Saint Louis University Law Journal

Volume 61
Number 1 *The Law and Business of People Analytics (Fall 2016)*

Article 5

2016

Big Data: Can the Attempt to be More Discriminating be More Discriminatory Instead?

Roger W. Reinsch
University of Minnesota - Duluth Labovitz, School of Business and Economics, rreinsch@d.umn.edu

Sonia Goltz
Michigan Technological University School of Business and Economics, smgoltz@mtu.edu

Follow this and additional works at: https://scholarship.law.slu.edu/lj

Part of the Law Commons

Recommended Citation

Roger W. Reinsch & Sonia Goltz, *Big Data: Can the Attempt to be More Discriminating be More Discriminatory Instead?*, 61 St. Louis U. L.J. (2016).
Available at: https://scholarship.law.slu.edu/lj/vol61/iss1/5

This Article is brought to you for free and open access by Scholarship Commons. It has been accepted for inclusion in Saint Louis University Law Journal by an authorized editor of Scholarship Commons. For more information, please contact Susie Lee.

BIG DATA: CAN THE ATTEMPT TO BE MORE DISCRIMINATING BE MORE DISCRIMINATORY INSTEAD?

ROGER W. REINSCH* AND SONIA GOLTZ**

INTRODUCTION

Big Data or People Analytics is becoming a major factor in human resources decision making, but the legal landscape has not yet changed sufficiently to respond to the issues this use raises, as has been previously pointed out:

> At the same time new tools and methods that rely on concepts of Big Data are becoming part of the daily landscape in human resource departments, employers continue to operate in a legal environment based on precedent and history with few guideposts that translate seamlessly into the world of Big Data. The issues that can arise either are brand new or develop in a context that makes yesterday's compliance paradigm difficult to apply.[1]

The fact that the law is developing and in a state of flux is what creates the legal risks and makes for uncertainty in the use of Big Data. For that reason, the purpose of this article is to provide human resources professionals and attorneys who advise human resources professionals an overview of the potential legal risks associated with the use of People Analytics. Therefore, we will cover several areas to give an overview of the potential employment discrimination issues that could arise through the use of Big Data. We start with an overview of Big Data as applied to making personnel decisions and its

---

* Roger W. Reinsch, J.D. is a Professor of Business Law at the University of Minnesota-Duluth. He received his J.D. from the University of Missouri-Columbia, and has taught a variety of business law courses, including courses for accounting students, international business law, contract law for business managers (MBA class), and the legal environment course for all business majors. His research includes such areas as international business law, constitutional law, employment discrimination issues, and law and management issues.

** Dr. Sonia Goltz is Professor of Organizational Behavior in the School of Business and Economics at Michigan Tech in Houghton, Michigan. She received her Ph.D. in Industrial/Organizational Psychology from Purdue University and teaches organizational behavior and human resources management. Her research has examined topics such as organizational change, power, organizational justice, decision making, and group dynamics.

1. MARKO MRKONICH ET AL., THE LITTLER REPORT, THE BIG MOVE TOWARD BIG DATA IN EMPLOYMENT 1 (2015), *available at* https://www.littler.com/files/wp_big_data_8-05-15.pdf [http://perma.cc/EP56-6NHP].

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

risks, and then we present the various laws that are applicable to this topic. We then discuss more specific areas such as the fallacies inherent in assuming Big Data will be bias free, the incompatibility of the use of Big Data with current Equal Employment Opportunity Commission/Federal Trade Commission and court standards for demonstrating adverse impact, and recent statements from government agencies about the use of Big Data. These discussions will be supported by case law as appropriate.

I. BIG DATA: BRIEF OVERVIEW AND ITS RISKS

Employers have more access to data than ever before, both internal and external to their organizations. Internally, there are applicant tracking and hiring systems, learning and performance management systems, human resources information systems, and integrated talent management systems.[2] Externally, organizations can find openly available sources of data on human behavior, such as text data from the Internet.[3] Many employers are using this data that is available to make a variety of employment decisions. These decisions include hiring decisions, promotion decisions, decisions on retention, decisions about pay and bonuses, and other employment decisions.

When this data is so vast it cannot be stored on a single computer or processed with typical software and accumulates very rapidly, it is called "Big Data," which is characterized by volume, velocity, and variety.[4] The application of Big Data to human resources decisions, the focus of the current paper, has been variously called "people analytics," "human capital analytics," "talent analytics," and "workforce analytics."[5] The information that organizations have access to concerning employees and potential employees falls into five main categories: demographic data, compensation data, performance data, behavioral data, and social interaction data.[6] For legal reasons involving privacy protection and the prohibition of discrimination,

2. Dan J. Putka & Frederick L. Oswald, *Implications of the Big Data Movement for the Advancement of I-O Science and Practice*, *in* BIG DATA AT WORK: THE DATA SCIENCE REVOLUTION AND ORGANIZATIONAL PSYCHOLOGY 181, 183 (Scott Tonidandel et al. eds., 2016).

3. Ivan Hernandez, Daniel A. Newman & Gahyun Jeon, *Twitter Analysis: Methods for Data Management and a Word Count Dictionary to Measure City-Level Job Satisfaction*, *in* BIG DATA AT WORK, *supra* note 2, at 64, 69.

4. John D. Morrison, Jr. & Joseph D. Abraham, *Reasons for Enthusiasm and Caution Regarding Big Data in Applied Selection Research*, 52 INDUS.-ORG. PSYCHOLOGIST 134, 134 (2015).

5. Josh Bersin, *Big Data in Human Resources: Talent Analytics (People Analytics) Comes of Age*, FORBES (Feb. 17, 2013, 8:00 PM), http://www.forbes.com/sites/joshbersin/2013/02/17/bigdata-in-human-resources-talent-analytics-comes-of-age/#19769a84ccb9 [http://perma.cc/X5NH-SVTC]; Putka & Oswald, *supra* note 2, at 181; Jacqueline Ryan & Hailey Herleman, *A Big Data Platform for Workforce Analytics*, *in* BIG DATA AT WORK, *supra* note 2, at 19.

6. Ryan & Herleman *supra* note 5, at 20–24.

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

demographic and compensation data are the most sensitive data to have and use.[7] Behavioral and performance data are considered more relevant and appropriate to use for personnel decisions and social interaction data can sometimes be appropriate as well.[8] However, as we will discuss, none of this type of information is totally devoid of the legal risk of disparate impact discrimination.

Although Big Data is characterized by volume, it would be relatively useless without the sophisticated algorithms that can process incredibly large amounts of data, allowing people to find patterns not normally visible.[9] These patterns can then be used to predict behavior, which is very useful for human resources management. As an example, consider the case of a large financial services company that traditionally hired individuals from the best schools with good grades.[10] A statistical analysis found that these factors were not predictive of sales productivity, but instead, performance could be predicted using variables such as having an accurate, grammatically correct resume.[11]

Aside from the ability to find patterns not previously visible, an argument for using Big Data in human resources management is that it is based on behavior, which can reduce effects of bias on personnel decisions.[12] Implicit or unconscious bias refers to a preference for or against something that is outside of awareness,[13] and it has been found to be pervasive and linked to discriminatory behavior, particularly when decision making is subjective.[14] The thought is that crunching data on as many as fifty to three hundred variables about the behavior of an individual and letting the data speak for

7. *Id.* at 21–22.

8. *Id.* at 22–24.

9. David J. Walton, *Big Data's Potential Disparate Impact Problem*, LAW360 (Aug. 21, 2014, 11:25 AM), http://www.law360.com/articles/568911/big-data-s-potential-disparate-impact-problem [http://perma.cc/5V63-H9NH].

10. Bersin, *supra* note 5.

11. *Id.*

12. Matt Richtel, *How Big Data is Playing Recruiter for Specialized Workers*, N.Y. TIMES (Apr. 27, 2013), http://nyti.ms/12vNysv [http://perma.cc/EH5N-G4EM].

13. John F. Dovidio, *On the Nature of Contemporary Prejudice: The Third Wave*, 57 J. OF SOC. ISSUES 829, 834 (2001); Anthony G. Greenwald, et al., *Understanding and Using the Implicit Association Test: III. Meta-Analysis of Predictive Validity*, 97 J. OF PERSONALITY AND SOC. PSYCHOL. 17, 18 (2009).

14. *See* Melissa Hart, *Subjective Decisionmaking and Unconscious Discrimination*, 56 ALA. L. REV. 741, 744 (2004) ("Claims of excessive subjectivity in decisionmaking can arise in individual cases challenging a particular employment decision, or in class action suits more broadly challenging an employer's policies and practices."); Audrey J. Lee, *Unconscious Bias Theory in Employment Discrimination Litigation*, 40 HARV. C.R.-C.L. L. REV. 481, 487 (2005) ("The problem is even more severe when a diffuse and subjective evaluative process is coupled with the 'solo effect' that occurs in situations where minority and female employees are evaluated by mostly white peers or supervisors.").

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

itself is preferable to traditional methods of making hiring and promotion decisions which are likely to suffer from such biases.[15] Additionally, pulling data on behavior from sources such as Internet sites could serve to decrease a type of bias evident in recruitment for years that has been called "social network segregation."[16] Most jobs are found through referrals using social networks and minorities have had less access to jobs within organizations in which minorities are not well represented.[17] Morgan, Dunleavy, and DeVries argue that Big Data can be used to support diversity and inclusion, including identifying untapped potential talent pools and proactively attracting diverse individuals.[18]

As an example of the use of Big Data to mine behaviors on the Internet, consider some of the software built to recruit and select people. *Gild* uses about 300 variables to scour the Internet for clues about programmers' code such as how often it is being used; *TalentBin* searches the sites that programmers congregate in; *Remarkable Hire* looks at how online contributions are rated by others; and *Entelo* uses more than seventy variables to search indicators of likely career change.[19] Although some of this data is judgment based, most of it measures the behaviors of the candidates.

The problem is that even though the claim has been made that Big Data should be less biased and result in more diversity than other approaches to making personnel decisions, there is still potential for employment discrimination claims resulting from the use of People Analytics to make employment decisions. This problem arises in part because Big Data is a relatively new area, especially for human resources decision making. As shown earlier in the Littler Report quote, this newness makes the legal implications uncertain.[20]

However, we cannot just ignore this problem and hope it goes away. People Analytics is a growth area with the expected market for Big Data and analytics to increase rapidly, generating billions in products and services as well as millions of new jobs.[21] The excitement around this new tool can be

15. *See* Richtel, *supra* note 12.

