HireVue

Preventing Algorithmic Bias for Diversity and Inclusion

What Is Adverse Impact?

Adverse impact is the negative effect an unfair and potentially biased selection procedure has on any class or group. It occurs when a selection, hiring, or promotion decision results in substantial differences or unequal outcomes for a protected class or group.

Generally, in the US, adverse impact is measured to protect classes based on race, gender, age, sexual orientation, gender identity, religion, disability status, and veteran status groups.
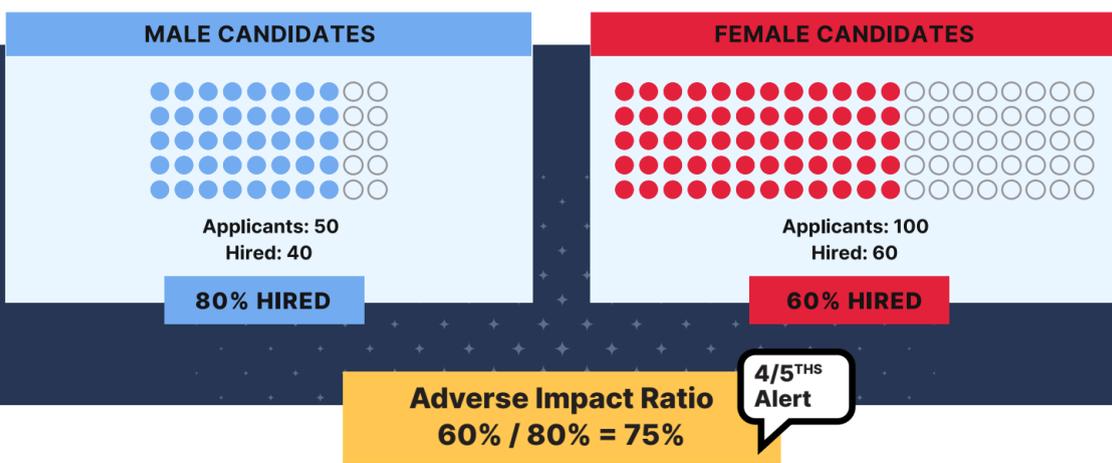
The 4/5THS Rule

The 4/5ths Rule states that if the selection rate for a certain group is less than 80 percent of that of the group with the highest selection rate, there is adverse impact on that group.

Let's say an organization called ValueWorks is looking to fill 100 open positions in its local call center. 50 men and 100 women apply. Of those applicants, 40 men and 60 women are hired. In this situation the selection rate for men is .80 (40/50), while the selection rate for women is .60 (60/100). Dividing .60 by .80 we get a .75 Adverse Impact Ratio (AIR) which is BELOW the 4/5ths Rule. Meaning they are selecting Females at a much lower rate than expected. Despite the fact that

more women were hired overall, they were adversely impacted. The 4/5ths Rule is being violated.

HireVue's Assessments are driven by AI algorithms, and we are aware that whenever algorithms are created, there is a potential for bias to be inherited from humans. We meticulously work to prevent and test for bias before an AI-driven technology is ever put to use with our customers. Ongoing testing for finding and eliminating factors that may cause bias or adverse impact is critically important. Features that could potentially cause adverse impact are identified and removed from consideration in the algorithm.

MALE CANDIDATES	FEMALE CANDIDATES
Applicants: 50 Hired: 40	Applicants: 100 Hired: 60
80% HIRED	**60% HIRED**

Adverse Impact Ratio
60% / 80% = 75%

4/5THS Alert

Artificial Intelligence presents a very real opportunity to minimize unconscious human bias, AND mitigate adverse impact of a model or hiring practices.

HireVue's Science team (Data Scientists and I/O Psychologists) evaluate our assessments to ensure they are operating in a fair manner to maintain more diverse talent pools. HireVue is very focused on fair hiring. Our Assessments integrate more than 100 years of research from the field of Industrial-Organizational Psychology with modern applications of digital technology and Data Science.

