact than Select Assessment for Manufacturing (SAM)[7]. To achieve this, Select utilizes multiple strategies and applies the following practices:

A. Use a combination of biographic measures, motivational fit data, applied problem solving tests, situational judgment and personality belief inventories.

[6] See Landy (2005) for expert opinions from I/O professionals, judges and attorneys.
[7] Doverspike, Cober, & Arthur (2003).

Selection decisions solely based on cognitive tests often lead to adverse impact against some minority groups, because the subgroup differences in test scores can be as large as 1 standard deviation. On the other hand, differences on test scores between groups are much lower on other types of predictors (e.g., measures of conscientiousness, situational judgment scales). Hence, measuring a full range of relevant competencies using a system consisting of various assessment tools can improve overall validity and minimize group differences.

For example, in a recent validation study of SAM conducted for a large manufacturer in the United States, the black-white mean differences on overall test scores was approximately ¼ standard deviations, substantially smaller than what has been reported in various research reports[8]. While that may still seem sizeable, it is 60 – 75% less than you would find using a cognitive ability test on its own.

B. Include interactive simulations and/or work samples that are face-valid and realistic to the job (e.g., Select Assessment® for Customer Service).

Research has shown that simulations reduce the majority and minority mean differences more than that of traditional paper-and-pencil tests[9]. This is because performing well on a traditional paper-and-pencil test generally requires a higher level of verbal comprehension ability. As a result, candidates who could otherwise do the job, but perhaps do not have this irrelevant skill set, are at a disadvantage and would receive a low score on the test. In contrast, simulations presented in graphic or audio formats that mirror work situations can directly measure the intended competencies without such bias[10].

Another advantage is that simulations can increase applicants' test taking motivation by presenting questions in a face-valid and non-threatening manner. For example, framing a test as a problem-solving test, not an intelligence test, has shown to help reduce the assessment differences between majorities and minorities[11]. In the case of SAM, based on a survey of candidates who took the assessment, 72% perceived it to be fair (6% did not, and 11% were neutral), and 79% felt that it was a positive first impression of the organization for candidates (only 4% disagreed)[12].

C. Customize assessment profiles with weights, minimums and cutoffs based on job analysis and validation study results.

Select applies an approach, which we call a Modified Compensatory Model, to derive tailored solutions for each client. To pass, candidates have to possess a minimum level of aptitude in individual competencies and reach a certain level on the overall assessment score, calculated as a weighted average of the individual competencies.

One of the primary advantages of this approach is that candidates with unacceptable levels in a given competency, such as a 1 on a 10-point scale for Safety, are screened out. The minimums for individual competencies are set very low as to ensure only people that are a high risk of performing poorly on the job are screened out, and no differential pass rates would occur across groups. Another advantage is that the overall composite score is more predictive of job performance than any individual competencies.

The weights are determined based on job analysis and empirical evidence from validation studies of the focal position to reflect the unique work requirements for each client. Moreover, whenever possible, small adjustments are made to allow slightly lower weights for some competencies where protected groups tend to score lower (e.g., Quantitative Problem Solving). While these adjustments take into account variations in the local labor market, the system is applied universally to every applicant and therefore consistent with the Uniform Guidelines.

Summary

Select International recognizes that, as long as companies utilize standardized selection practices, adverse impact will likely occur. Therefore, Select recommends continually monitoring and managing the presence or absence of adverse impact – using the strategies and methods described above.

8 Compared with 1 standard deviation reported in Hunter and Hunter (1984) and 2/3 standard deviation reported in Ryan et al (1998).
9 Schmitt and Mills (2001).
10 Sackett et al. (2001).
11 Steele and Aronson (1995).
12 O'Connell (1999).

Summary of Relevant Cases

The following table summarizes important adverse impact cases.

Table 1. Summary of Key Court Cases Related to Adverse Impact

Court Case	Issues Involved	Importance & Implications
Griggs vs. Duke Power (1971)	High school diploma and cognitive ability test were challenged selection procedures.	This is the first case that gave legitimacy to the concept of disparate impact. The employers must prove a "manifest relationship" between the challenged practice and the employment in question.
Spurlock v. United Airline (1972)	The airline successfully defended a four-year degree requirement for a commercial pilot position with expert testimony that it is necessary to cope with classroom trainings.	The burden of proof for biographical selection criteria, in this case, educational requirement, is light.
Albemarle vs. Moody (1975)	Challenged selection procedures were high school diploma and two cognitive ability tests. Primary reason that the employer lost the case is because of a faulty validation study for ability test.	This case, in conjunction with Griggs, set the legal process for adverse impact cases and was subsequently codified in the Uniform Guidelines. To comply, always conduct validation study in accordance to Uniform Guidelines and professional standards.
Washington v. Davis (1976)	A positive correlation between test scores and performance in the police training program was sufficient to validate the test "wholly aside from its possible relationship to actual performance as a police officer."	It is permissible to use training data to validate ability tests.
Dothard v. Rawlinson (1977)	The height/weight criteria, used to select prison guards, which excluded more women then men, was challenged.	The burden of proof for biographical selection criteria is light, whereas for physical characteristics is heavy**.**
New York City v. Beazer (1979)	Excluding methadone users from transit authority police officers is deemed obviously necessary to reach legitimate employment goals of safety and efficiency.	The burden of proof for biographical selection criteria, in this case, drug usage, is light.
Connecticut v. Teal (1982)	No bottom line adverse impact in promotion decisions but much fewer blacks passed the first test of the multiple hurdle process than whites.	Employers must examine each part of a multiple-step selection program, if feasible, for adverse impact.
Watson v. Fort Worth Bank & Trust (1988)	Challenged practices were subjective selection devices, interviews, etc.	Company may need to validate interviews in same manner as objective tests.

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