16. *See* Jomills H. Braddock II & James M. McPartland, *How Minorities Continue to Be Excluded from Equal Employment Opportunities: Research on Labor Market and Institutional Barriers*, 43 J. OF SOC. ISSUES 5, 8 (1987).

17. *See* Peter V. Marsden, *The Hiring Process: Recruitment Methods*, 37 AM. BEHAV. SCIENTIST 979, 980–81 (1994); Trond Peterson, Ishak Saporta, & Marc-David L. Seidel, *Offering a Job: Meritocracy and Social Networks*, 106 AM. J. OF SOC. 763, 764 (2000).

18. Whitney B. Morgan, Eric Dunleavy & Peter D. DeVries, *Using Big Data to Create Diversity and Inclusion in Organizations, in* BIG DATA AT WORK, *supra* note 2 at 320–22.

19. Richtel, *supra* note 12.

20. MRKONICH ET AL., *supra* note 1, at 1.

21. *See* Bersin, *supra* note 5; *see also Advanced Analytics Market Worth $29.53 Billion by 2019*, MARKETSANDMARKETS (Apr. 2014), http://www.marketsandmarkets.com/PressReleases/

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

seen in the roundtable discussions occurring at conferences of human resources professionals,[22] and the several articles in recent issues of *The Industrial Psychologist*.[23] Therefore, we believe it is important to carefully consider the possible ramifications of using Big Data for the purpose of human resources management.[24]

One of the concerns that has been voiced by human resources professionals is that Big Data could result in adverse impact. As stated by Ranjan Dutta, a director at Pricewaterhouse Coopers Saratoga and author of the 2014 PwC Saratoga U.S. Human Capital Effectiveness Report, "The use of [predictive analytics] to make hiring decisions [and other employment decisions] could lead to discrimination if not used properly."[25] This has been confirmed by others, including Erin Schilling, a shareholder at Kansas City's Polsinelli law firm, "Yes, I absolutely think it's a legitimate concern . . . [The use of predictive analytics] could have a disparate impact on minorities, women, or any different kind of class of worker."[26]

This has been echoed by lawyers in the employment area. A recent article stated, "None of the three employment-law attorneys interviewed for this story knew of any current or recent employment-discrimination litigation concerning the use of predictive analytics for hiring. However, all agreed that the potential for adverse impact exists."[27] For example, Peter Gillespie, of Fisher & Phillips in Chicago said, "But, there's always the risk of testing bias, and we've certainly seen the EEOC[28] pursuing concerns about potential bias in the hiring process."[29]

advanced-analytics.asp [http://perma.cc/PZS6-G8KX] ("MarketsandMarkets forecasts the advanced analytics market to grow from $7.04 billion in 2014 to $29.53 billion in 2019 at a Compound Annual Growth Rate (CAGR) of 33.2% during the forecast period 2014–2019.").

22. *See* J. Bruce Tracey, *Hospitality HR and Big Data: Highlights from the 2015 Roundtable*, 15 CORNELL LAB. & EMP. L. REP. 1, 3 (2015), http://scholarship.sha.cornell.edu/cgi/viewcontent.cgi?article=1000&context=cihlerconf [http://perma.cc/E44R-YVCE].

23. *See, e.g.*, Morrison & Abraham, *supra* note 4.

24. FEDERAL TRADE COMMISSION, BIG DATA: A TOOL FOR INCLUSION OR EXCLUSION? UNDERSTANDING THE ISSUES (Jan. 2016), https://www.ftc.gov/system/files/documents/reports/big-data-tool-inclusion-or-exclusion-understanding-issues/160106big-data-rpt.pdf [http://perma.cc/6825-ZGJB].

25. Andrew R. McIlvaine, *The Power (and Peril) of Predictive Analytics*, HUMAN RESOURCE EXECUTIVE ONLINE (May 21, 2014), http://www.hreonline.com/HRE/view/story.jhtml?id=534357136 [http://perma.cc/RK4N-N7A2].

26. *Id*.

27. *Id*.

28. *See infra* Part V.

29. McIlvaine, *supra* note 25.

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

What Big Data can do, with its powerful algorithms and vast amount of information, is find the needle in the haystack.[30] However, the input by humans creates the haystack, so that input will affect the needle that is found. For that reason, human resources personnel using Big Data must understand how the factors they select as input were chosen and whether those factors might contain some sort of biases that will then bias the output. Without that understanding and vigilance, Big Data may simply "reproduce existing patterns of discrimination, inherit the prejudice of prior decision makers, or simply reflect the widespread biases that persist in society."[31] Therefore, even though computers do not have any biases, the information put in, or selected, by humans may have biases, and the computer generated results will reflect that bias. As Peter Drucker noted, "the computer makes no decisions; it only carries out orders. It's a total moron, and therein lies its strength (and weakness). It forces us to think, to set the criteria. The stupider the tool, the brighter the master has to be."[32]

Even though computers are much better at making decisions today, it is important to understand that the input is still important so that the decisions that are made by the computer do not reflect potential bias. It is a fact that without careful monitoring when cognitive computing algorithms are used in employment decisions, there is a risk of impermissible discrimination.

> [A]n algorithm is defined by a sequence of steps and instructions that can be applied to data. Algorithms generate categories for filtering information, operate on data, look for patterns and relationships, or generally assist in the analysis of information. The steps taken by an algorithm are informed by the author's knowledge, motives, biases, and desired outcomes. The output of an algorithm may not reveal any of those elements, nor may it reveal the probability of a mistaken outcome, arbitrary choice, or the degree of uncertainty in the judgment it produces. . . . The final computer-generated product or decision—used for everything from predicting behavior to denying opportunity—can mask prejudices while maintaining a patina of scientific objectivity.[33]

Therefore, even though computers can now generate more complex decisions, they are still not brighter than the master. "'[P]eople need to make decisions.' The role of analytics is not to replace decision makers with algorithms. I

30. *See Data, Data Everywhere: A Special Report on Managing Information*, THE ECONOMIST (Feb. 27, 2010), https://www.emc.com/collateral/analyst-reports/ar-the-economist-data-data-everywhere.pdf [http://perma.cc/3XLJ-CSVD].

31. Solon Barocas & Andrew D. Selbst, *Big Data's Disparate Impact*, 104 CAL. L. REV. 671, 674 (2016).

32. PETER F. DRUCKER, TECHNOLOGY, MANAGEMENT, AND SOCIETY 147 (2010).

33. JOHN PODESTA ET AL., BIG DATA: SEIZING OPPORTUNITIES, PRESERVING VALUES 46 (2014) [hereinafter PODESTA REPORT], https://www.whitehouse.gov/sites/default/files/docs/big_data_privacy_report_may_1_2014.pdf [http://perma.cc/AYK2-UW55].

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

always coach that analytics and data represent evidence, not proof, and it is this evidence that can make our decisions better."[34]

Essentially the potential for bias when using Big Data is related to the fourth "V" of Big Data: veracity. Veracity refers to the integrity and accuracy of the data.[35] The problem with Big Data is that data is downloaded automatically from different sources and may be in different forms. Data is often repurposed and expropriated from various databases and, as a result, the accuracy and meaning of each item in the resulting database can become unclear; however, the fact that they are in the same database can lead to the assumption of equivalent accuracy and meaning across items.[36] However, accuracy in data is particularly important when making personnel decisions and this can be seen in a number of different standards put forth by professional and government organizations concerning the validation of selection and assessment instruments.[37] Therefore, it has been argued that veracity holds more importance when it comes to workforce analytics than for other disciplines.[38]

As we see it, there are two big risks of using Big Data. The primary risk from using Big Data is unintentional discrimination, also known as disparate impact discrimination. This would result from biases in the information put in or selected for analysis, as discussed previously. The second risk is an increased possibility of finding adverse impact for a group when no meaningful differences exist. This results from applying the current definitions of adverse impact as used by the courts and the Equal Employment Opportunity Commission. Beyond these two risks, there is the additional issue of increasing scrutiny from regulatory agencies of the use of Big Data. We discuss each of these areas following a presentation of the applicable laws.

II. APPLICABLE FEDERAL AND STATE EMPLOYMENT RELATED LAWS

This section will look at all the relevant federal laws and some of the state laws that could apply to the use of Big Data in making employment decisions.[39]

34. Dave Weisbeck, *The HR Fortuneteller Myth: 3 Ways Your Boss Doesn't "Get" Predictive Analytics*, VISIER (Feb. 13, 2015, 12:17 PM), http://www.visier.com/tech-insights/hr-fortuneteller-myth-3-ways-boss-doesnt-get-predictive-analytics/ [http://perma.cc/Q6ZF-3S5M].

35. Jean Francois Puget, *Big Data for Dummies*, IBM DEVELOPER WORKS (Apr. 22, 2013), https://www.ibm.com/developerworks/community/blogs/jfp/entry/big_data_for_dummies23?lang=en [http://perma.cc/CMJ4-DFKD].

36. *See* Marcus R. Wigan & Roger Clarke, *Big Data's Big Unintended Consequences*, 46 COMPUTER 46 (2013).

37. A. JAMES ILLINGWORTH, MICHAEL LIPPSTREU & ANNE-SOPHIE DEPREZ-SIMS, *Big Data in Talent Selection and Assessment*, *in* BIG DATA AT WORK, *supra* note 2, at 219–20.

38. *Id.* at 219.

39. *See infra* Tables 1 and 2 for a list of relevant laws.