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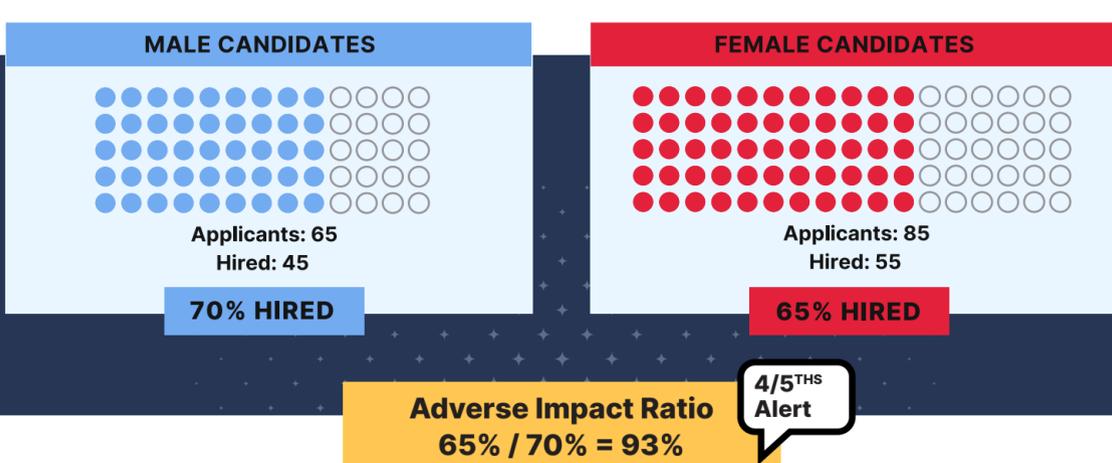
Ongoing testing for finding and eliminating factors that may cause bias or adverse impact is critically important When we check a new model for adverse impact sometimes we detect group differences in the scores that violate the 4/5ths rule. Also, we examine statistical analyses (examples include Two Standard Deviation test, Fischer's Exact test) to determine if adverse impact exists. When this happens, we identify any data that contributes to adverse impact, and then refine and revalidate the model while maintaining the assessment's predictive accuracy. Any scoring differences (for example race, gender or age) are mitigated.

Rigor of Validation & Pinpointing Adverse Impact

Back to Our Example
Upon realizing that the 4/5th Rule is violated, ValueWorks modifies the hiring process and removes factors that create adverse impact. This time 65 men and 85 women apply for another 100 open positions.

Of these applicants, 45 men and 55 women are hired. In this situation the selection rate for men is .70 (45/65) while the selection rate for women is .65 (55/85). Dividing we get a .93 Adverse Impact Ratio (AIR) which is ABOVE the 4/5ths Rule. Meaning they are selecting Females and Males at a similar rate. By identifying factors that were contributing to adverse impact and systematically removing them from the selection process, ValueWorks substantially improved the disparity in passing rates between the Male and Female groups.

MALE CANDIDATES	FEMALE CANDIDATES
Applicants: 65 Hired: 45	Applicants: 85 Hired: 55
70% HIRED	**65% HIRED**

Adverse Impact Ratio
65% / 70% = 93%

4/5THS Alert

Best Practices For Fair & Unbiased Hiring With Assessments

Diverse teams are more innovative, create more revenue, and have higher performance. Of course, making hiring more fair is also the right thing to do. We can help you to build a more diverse talent pipeline and make more inclusive hiring decisions with these research-backed recruiting strategies.
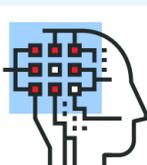
What you can do:

Diversify Your Sourcing Channels

Cast A Wider Net With Video Interviewing First

How HireVue Helps:
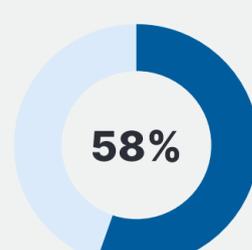
Implement a Valid AI-Driven Assessment

Monitor And Regularly Test For Adverse Impact

Case Study:

Children's Mercy Increases Diversity With Video Interviewing

When Children's Mercy Hospital wanted to streamline their hiring pipeline, they took a unique approach that shifted the video interview to the front of their application process. They allowed job seekers to submit a short introduction video for a recruiter's review.

By offering a stand alone video interview, candidates introduced themselves and explained their skills before the application. They provided recruiters with a way to match prospective job seekers with roles they would fit well in. This approach surfaced better candidates and increased organizational diversity.

58%

Increase in New Hire Diversity