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

In order to more fully understand the risks of the use of People Analytics, it is important to have a brief overview of relevant federal and state laws and EEOC regulations that could apply. We limit our discussion to United States law due to the diversity among foreign jurisdictions. The laws covered include the following: Title VII of the Civil Rights Act of 1964 (Title VII); the Civil Rights Act of 1991, whose purpose was to update the 1964 Act (both prohibit employment discrimination based on race, color, religion, sex, or national origin); the Pregnancy Discrimination Act of 1978 (PDA), which forbids discrimination based on pregnancy when it comes to any aspect of employment, including hiring, firing, pay, job assignments, promotions, layoff, training, fringe benefits, such as leave and health insurance, and any other term or condition of employment; the Age Discrimination in Employment Act of 1967 (ADEA), which protects individuals who are forty years of age or older; Title I and Title V of the Americans with Disabilities Act of 1990, as amended (ADA), which prohibits employment discrimination against qualified individuals with disabilities in the private sector, and in state and local governments; and the Genetic Information Nondiscrimination Act (GINA). In addition, we will cover the Fair Credit Reporting Act of 1970 (FCRA). Even though it is not an anti-discrimination act, it does affect how information about individuals is acquired.

In addition, one needs to consider the "lifestyle" statutes that have been passed by many states and other state and local statutes that relate to discrimination, such as sexual orientation or family responsibility (caregiver) statutes. "Lifestyle statutes are the commonly accepted name of state statutes and local ordinances that cover choices in regard to how to live made by individuals; they cover a range of activities from smoking to hang gliding."[40] These laws generally make it illegal to discriminate in any aspect of employment, including job advertisements; recruitment; testing; use of company facilities; hiring; compensation and granting of related benefits; assignment or classification of employees; training and apprenticeship programs; transfer, promotion, layoff, firing, or recall; granting of disability-related leave; or other terms and conditions of employment. Using Big Data or People Analytics could impact all of these areas in a discriminatory manner. For example, deciding where to advertise a position based on data analysis could have a disparate impact.

Discriminatory practices in employment decisions occur when those decisions are made based on data containing stereotypes or assumptions about the abilities, traits, or performance of individuals of a certain sex, race, age, religion, ethnic group, or individuals with disabilities, or those who are pregnant or may consider becoming pregnant. Using this biased output could

40. 18 INTELLIGENCE, SUSTAINABILITY, AND STRATEGIC ISSUES IN MANAGEMENT: CURRENT TOPICS IN MANAGEMENT (M. AFZALUR RAHIM, ED. 2016).

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

result in a claim of adverse impact on some protected category when there is no legitimate business reason for that adverse impact.

We discuss these laws along with some brief examples of the problems that could be created by the use of People Analytics in employment decisions. This is meant to just provide some examples and is not meant to be comprehensive of all the problems that could arise. Later we will evaluate the potential for Big Data to be more or less biased in more depth.[41]

The Civil Rights Act of 1964 and the Civil Rights Act of 1991, as indicated earlier, are intended to prevent discrimination based on race, color, religion, sex, or national origin. For example, assume that a business with a large sales force composed of either all white males or a majority of white males undertakes a project to find out what characteristics make up a good sales person so that they can use that information in future hiring decisions. This database has a built-in bias in favor of white males, and all this really will show is what characteristics white males have that will make them good sales people. It will not provide any information about good sales people who are minorities or females.

> A similar situation could conceivably arise on websites that recommend potential employees to employers, as LinkedIn does through its Talent Match feature. If LinkedIn determines which candidates to recommend based on the demonstrated interest of employers in certain types of candidates, Talent Match will offer recommendations that reflect whatever biases employers happen to exhibit. In particular, if LinkedIn's algorithm observes that employers disfavor certain candidates who are members of a protected class, Talent Match may decrease the rate at which it recommends these candidates to employers. The recommendation engine would learn to cater to the prejudicial preferences of employers.[42]

In *Connecticut v. Teal*,[43] the Supreme Court held that an employer is liable for racial discrimination when any part of its selection process, such as an invalidated examination or test, has a disparate impact even if the final result of the hiring process is racially balanced. In effect, this means that the court looks at each employment decision, instead of looking at the bottom line, so fair treatment of a group is not a defense because the law's focus is on the individual. This could easily be an issue when using People Analytics since some of the information that goes into the algorithm may not be validated as a bona fide occupational qualification.

Under the Pregnancy Discrimination Act of 1978, an employer cannot discriminate in an employment decision against a pregnant woman because of her pregnancy, because of a pregnancy-related condition, or because of the

41. *See infra* Part IV.
42. Barocas & Selbst, *supra* note 31, at 683.
43. 457 U.S. 368, 442 (1986).

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

prejudices of co-workers, clients, or customers toward pregnant women.[44] Therefore, an algorithm that contains data about how many leave or sick days were taken could create a bias that is protected under the PDA.

Under the ADEA of 1967, any algorithm that might contain data about Internet use could create a violation of the ADEA.[45] For example, Pew Research Center found that the eighteen through twenty-nine year old age group had a ninety-seven percent use of the Internet, and that the sixty-five and older age group was down to fifty-seven percent rate of use.[46]

The ADA, as amended by the ADA Amendments Act of 2008, has some nuances that may pose problems for employers.[47] As defined by the ADA, an individual with a disability is a person who has "a physical or mental impairment that substantially limits one or more major life activities"; has "a record of such an impairment"; or is "regarded as having such an impairment."[48] For example, the Interpretive Guidance states,

> The intent of this provision is to further emphasize that individuals with disabilities are not to be excluded from jobs that they can actually perform merely because a disability prevents them from taking a test, or negatively influences the results of a test, that is a prerequisite to the job.[49]

Therefore, if test results are part of an algorithm used to make employment decisions this could be a problem. Another issue with being disabled is that

> [S]ome of the information relied upon by Big Data is generated by individuals in the normal course of living, they are unaware their extra-curricular activities may be the basis on which their suitability for a position will be judged. Disabled individuals, impaired in the activities monitored by Big Data, cannot request reasonable accommodations if they are unaware how they are being screened. On the other hand, an employer also may not know that an applicant, whose data has been gleaned from the web, has an impairment that might require accommodation.[50]

GINA applies to employers with fifteen or more employees, and provides federal protection from genetic discrimination in employment.[51] Title II of GINA makes it illegal, as of November 2009, for employers to use a person's

44. Pregnancy Discrimination Act, 42 U.S.C. § 2000e(k) (2012).

45. Age Discrimination in Employment Act, 42 U.S.C. §§ 621–634 (2012).

46. *Internet User Demographics*, PEW RESEARCH CENTER (Jan. 2014), http://www.pewinternet.org/data-trend/internet-use/latest-stats/ [http://perma.cc/BGG9-88V8].

47. Americans with Disabilities Act, 42 U.S.C. §§ 12101–12213 (2012).

48. *Id.* § 12102.

49. 29 C.F.R. § 1630.11 (2016).

50. MRKONICH, ET AL., *supra* note 1, at 11.

51. Genetic Information Nondiscrimination Act of 2008, 42 U.S.C. §§ 2000ff–2000ff-11 (2012).

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

genetic information when making decisions about hiring and promotion.[52] GINA prohibits employers from the following:

> (1) [T]o fail or refuse to hire, or to discharge, any employee, or otherwise to discriminate against any employee with respect to the compensation, terms, conditions, or privileges of employment of the employee, because of genetic information with respect to the employee; or (2) to limit, segregate, or classify the employees of the employer in any way that would deprive or tend to deprive any employee of employment opportunities or otherwise adversely affect the status of the employee as an employee, because of genetic information with respect to the employee.[53]

Through the use of Big Data, genetic information could inadvertently be included in the results that are being used to make a variety of employment decisions.

Lifestyle legislation is becoming more common in the United States.

> Employers in the United States are by now quite familiar with Title VII and the other laws that prevent discrimination in the workplace on the basis of race, gender, religion, national origin, age, disability and other protected factors. But businesses may not know that many states also have statutes preventing employers from taking action against employees based on their off-duty conduct. These so-called "lifestyle discrimination" laws are becoming more prevalent, and employers should examine their policies and practices to ensure that they are in compliance with these often-overlooked statutes.[54]

The state laws vary as to the types of things the statutes apply to and to the types of actions an employer may take. Many apply to all employment related actions and others to only specific actions; therefore, an employer needs to be familiar with its state's lifestyle statutes.[55] In order to reduce insurance costs, an employer might do an Internet/social media search as part of the data they use to make employment decisions that involves searching for high-risk behavior by an individual. As long as that person is engaging in legal activities during non-working hours, those kinds of activities might be protected by lifestyle statutes and may not be used to make any employment related decision.

52. *Id.* § 2000ff-1.

53. *Id.*

54. Christine Burke & Barbara Roth, *Labor: Lifestyle Discrimination Laws Are Becoming Increasingly Prevalent*, INSIDE COUNSEL (June 13, 2011), http://www.insidecounsel.com/2011/06/13/labor-lifestyle-discrimination-laws-are-becoming-i?&slreturn=1473286057 [http://perma.cc/2ZVA-Q4FJ].

55. For a complete discussion of lifestyle statutes, *see* Stephen D. Sugarman, *Lifestyle Discrimination in Employment*, 24 BERKELEY J. EMP. & LAB. L. 377, 416 (2003).

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

III. EVALUATING THE POTENTIAL OF BIG DATA TO BE MORE OR LESS BIASED

One of the often repeated reasons for using Big Data is that it can reduce unconscious bias. In this section, we provide background information on the reasoning behind that argument and suggest that there is inadequate support for the argument. We also suggest that there is in fact plenty of reason to believe Big Data might increase the potential for bias or at least the potential for perceptions of bias.

A. The Argument for Using Big Data: Basing Selection on Behavioral Measures

The idea that selection should be based on behavioral measures rather than tests has been around for many years, starting with Wernimont and Campbell,[56] who thought that relying on behavioral consistency—the tendency of people to repeat behaviors over time—would result in better prediction of future work performance than other approaches. Behavioral consistency and the various reasons for it have been the focus of much discussion in the social psychology literature for many years.[57] Personality traits such as emotional stability as well as the tendency of people to find themselves in similar situations are thought to account for behavioral consistency effects.[58] The behavioral consistency model forms a theoretical basis for a number of selection methods based on behavior, such as work sample tests, situational interviews, and assessment centers.[59] These methods have not only been found to be predictive of performance but also have been found to reduce the possibility of bias.[60]

56. *See* Paul F. Wernimont & John P. Campbell, *Signs, Samples, and Criteria*, 52 J. APPL. PSYCHOL. 372 (1968).

57. *See* Willian Fleeson & Erik Noftle, *The End of the Person–Situation Debate: An Emerging Synthesis in the Answer to the Consistency Question*, 2 SOC. PERSONAL. PSYCHOL. COMPASS 1667 (2008); Ryne A. Sherman, Christopher S. Nave & David C. Funder, *Situational Similarity and Personality Predict Behavioral Consistency*, 99 J. PERSONALITY & SOC. PSYCHOL. 330 (2010).

58. *See* William Ickes, Mark Snyder & Stella Garcia, *Personality Influences on the Choice of Situations, in* HANDBOOK OF PERSONALITY PSYCHOLOGY 165 (Robert Hogan et al. eds., 1997); Sherman et al., *supra* note 57, at 330.

59. *See* Neal Schmitt & Cheri Ostroff, *Operationalizing the "Behavioral Consistency" Approach: Selection Test Development Based on a Content-Oriented Strategy*, 39 PERSONNEL PSYCHOL. 91(1986).

60. *See* George A. Brugnoli, James E. Campion & Jeffrey A. Basen, *Racial Bias in the Use of Work Samples for Personnel Selection*, 64 J. APPL. PSYCHOL. 119 (1979); Wayne F. Cascio & Niel F. Phillips, *Performance Testing: A Rose Among Thorns?* 32 PERSONNEL PSYCHOL. 751 (1979); I. T. Robertson & R. S. Kandola, *Work Sample Tests: Validity, Adverse Impact and Applicant Reaction*, 55 J. OCCUPATIONAL PSYCHOL. 171 (1982); Arthur I. Siegel & Brian A. Bergman, *A Job Learning Approach to Performance Prediction*, 28 PERSONNELL PSYCHOL. 325 (1975).

The predictive advantage of behavioral measures over measures such as ability tests was shown in a study that examined the predictive ability of training performance in terms of later work performance. When training and ability assessments were entered sequentially, ability measures did not significantly increase the variance accounted for over and above training performance; however, training performance significantly increased the variance accounted for over and above ability measures.[61] The authors concluded, "organizations that reduce their reliance on ability in selection procedures and capitalize on behavioral consistency can do so on sound empirical bases" and viewed their study as support for using the behavioral consistency model in selection.[62]

An example that illustrates the different outcomes that result from using behavioral measures versus other types of selection tests can be seen in comparing aptitude tests with the use of GPA to admit college students. Aptitude tests measure potential whereas GPA is a composite measure of a number of different behaviors across classes over time. Racial and ethnic differences in mean test scores are evident in standardized tests such as the LSAT, with African-Americans and Hispanics scoring below non-Hispanic whites.[63] African-Americans average 142 on the LSAT and Hispanics average 147 or 148 as compared with 153 for whites.[64] The GPA, in contrast, shows smaller differences among these groups. The standardized test differences have been attributed by some to differences in the resources that have been available to these groups to facilitate student learning[65] and is supported by findings that differences in scores for whites and non-whites are reduced when taking into account school quality and course-taking patterns.[66] Thus, the LSAT can be said to be inherently biased in that it leads to different results for different groups and that this difference is not associated with true aptitude differences. How this bias can affect the ability to predict performance is evident when

61. *See* Kathy A. Hanisch & Charles L. Hulin, *Two-Stage Sequential Selection Procedures Using Ability and Training Performance: Incremental Validity of Behavioral Consistency Measures*, 47 PERSONNELL PSYCHOL. 767 (1994).

62. *Id.* at 779.

63. Amy E. Schmidt & Wayne J. Camara, *Group Differences in Standardized Test Scores and Other Educational Indicators, in* RETHINKING THE SAT 189, 192 (Rebecca Zwick ed., 2004).

64. Susan P. Dalessandro, Lisa C. Anthony & Lynda M. Reese, *LSAT Performance with Regional, Gender, and Racial/Ethnic Breakdowns: 2007–2008 Through 2013–2014 Testing Years,* LAW SCHOOL ADMISSION COUNCIL 22 (2014), http://www.lsac.org/docs/default-source/research-(lsac-resources)/tr-14-02.pdf [http://perma.cc/PFH4-LNH3]; *see also* Schmidt & Camara, *supra* note 63, at 191.

65. Eric Grodsky, John R. Warren & Erika Felts, *Testing and Social Stratification in American Education*, 34 ANN. REV. OF SOC. 385, 388 (2008).

66. Stephen P. Klein, et al., *Gender and Racial/Ethnic Differences on Performance Assessments in Science*, 19 EDUC. EVALUATION & POL. ANAL. 83, 92 (1997); *see also* Schmidt & Camara, s*upra* note 63, at 196.

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

standardized test scores are compared to the GPA. Scores on standardized tests predict in-class exam scores, but are relatively weak predictors of take-home exams and papers.[67] The GPA is a fairly good predictor of in-class exam scores, take-home exams, and papers.[68] This may be because, in contrast to written aptitude tests, GPAs represent the results of cumulative behaviors over time and are less likely to be biased.

We discussed the history of using behavioral measures to select people because one argument for using Big Data in human resources management, such as in selection, is since it is based on behavior, it can reduce the potential for bias.[69] The implicit argument seems to be that since behavioral measures have been found to be more predictive and less biased than other selection measures, if we have data on as many as fifty to three-hundred variables about the behavior of an individual, we should be even better able to predict work performance without bias. However, there is little research to date that examines the accuracy of this assumption, and in fact, the various measurement problems that have been discussed in terms of collecting and processing Big Data suggests that there is, in fact, much room for bias. As Barocas and Selbst say, "data mining holds the potential to unduly discount members of legally protected classes and to place them at systematic relative disadvantage."[70]

B. Measurement Problems in Big Data Increasing the Potential for Disparate Impact Discrimination

In this article, we are only going to focus on unintentional/disparate impact discrimination, and not on intentional discrimination, even though intentional discrimination could be masked through data mining.[71] The risk of unintentional discrimination, as mentioned above, comes about due to potentially biased information being put into the algorithm used to make employment decisions. "The likelihood of a cognitive computing process producing an algorithm with an unlawful disparate impact could increase if the data used in creating the algorithm is itself biased."[72] For example, assume that faculty evaluations are done through the use of an algorithm. What will be put into the algorithm will be a variety of data that falls into the traditional three broad categories for faculty evaluations—research data, teaching data and service data. The information under research will include number of

67. *See* William D. Henderson, *The LSAT, Law School Exams, and Meritocracy: The Surprising and Undertheorized Role of Test-Taking Speed*, 82 TEX. L. REV. 975, 981 (2004).

68. *Id*.

69. *E.g.*, Richtel, *supra* note 12.

70. Barocas & Selbst, *supra* note 31, at 677.

71. See *id.* at 692, for a complete discussion of this issue.

72. MRKONICH ET AL., *supra* note 1, at 4.

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

publications and quality of journals published in, among other things. The information under teaching will include student evaluations, syllabi, teaching materials, etc. Teaching evaluations generally are done using a Likert scale, say from one through five. Let us assume that a median of 3.5 and above is acceptable for employment decisions such as merit pay, promotion, and tenure. The raw numbers from the student evaluations are what is fed into this algorithm. So an evaluation under 3.5 could harm faculty members in the above employment decisions. The problem is that the reason a faculty member might have received lower evaluations may not be because he/she is a poor teacher, but because the students who did the evaluations are biased based on national origin (accent or ethnic), gender, and/or race. So the result will be that those faculty members will be rated lower than others because some of the input contained biased information of the type that put the faculty member into a protected group.[73]

Aside from the possibility that the data being entered into the algorithm is biased as in the previous example, reliance on Big Data can introduce bias in other ways that can run afoul of discrimination laws. For example, in data trawling, what is measurable and voluminous can take precedence over what is less measurable.[74] One of the problems with this is we then miss the story that is not told by the data, which has been called the criterion problem.[75] Often data that seems objective because it is quantifiable misses something important. For example, an algorithm that predicts an individual's talent for working with computers based on their Internet behavior does not necessarily predict their ability to work with people.[76] In terms of Big Data, Ryan and Ployhart stated:

> Poor quality, contaminated, and mis- or underspecified measures of performance hinder our capacity to advance understanding of the true importance of individual differences as predictors. Although more data are now tracked by organizations (e.g., big data) on individual performance, we are still limited in our capacity to predict because of the challenge of obtaining accurate and complete assessments of individual behavior at work.[77]

Another problem concerns criterion deficiency, which is when performance data is contaminated by factors beyond the person's control. A company may wrongly assume everyone has access to the tools or environments on which they are collecting Big Data. For example, companies

73. *E.g.*, *id.* at 3; *see also*, Barocas & Selbst, *supra* note 31, at 683.

74. *E.g*., Richtel, *supra* note 12, at 5.

75. *See* Robert M. Guion, *Criterion Measurement and Personnel Judgements*, 14 PERSONNELL PSYCHOL. 141 (1961).

76. *E.g*., Richtel, *supra* note 12, at 9.

77. Ann Marie Ryan & Robert E. Ployhart, *A Century of Selection*, 65 ANN. REV. PSYCHOL. 693, 698 (2014).

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

are beginning to use programs that collect Internet data to select individuals likely to have computer skills.[78] Individuals who have less access to computers or the Internet may have those skills, but their behaviors and capabilities are invisible to the company because of their lack of access. Historically disadvantaged groups living on the margins and less involved in the formal economy because of unequal access are likely to be negatively impacted.[79] Also individuals with disabilities may use a computer less than those who do not have disabilities due the fact that it may be more problematic to use a computer.[80]

Furthermore, even if data on all groups is available, companies could use data to not hire certain groups who have a lot of absence or turnover (mothers, for example),[81] and this could lead to more discrimination instead of companies fixing the issues internally that lead to these problems (e.g., providing child care options).

C. The Increased Likelihood of Finding Adverse Impact Even When No Meaningful Difference Exists

Let us assume that an organization takes care and makes sure the data being used is "clean"—in other words, that there is no bias in terms of how it was collected or used. There remains an additional potential legal problem: the increased likelihood of finding adverse impact when using Big Data that arises not from how the data was collected, but just from the fact that it creates a large sample size. Based on the *Uniform Guidelines* issued by the EEOC,[82] a decision making process based on Big Data is more likely to result in apparent adverse impact for individuals from underrepresented groups that are protected by the various discrimination laws, such as Title VII of the Civil Rights Act of 1964.

There are two tests for adverse impact used by the EEOC and other government agencies: the four-fifths rule, which requires that the minority group must be selected at a rate no less than eighty percent of the selection rate

78. *E.g.*, Richtel, *supra* note 12, at 2.

79. *See* Barocas & Selbst, *supra* note 31, at 685; *see also* Jonas Lerman, *Big Data and Its Exclusions*, 66 STAN. L. REV. ONLINE 55 (2013).

80. Kathryn Zickuhr, *Digital Differences*, PEW RESEARCH CENTER (Apr. 13, 2012), http://www.pewinternet.org/2012/04/13/digital-differences [http://perma.cc/JK4P-ZFJH] ("27% of adults living with disability in the U.S. today are significantly less likely than adults without a disability to go online (54% vs. 81%). Furthermore, 2% of adults have a disability or illness that makes it more difficult or impossible for them to use the internet at all.").

81. *See* Barocas & Selbst, *supra* note 31, at 701–12.

82. 29 C.F.R. § 1607 (2008).

for the majority group, and significance testing.[83] Although the four-fifths rule was used frequently in the past, courts and government agencies are now relying more on tests of significance.[84] The use of significance tests was first used in *Castaneda v. Partida*,[85] and then applied again in *Hazelwood v. United States*,[86] when the Supreme Court defined significance as being two or three deviations—in other words, an alpha level of .05 or .01 in significance testing.[87]

The problem with this for Big Data is that studies of statistical power show that almost any difference between groups, even if not large enough to be practically meaningful, will be statistically significant if large samples are used.[88] For example, a one percent difference in selection rates can produce

83. Sheldon Zedeck, *Adverse Impact: History and Evolution*, *in* ADVERSE IMPACT: IMPLICATIONS FOR ORGANIZATIONAL STAFFING AND HIGH STAKES SELECTION 15–16 (James L. Outtz ed., 2010).

84. *Id.* at 16.

85. 430 U.S. 482, 489 (1977) (involving a jury selection process that resulted in excluding minorities. In order to determine whether there was discrimination the Court said, "Statistical analysis . . . indicates that the discrepancy is significant. If one assumes that Mexican-Americans constitute only 65% of the jury pool, then a detailed calculation reveals that the likelihood that so substantial a discrepancy would occur by chance is less than 1 in 10^{50}.").

86. 433 U.S. 299, 307 (1977) (involving a school district's hiring of minority teachers. The Court said, "This Court's recent consideration in Teamsters v. United States, 431 U. S. 324, of the role of statistics in pattern-or-practice suits under Title VII provides substantial guidance in evaluating the arguments advanced by the petitioners. In that case we stated that it is the Government's burden to 'establish by a preponderance of the evidence that racial discrimination was the [employer's] standard operating procedure—the regular rather than the unusual practice.' We also noted that statistics can be an important source of proof in employment discrimination cases . . ."); *see also* Int'l Bhd. of Teamsters v. United States, 431 U.S. 324, 339 (1977) (involving alleged unlawful "pattern or practice" employment practices engaged in by an employer and a union. There the company argued that statistics alone can never prove the existence of a pattern or practice of discrimination. In response, the Court said, "In any event, our cases make it unmistakably clear that '[s]tatistical analyses have served and will continue to serve an important role' in cases in which the existence of discrimination is a disputed issue." (citations omitted). *See also* McDonnell Douglas Corp. v. Green, 411 U.S. 722, 805 (1973); cf. Washington v. Davis, 426 U.S. 229, 241–42 (1976). We have repeatedly approved the use of statistical proof, where it reached proportions comparable to those in this case, to establish a prima facie case of racial discrimination in jury selection cases, *see, e.g*., Turner v. Fouche, 396 U.S. 346 (1970); Hernandez v. Texas, 347 U.S. 475 (1954); Norris v. Alabama, 294 U.S. 587 (1935). Statistics are equally competent in proving employment discrimination.") (footnote omitted).

87. Whitney Botsford Morgan, Eric Dunleavy & Peter D. DeVries, *Using Big Data to Create Diversity and Inclusion in Organizations*, *in* BIG DATA AT WORK, *supra* note 2, at 317.

88. *See* KEVIN R. MURPHY, BRETT MYORS & ALLEN WOLACH, STATISTICAL POWER ANALYSIS: A SIMPLE AND GENERAL MODEL FOR TRADITIONAL AND MODERN HYPOTHESIS TESTS 90 (3rd ed., 2009).

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

significance with a sample of 2400.[89] However, researchers have not considered the practical effects on EEOC enforcement of using statistical significance with large samples until recently,[90] and the EEOC guidelines do not account for differences in sample sizes at all.[91]

When large samples are used, effect sizes are a better way to detect adverse impact.[92] Effect sizes are used to determine the practical meaningfulness of effects after using significance levels as an initial standard.[93] An advisory committee on adverse impact has recommended the use of effect sizes to determine practical significance following statistical significance when considering the potential for adverse impact,[94] but courts and agencies have yet to adopt this method.[95]

The *Uniform Guidelines* require users to produce evidence of validity when the selection method adversely affects a certain group. Since Big Data will often result in apparent adverse impact when it is assessed solely using significance testing, the risk is that lawsuits will be frequent and evidence of validity will become increasingly important. In selection and assessment, validity refers to whether the measure is capturing what it is intended to capture, whether it is related to the job content, and whether it is predictive of job performance.[96] The validation of selection measures is a process that is carefully done and that follows professional standards and legal guidelines.[97] In our view, organizations that rely on Big Data to make personnel decisions risk frequent findings of adverse impact given the current definition and therefore will need to carefully attend to validating those methods in order to protect themselves from lawsuits. This will likely be the case until government

89. Eric Dunleavy, Scott Morris & Elizabeth Howard, *Measuring Adverse Impact in Employee Selection Decisions*, *in* PRACTITIONER'S GUIDE TO LEGAL ISSUES IN ORGANIZATIONS 1, 15 (Chester Hanvey & Kayo Sady eds., 2015).

90. *See* Rick Jacobs, Kevin Murphy & Jay Silva, *Unintended Consequences of EEO Enforcement Policies: Being Big is Worse Than Being Bad*, 28 J. BUS. & PSYCHOL. 467 (2013).

91. *See* Michael A. McDaniel, Sven Kepes & George C. Banks, *The Uniform Guidelines are a Detriment to the Field of Personnel Selection*, 4 INDUS. & ORG. PSYCHOL. 494 (2011); Kevin R. Murphy & Rick R. Jacobs, *Using Effect Size Measures to Reform the Determination of Adverse Impact in Equal Employment Litigation*, 18 PSYCHOL. PUB. POL'Y & L. 477 (2012).

92. *See* Murphy & Jacobs, *supra* note 91, at 496.

93. Morgan, Dunleavy & DeVries, *supra* note 87, at 318.

94. *See* DAVID B. COHEN, MICHAEL G. AAMODT & ERIC M. DUNLEAVY, CENTER FOR CORPORATE EQUALITY, TECHNICAL ADVISORY COMMITTEE REPORT ON BEST PRACTICES IN ADVERSE IMPACT ANALYSES 44 (2010), http://www.cceq.org/pdfs/2010tacai.pdf [http://perma.cc/AFV9-CDNJ].

95. Murphy & Jacobs, *supra* note 91, at 493.

96. ILLINGWORTH ET AL., *supra* note 37, at 243.

97. SOCIETY FOR INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY, PRINCIPLES FOR THE VALIDATION AND USE OF PERSONNEL SELECTION PROCEDURES 8 (2003), http://www.siop.org/_principles/principles.pdf [http://perma.cc/62GN-5SCP].

agencies and the courts begin to adopt effect size as a method of determining adverse impact in addition to significance testing. Therefore, based on the current use of significance testing without looking at effect size, there appears to be an increased risk of a disparate impact claim by a plaintiff that will be upheld when Big Data has been used. In order for an employer to have a good understanding of the minimum requirements for a person to establish a claim when that person believes that they were adversely impacted through the use of Big Data, we will now turn to the standard established by the Supreme Court for a plaintiff to state a cause of action in a disparate impact claim.

D. Disparate Impact and McDonnell Douglas *Prima Facie Standard*

In order to understand the legal risks in using People Analytics in employment decisions, it is necessary to look at how the Supreme Court has defined disparate impact and what the Court said is the minimum legal requirement in terms of what a plaintiff must state to be able to stay in a discrimination lawsuit.

In *Raytheon Co. v. Hernandez*,[98] the Court defined disparate impact as:

> [D]isparate-impact claims "involve employment practices that are facially neutral in their treatment of different groups but that in fact fall more harshly on one group than another and cannot be justified by business necessity." Under a disparate-impact theory of discrimination, "a facially neutral employment practice may be deemed [illegally discriminatory] without evidence of the employer's subjective intent to discriminate that is required in a 'disparate-treatment' case."[99]

Therefore, disparate impact claims result from situations where the employer may not have any intent to discriminate against anyone. The fact is that for this type of claim it is easy for the plaintiff to state his/her cause of action due to the standard created by the Supreme Court.

The standard for a plaintiff bringing a Title VII employment discrimination suit, and some other discrimination claims,[100] was established in *McDonnell Douglas Corp. v. Green*.[101] In *McDonnell Douglas*, the Court said that the plaintiff must first establish a prima facie case that he was within a protected class.[102] This simply means the plaintiff states that she is a member of one of

98. 540 U.S. 44 (2003).

99. *Id.* at 52–53 (internal citation omitted).

100. In Young v. United Parcel Serv., Inc., 135 S. Ct. 1338 (2015), the Court said that the *McDonnell Douglas* standard applies to a plaintiff making out a prima facie case in a Pregnancy Discrimination Act claim. "In our view, an individual pregnant worker who seeks to show disparate treatment through indirect evidence may do so through application of the *McDonnell Douglas* framework. That framework requires a plaintiff to make out a prima facie case of discrimination." *Id.* at 1353.

101. 411 U.S. 792 (1973).

102. *Id.*

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

the groups that is protected under any of the anti-discrimination laws. Next, the plaintiff must assert that she was qualified for the position and met the employer's advertised performance expectations, that similarly situated applicants or employees who were not in the plaintiff's protected class were treated more favorably, and that by not being treated the same, the plaintiff was adversely affected. Those elements give rise to an inference of unlawful discrimination. The key word here is "inference" since the plaintiff, at this point, has had to show very little, but the plaintiff has done enough to "shift the burden of proof" to the employer.

The employer, in its answer, must then rebut the presumption of discrimination by producing a legitimate, nondiscriminatory reason for the action. If the defendant is able to produce evidence of a legitimate, nondiscriminatory reason for the action, the burden shifts back to the plaintiff who must then show that the employer's stated reason for the action was only a pretext for illegal discrimination.[103] The employer's legitimate reason could be that the different treatment was based on a bona fide occupational qualification for the job. As Miaskoff said, "[J]ust because [the tool used for recruitment and selection] causes a disparate impact doesn't make it illegal. It's only illegal if it does not predict, accurately predict, success in the job."[104] Escaping liability turns on whether companies can show that their Big Data analytics are operating in a way that is valid; namely, it is a legitimate employment-related bona fide occupational qualification making it not illegal.

This process means that it is relatively easy for the plaintiff to state his/her cause of action and stay in the lawsuit. However, this back and forth process can also be time consuming and expensive for the employer. For that reason, it is best that employers try to avoid even giving an impression of discrimination because even if an employer ultimately wins the lawsuit, the employer will still have the legal expenses of refuting the discrimination claim of a plaintiff.

The *McDonnell* standard just requires the plaintiff to demonstrate that the facts show an "inference of intentional discrimination."[105] *Desert Palace, Inc. v. Costa*[106] provides more explanation of what this "inference" means. In that case, the Supreme Court determined that a plaintiff does not have to provide direct evidence of discrimination, because the statutory language found in

103. *Id.* at 802. ("The complainant in a Title VII trial must carry the initial burden under the statute of establishing a prima facie case of racial discrimination. This may be done by showing (i) that he belongs to a racial minority; (ii) that he applied and was qualified for a job for which the employer was seeking applicants; (iii) that, despite his qualifications, he was rejected; and (iv) that, after his rejection, the position remained open and the employer continued to seek applicants from persons of complainant's qualifications. The burden then must shift to the employer to articulate some legitimate, nondiscriminatory reason for the employee's rejection.").

104. FEDERAL TRADE COMMISSION, *supra* note 24, at 3.

105. *Young*, 135 S. Ct. at 1354.

106. 539 U.S. 90 (2003).

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

section 107(m) of the Civil Rights Act of 1991, states that, "an unlawful employment practice is established when the complaining party demonstrates that race, color, religion, sex, or national origin was a motivating factor for any employment practice, even though other factors also motivated the practice."[107] In *Desert Palace*, the Court held that circumstantial evidence can be used in order to obtain what is known as a "mixed-motive instruction" (mixed motive means that one of the factors could have been due to the person being a member of a protected group, even though other factors may also have motivated the decision).[108] Therefore, an algorithm that contains some information/factor related to the employee's status as a member of a protected group creates a problem for the employer because the employee may then be able claim that the protected-group status factored in the employment decision, a claim that may be proved by circumstantial evidence containing enough facts for a reasonable inference of discrimination. Consequently, it is possible for a plaintiff to force a potential employer into a discrimination lawsuit when the defendant used a poorly-constructed algorithm that involved the plaintiff's protected status, even though other factors may have been part of the decision making process. The only defense for the employer will be that it had a business-related (bona fide occupational qualification) reason for denying the applicant employment/promotion/pay increase, etc., and that the protected status had no bearing upon the decision. All of this may be very difficult for the employer to prove—as we stated earlier, it requires carefully following a set of validation techniques. Therefore, it would be best to ensure that the algorithm does not contain any potentially biased information or data.

This may be easier said than done. In traditional data sets, even with more recent data types such as social media, potentially discriminating data is much easier to identify and eliminate.[109] With Big Data, potentially discriminating information is often hidden given the large amount of information and that datasets are often combined. Therefore, the person using the algorithm to make the decision may not be aware of the biased data. This does not mean that it cannot be found, however. For example, although individual identifiers are often deleted in Big Data, datasets often contain explicit information about individuals even when no formal identifiers exist and analysts can draw inferences with little data, making the data essentially re-identifiable.[110] Our concern is that organizations may be unaware of potentially biasing

107. *Id.* at 94; 42 U.S.C. § 2000e–2m (2012).

108. *Id.* at 100–01.

109. *See* Roger W. Reinsch, William H. Ross & Amy B. Hietapelto, *Employer's Use of Social Media in Employment Decisions: Risk of Discrimination Lawsuits*, *in* INTELLIGENCE, SUSTAINABILITY, AND STRATEGIC ISSUES IN MANAGEMENT 153, 172–73 (M. Afzalur Rahim ed., 2016).

110. Wigan & Clarke, *supra* note 36, at 52.

information or may not think to look for it, but external parties bringing discrimination claims will be able to find it.

We have discussed the measurement problems and dated statistical analyses of adverse impact that are likely to either introduce bias when Big Data is used or increase the perception of bias. Moreover, the risks we identify here occur in combination with an increased focus on Big Data by regulatory agencies. We discuss their increased focus on Big Data in the following section.

IV. THE EEOC AND FTC'S INCREASING SCRUTINY OF BIG DATA USE

An official with the EEOC has warned that employment laws could easily be applied to the use of Big Data in employment decisions.[111] Even though, to date, most of the focus on Big Data has been by the FTC and use of the Fair Credit Reporting Act (FCRA), the FTC is also cognizant of employment issues with Big Data. The FTC hosted a public workshop entitled "Big Data: A Tool for Inclusion or Exclusion?". At that workshop, Carol Miaskoff noted "that employment laws such as Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act and the Genetic Information Nondiscrimination Act could be used to provide a check on discriminatory uses of Big Data in employee recruitment and screening."[112] In addition, using Big Data for other employment decisions will also fall within these and other laws. The use of Big Data might result in a disparate impact claim "that is not offset by business necessity or an applicant's [or employee's] ability to perform the job-related task."[113]

> The EEOC has been very active recently in scrutinizing employers' hiring practices and filing cases where it determines an employer's hiring practices have had a disparate impact on one or more protected status groups. Miaskoff's comments are another reminder that employers should evaluate carefully and strategically whether and how to use data about job applicants found on social media. Employers not only should have a strategic plan regarding the use or non-use of such data, but also should implement training on this issue for employees participating in the hiring process. And, given the EEOC's increasing focus on this issue, employers would be well served to consider keeping records of how they use or do not use social media and similar data as part of their hiring processes.[114]

111. Allison Grande, *Use 'Big Data' with Caution, EEOC Counsel Urges Employers*, LAW 360 (Sept. 15, 2014, 9:12 PM), http://www.law360.com/articles/577390/use-big-data-with-caution-eeoc-counsel-urges-employers [http://perma.cc/6WQK-FRZ4].

112. *Id.*

113. *Id.*

114. Alexander Nestor & Allison Shrallow, *EEOC Addresses Employers' Use of Social Media in Hiring Decisions at Recent FTC Workshop*, SOCIAL MEDIA & EMPLOYMENT LAW

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

Miaskoff believes the "issue really is about what prejudices are built into the data and therefore would be built into any rules deduced from the data, and therefore be used to select people who meet those same rules."[115] This creates the potential problem that use of Big Data could skew results that could have a disparate impact on protected groups.

The EEOC has also created the E-RACE initiative.[116] E-RACE has a set of specific goals and objectives, which emphasize the EEOC's goal of focusing on race and color discrimination in the workplace. Part of that initiative involves a "focus on policies and procedures, employment actions, or practices in particular industries that may have a significant or adverse impact based on race and color."[117] The focus on "procedures" or "practices" will obviously involve looking at how Big Data is used to make employment decisions, since this is a relatively new way for human resources to make decisions about its employees.[118]

In the EEOC's 2013–2016 Strategic Enforcement Plan, it named six national priorities on which it will focus.[119] All of these activities and

(Sept. 29, 2014), http://socialmediaandemploymentlaw.com/eeoc-addresses-employers-use-social-media-hiring-decisions-recent-ftc-workshop/ [http://perma.cc/XGV6-SX7R].

115. FEDERAL TRADE COMMISSION, *supra* note 24, at 3.

116. U.S. EQUAL EMPLOYMENT OPPORTUNITY COMMISSION, E-RACE GOALS AND OBJECTIVES (2008), http://www.eeoc.gov/eeoc/initiatives/e-race/goals.cfm [http://perma.cc/W77K-Y9SZ].

117. *Id.*

118. *Id.*

119. U.S. EQUAL EMPLOYMENT OPPORTUNITY COMMISSION, STRATEGIC PLAN FOR FISCAL YEARS 2013–2016 (2012), http://www.eeoc.gov/eeoc/plan/strategic_plan_12to16.cfm [http://perma.cc/33C4-96NE].

> (T)he Commission adopts the following national priorities:
>
> 1. Eliminating Barriers in Recruitment and Hiring. The EEOC will target class-based recruitment and hiring practices that discriminate against racial, ethnic and religious groups, older workers, women, and people with disabilities.
>
> 2. Protecting Immigrant, Migrant and Other Vulnerable Workers. The EEOC will target disparate pay, job segregation, harassment, trafficking, and discriminatory policies affecting vulnerable workers who may be unaware of their rights under the equal employment laws, or reluctant or unable to exercise them.
>
> 3. Addressing Emerging and Developing Issues. The EEOC will target emerging issues in equal employment law, including issues associated with significant events, demographic changes, developing theories, new legislation, judicial decisions, and administrative interpretations.
>
> 4. Enforcing Equal Pay Laws. The EEOC will target compensation systems and practices that discriminate based on gender.
>
> 5. Preserving Access to the Legal System. The EEOC will target policies and practices that discourage or prohibit individuals from exercising their rights under employment discrimination statutes, or that impede the EEOC's investigative or enforcement efforts.

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

statements by the EEOC in recent years should clearly indicate that they are continuing to focus on discrimination, and trying to adapt to the new environment that we live in today.

The FTC's role in this area is its focus on the FCRA.[120] The issue of whether or not the FCRA applies is raised when an employer uses a third party to provide information about potential employees or existing employees. If the employer is generating its data internally then the FCRA does not apply. Therefore, that part of FCRA application is fairly clear—use an outside source and the FCRA could be applicable. The purpose of the FCRA is to govern the use of information, gathered by third parties, about various things, including employment. When it applies, the person who is being checked has to be given notice so that the person may exercise important rights such as access to their data to challenge its accuracy.[121] The original intent was to protect consumers from false information in their credit reports that were used for a variety of decisions. However, the question now is whether the FCRA applies to data brokers who provide a massive amount of information about most of us. These data brokers can also be hired to provide a lot of information about employees and/or potential employees for the purpose of using that information in making employment decisions. The FCRA is a federal law; however, states are moving in the same direction, and several states have passed similar legislation.[122] The FTC and federal lawmakers are paying more attention to data brokers.[123]

> 6. Preventing Harassment Through Systemic Enforcement and Targeted Outreach. The EEOC will pursue systemic investigations and litigation and conduct a targeted outreach campaign to deter harassment in the workplace.

120. Fair Credit Reporting Act, 15 U.S.C. § 1681 (1970).

121. FEDERAL TRADE COMMISSION, A SUMMARY OF YOUR RIGHTS UNDER THE FAIR CREDIT REPORTING ACT https://www.consumer.ftc.gov/articles/pdf-0096-fair-credit-reporting-act.pdf [http://perma.cc/2BQ5-NSK8] (last visited Sept. 8, 2016) (includes a list of all the rights).

122. NATIONAL CONFERENCE OF STATE LEGISLATURES, STATE LAWS ON EMPLOYMENT-RELATED DISCRIMINATION (2016), http://www.ncsl.org/research/labor-and-employment/discrimination-employment.aspx [http://perma.cc/GFJ8-52F7]; FEDERAL TRADE COMMISSION, *supra* note 24 (Each state has "essentially their own mini FCRAs, and you have California, Colorado, Maine, Minnesota, New Mexico, New York, Oklahoma and Washington state [all passing legislation]"); *see infra* Table 1.

123. The FTC hosted a seminar on Alternative Scoring Products, the second in its Spring Privacy Series, on March 19, 2014. A panel of industry representatives, independent researchers, and consumer privacy advocates discussed how data brokers use predictive analytics to offer companies scores that predict trends and the behavior of their customers. Consumer Financial Services Group, *FTC Holds Seminar on Predictive Analytics and Alternative Scoring Products*, BALLARD SPAHR (Mar. 27, 2014), http://www.ballardspahr.com/alertspublications/legalalerts/2014-03-27-ftc-holds-seminar-on-predictive-analytics-and-alternative-scoring-products.aspx [http://perma.cc/NL3C-K7GM]; Sherri A. Affrunti et al., *Fair Credit Reporting Act Litigation: Emerging Trends Under a Dangerous Statute*, REEDSMITH (Sept. 25, 2013), http://www.reedsmith.com/files/Event/acbec5a9-17f5-47b3-9828-9c572f9333b7/Presentation/EventAttachment/

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

> Regulators and lawmakers are intensifying their scrutiny of data brokers, who compile profiles of consumers from alternative non-Fair Credit Reporting Act (FCRA) sources (such as social media or public databases) and market them to lenders and advertisers. The Senate Commerce Committee released a report on data brokers, and Senator Jay Rockefeller's (D-WV) comments indicate the heightened level of concern lawmakers have regarding this industry: "[Data brokers] are gathering massive amounts of data about our personal lives and selling this information to marketers. . . . When government or law enforcement agencies collect information about us, they are restrained by our Constitution and our laws; and they are subject to the oversight of courts, Inspectors General, and Congress. But data brokers go about their business with little or no oversight."[124]

The issue of whether the FCRA applies to more than just traditional credit reports was an issue in *Cortez v. Transunion*.[125] The Third Circuit said that the FCRA is very broad and that in addition to credit reports "Congress clearly intended the protections of the FCRA to apply to all information furnished or that might be furnished in a consumer report."[126] An FTC report stated: "Only a fact-specific analysis will ultimately determine whether a practice is subject to or violates the FCRA, and as such, companies should be mindful of the law when using Big Data analytics to make FCRA-covered eligibility determinations."[127]

It is important to note that the "FCRA applies to data brokers only if the data is used by issuers of credit or insurance, or by employers, landlords, and others in making eligibility decisions affecting consumers."[128] The FTC in its report, "Big Data: A Tool for Inclusion or Exclusion? Understanding the Issues," addresses the issue of the FCRA applying to Big Data and says that the FCRA could apply to data brokers.

> The report includes examples of FTC enforcement actions against data brokers that compiled data and provided it to companies to use for FCRA-covered eligibility decisions, as well as against companies that used Big Data for eligibility decisions without making FCRA-required disclosures. Such examples include the FTC's 2012 action against online data broker Spokeo which, according to the FTC's complaint, allegedly assembled and merged personal information from hundreds of data sources, including social networks, to create detailed personal profiles that included hobbies, ethnicity, and

589c0ffe-5f75-4ba1-b9cf-72aa468a8f05/Reed%20Smith%20FCRA%20Teleseminar%20-%2025%20September%202013.pdf [http://perma.cc/3G3R-XKK2].

124. Consumer Financial Services Group, *supra* note 123.

125. 617 F.3d 688 (3d Cir. 2010).

126. *Id.* at 711.

127. FEDERAL TRADE COMMISSION, *supra* note 24, at ii.

128. *Fact Sheet 41: Data Brokers and Your Privacy*, PRIVACY RIGHTS CLEARINGHOUSE (May 2016), https://www.privacyrights.org/content/data-brokers-and-your-privacy [http://perma.cc/ZP4C-GUP8] (emphasis added).

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

> religion, and marketed those profiles for use by human resources departments in making hiring decisions. Based on its allegation that Spokeo marketed the profiles specifically for employment purposes, the FTC determined that Spokeo was subject to, but had not complied with, the FCRA. The FTC's message is that companies whose practices involve Big Data analytics, such as an analysis of online behavioral data, should be mindful of the scope of the FCRA's CRA definition and the compliance obligations that the FCRA imposes upon CRAs, and that users of reports provided by such companies should also be mindful of their FCRA compliance obligations.[129]

Therefore, both the EEOC and the FTC could be involved in claims that involve the use of Big Data in employment decisions.

V. RECOMMENDATIONS

We recommend that Big Data be used carefully given the various risks we have discussed in this paper. When it is used, care should be taken to make sure the data is "clean" from bias and to ensure that validation procedures have been properly followed so that the algorithm is indeed predictive of behavior in the workplace. To this end, businesses that use, or plan to use, People Analytics should have a detailed policy regarding the use of People Analytics for making employment decisions. If Big Data analysis is done in-house, the policy should take into account the team-based approach to processing Big Data:

> Predictive modeling requires a team approach. You need people who understand the business problem to be solved. Someone who knows how to prepare data for analysis. Someone who can build and refine the models. Someone in IT to ensure that you have the right analytics infrastructure for model building and deployment. And an executive sponsor can help make your analytic hope a reality.[130]

Therefore, it is important to train in-house personnel to make sure that both the people using this data and the people creating the algorithm understand that they need to be aware of potential bias and have methods for checking for bias. For example, personnel handling Big Data need to examine whether datasets are missing information from particular populations and take appropriate steps to address this problem. They also should be trained to review datasets and algorithms to ensure that hidden biases are not having an unintended impact on

129. Consumer Financial Services & Privacy and Data Security, *Use of Big Data May Violate Federal Consumer Protection Laws, FTC Report Warns*, BALLARD SPAHR (Jan. 13, 2016), http://www.ballardspahr.com/alertspublications/legalalerts/2016-01-13-use-of-big-data-may-violate-consumer-protection-laws-ftc-report-warns.aspx [http://perma.cc/AS39-X7YV].

130. *Predictive Analytics: What Is It and Why It Matters*, SAS INSTITUTE INC., http://www.sas.com/en_us/insights/analytics/predictive-analytics.html [http://perma.cc/E5KG-PGST] (last visited Sept. 8, 2016).

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

certain populations. When contracting from outside sources, such as data brokers, employers should ask questions about how well the personnel creating the algorithms have been trained with regard to the potential biases that creep in, and the steps the broker takes to eliminate those biases. Additionally, an employer must be sure to be aware of FCRA requirements and meet them, because the FCRA applies to more than traditional credit information.[131]

There are some practical steps that employers should take to mitigate the risk of non-compliance with the FCRA:

1. Employers should consider reviewing their current policies and practices regarding employment-purposed Internet searches by recruiters and other personnel, including those with direct involvement in the hiring process, such as managers and supervisors.

2. Employers should also consider taking steps to help ensure that they have provided the required disclosure and have a signed authorization from applicants and employees before they obtain background information that may be subject to the FCRA.

3. Employers should consider sending or arranging to send pre-adverse and adverse action notices whenever they take adverse action against job applicants and employees based, in whole or in part, on background information compiled by a third party.[132]

Employers should also keep in mind recommendations of the EEOC and FTC. The EEOC is recommending detailed record-keeping of what was done in regard to Big Data and its use, because this can facilitate verification by the EEOC in the event of a discrimination claim. According to the FTC report, companies can minimize risks by asking the following questions: How representative is your data set? Does your data model account for biases? How accurate are your predictions based on Big Data? Does your reliance on Big Data raise ethical or fairness concerns?[133]

Finally, we recommend that employers use human oversight to make actual decisions, instead of just relying on computer generated correlations.[134] This oversight could help ensure that Big Data will be relatively free of biased information and also decrease the likelihood that Big Data will be used to not hire certain groups in a way that serves to increase discrimination. It should

131. See Rod Fliegel & Jennifer Mora, *Employers Must Update FCRA Notices for Their Background Check Programs Before January 1, 2013*, LITTLER (Sept. 4, 2012), https://www.littler.com/employers-must-update-fcra-notices-their-background-check-programs-january-1-2013 [http://perma.cc/G4CD-LU7A], for a complete discussion.

132. *Id.*

133. Thomas Ahearn, *FTC Report on Big Data Outlines Benefits and Risks for Businesses and Consumers*, ESR NEWS BLOG (Jan. 11, 2016), http://www.esrcheck.com/wordpress/2016/01/11/ftc-report-on-big-data-outlines-benefits-and-risks-for-businesses-and-consumers/ [http://perma.cc/2TFR-B8XY].

134. FEDERAL TRADE COMMISSION, *supra* note 24, at 40.

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

always be kept in mind that computers simply carry out human orders. They have the potential to reproduce discrimination on a very large scale given that a number of different biases may be hidden in the data. Therefore, human monitoring and critical thinking are key components in the responsible use of Big Data.

CONCLUSION

Big Data has garnered a lot of recent interest from organizations, in terms of using it to make decisions about employees and potential employees. However, in our opinion, this use introduces a number of different risks that can lead to increased exposure to potential lawsuits. Even claims of discrimination that never reach the courts can be very expensive; therefore, it is best if those who use People Analytics do so with "eyes wide open," so to speak. Toward that end, we presented an overview of Big Data and the various laws that are applicable to this topic. We suggested that assuming Big Data will be bias free is problematic for a number of reasons. We also presented how the use of Big Data runs a higher risk of adverse impact findings given current agency and court standards for statistically demonstrating adverse impact. Further, recent statements from government agencies about the use of Big Data indicate that increased scrutiny is likely. For all of these reasons, our recommendation is that Big Data be used sparingly and that when it is used, care be taken both to make sure the data is "clean" from bias and to ensure that validation procedures have been properly followed and that the algorithm is indeed predictive of behavior in the workplace. Furthermore, even when Big Data is bias-free and predictive of behavior, it should not be used in a way that decreases the representation of protected groups when other measures, such as changes to organizational practices, should be used to address an issue (e.g., higher turnover among women). These are good guidelines to follow in most situations anyway, but they are even more critical until the legal environment catches up to the use of Big Data by instituting changes, such as allowing effect size to be combined with significance testing in determinations of adverse impact.

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

TABLE 1: APPLICABLE FEDERAL LAWS

Federal Statutes	*Covered Employers*
Title VII of the Civil Rights Act of 1964[135] (Title VII), which prohibits employment discrimination based on race, color, religion, sex, or national origin.	All private employers, state and local governments, and educational institutions that employ fifteen or more individuals; these laws also cover private and public employment agencies, labor organizations, and joint labor management committees controlling apprenticeship and training.
The Pregnancy Discrimination Act of 1978,[136] which prevents discrimination based on pregnancy.	All private employers, state and local governments, and education institutions that employ fifteen or more individuals; these laws also cover private and public employment agencies, labor organizations, and joint labor management committees controlling apprenticeship and training.
Age Discrimination in Employment Act of 1967 (ADEA),[137] which protects individuals who are forty years of age or older.	All private employers with twenty or more employees, state and local governments (including school districts), employment agencies, and labor organizations.

135. Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 2000e (1964).
136. Pregnancy Discrimination Act, 42 U.S.C. § 2000e(k) (1982).
137. Age Discrimination in Employment Act, 29 U.S.C. § 623 (1970).

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

Title I and Title V of the Americans with Disabilities Act of 1990,[138]as amended (ADA), which prohibit employment discrimination against qualified individuals with disabilities in the private sector, and in state and local governments.	All private employers, state and local governments, and education institutions that employ fifteen or more individuals; these laws also cover private and public employment agencies, labor organizations, and joint labor management committees controlling apprenticeship and training.
Civil Rights Act of 1991,[139] which, among other things, provides monetary damages in cases of intentional employment discrimination.	All private employers, state and local governments, and education institutions that employ fifteen or more individuals; these laws also cover private and public employment agencies, labor organizations, and joint labor management committees controlling apprenticeship and training.
Genetic Information Nondiscrimination Act (GINA),[140] which prevents discrimination based on genetic information.	All private employers, state and local governments, and education institutions that employ fifteen or more individuals; these laws also cover private and public employment agencies, labor organizations, and joint labor management committees controlling apprenticeship and training.
Fair Credit Reporting Act of 1970,[141] which provides guidelines when third parties are doing the investigating.	Covers all parties who use third parties to do the investigation.

138. Americans with Disabilities Act, 29 U.S.C. § 12112 (1994).
139. Civil Rights Act of 1991, 42 U.S.C. § 1981 (1994).
140. Genetic Information Nondiscrimination Act, 42 U.S.C. 2000ff (2012).
141. Fair Credit Reporting Act, 15 U.S.C. § 1681 (1970).

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

TABLE 2: STATE EMPLOYMENT LAWS RELATED TO DISCRIMINATION, INCLUDING LAWS THAT ARE COMMONLY KNOWN AS "LIFESTYLE" STATUTES

This table is based on information from http://www.ncsl.org/research/labor-and-employment/discrimination-employment.aspx [http://perma.cc/F2VA-CCJ2].[142]

State	*Covered Employers*	*Factors on Which Discrimination Is Prohibited*
Alabama	Age discrimination: employers with twenty or more employees, employment agencies, labor organizations, prints and advertisements	Age forty and above, retaliation
Alaska	Employers with one or more employees, public and private employers, employment agencies, labor organizations, communications, advertisements, and media Does not include exclusively social clubs, fraternal, educational, charitable, or religious associations or corporations that are not organized for private profit	Race, color, national origin, religion, age, physical or mental disability, sex, marital status, pregnancy or parenthood, retaliation For public employers, sexual orientation by Executive Order

142. NATIONAL CONFERENCE OF STATE LEGISLATURES, *supra* note 122, at 1–7.

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

Arizona	Employers with one or more employees, employment agencies, labor organizations, communications and advertisements Does not include the U.S. or any department or agency of the U.S., or government corporations, or private membership clubs that are tax exempt	Race, color, religion, gender, age forty and over, physical or mental disability, national origin, pregnancy, genetic information, retaliation, medical marijuana Does not include illegal drug use For public employers, sexual orientation by Executive Order
Arkansas	Employers who employ nine or more employees in each of twenty or more calendar weeks in the previous year Sovereign immunity not waived Does not include private clubs or religious organizations	Race, religion, national origin, gender, pregnancy, sensory/mental/physical disability, retaliation Disability does not include compulsive behavior, illegal drug use, or alcoholism
California	Employers with five or more employees, both public and private, employment agencies, labor organizations Does not include religious organizations or non-profits Employers with one or more employees for purposes of employer liability	Race, religious creed, color, national origin, ancestry, physical or mental disability, medical condition, genetic information, marital status, sex, pregnancy, childbirth, and related medical conditions, breastfeeding, sex, gender identity, gender expression, age forty and above, sexual orientation, military or veteran status, retaliation Does not include compulsive behavior or illegal drug use

Colorado	Public and private employers, employment agencies, labor organizations, communications and advertisements Does not include religious organizations or non-profits	Race, creed, color, sex, sexual orientation, gender identity, age forty and over, disability, religion, national origin, ancestry, engaging in any lawful activity off the premises of the employer during nonworking hours, victims of domestic violence, stalking, sexual assault
Connecticut	Employers with three or more employees, public and private employers, employment agencies, labor organizations Does not include religious organizations	Race, color, religious creed, age, sex, gender identity or expression, marital status, national origin, ancestry, present or past history of mental disability, intellectual disability, learning disability or physical disability, including, but not limited to, blindness, sexual orientation (actual or perceived), civil union status, pregnancy, criminal conviction alone, medical marijuana
Delaware	Employers with four or more employees within the state, public and private employers, employment agencies, labor organizations Does not include religious organizations for sexual orientation or gender identity	Race, marital status, genetic information, color, age forty and above, religion, sex, pregnancy, sexual orientation, gender identity, or national origin, credit score (pre-hiring), criminal record (pre-hiring), disability, retaliation, medical marijuana Does not include drug or alcohol abuse

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

District of Columbia	Employers with one or more employees, government, public and private employers, employment agencies, labor organizations Does not include religious organizations or non-profits	Race, color, religion, national origin, sex, pregnancy, childbirth, breastfeeding, reproductive health decisions, age eighteen to sixty-five (with exceptions), marital status, personal appearance, sexual orientation, gender identity or expression, family responsibilities, matriculation, political affiliation, genetic information, disability, retaliation
Florida	Employers with fifteen or more employees for each working day in each of twenty or more calendar weeks Does not apply to religious organizations for religious discrimination	Race, color, religion, sex, national origin, age, handicap, marital status, sickle-cell trait, pregnancy
Georgia	State employers: employers with fifteen or more employees within the state for each working day in each of twenty or more calendar weeks in the current or preceding calendar year, notice or advertisement Equal pay: public and private employers with ten or more employees, engaged in interstate commerce	State employers: race, color, religion, national origin, sex, physical or mental disability, age forty and above, retaliation Private employers in interstate commerce: discrimination in pay based on gender and discrimination based on disability

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

Hawaii	Employers with one or more employees, public and private employers, employment agencies, labor organizations Does not include religious organizations and charitable or educational organizations	Race, sex, gender identity or expression, sexual orientation, age, religion, color, ancestry, physical or mental disability, marital status, domestic or sexual violence victim status, pregnancy, childbirth, retaliation, required submission to lie detector tests, credit history or credit report, conviction record
Idaho	Employers with five or more employees for each working day in each of twenty or more calendar weeks in the current or preceding calendar year, public and private employers, employment agencies, labor organizations, prints or publications, Does not include religious organizations and private clubs	Race, religion, color, sex, national origin, disability, age forty and above, retaliation

Illinois	Employers with fifteen or more employees within Illinois during twenty or more calendar weeks within the calendar year of or preceding the alleged violation, employees with one or more employees for physical or mental disability, pregnancy, or sexual harassment cases The state regardless of number of employees, employment agencies, labor organizations Does not include religious organizations	Race, color, religion, sex, pregnancy, childbirth or related medical conditions, national origin, sexual orientation, gender identity, age forty and above, ancestry, marital status, citizenship status, physical or mental handicap, military duty status or discharge status (with exceptions), genetic testing (under Genetic Information Privacy Act), retaliation, medical marijuana, expunged or sealed criminal history
Indiana	Employers with six or more employees, public and private employers, employment agencies, labor organizations Does not include religious organizations, non-profits, or exclusive social clubs For age discrimination, employers with one or more employees	Race, religion, color, sex, disability, national origin, ancestry, age forty to seventy-five, retaliation, veteran status For public employers, sexual orientation and gender identity by executive order
Iowa	Employers with four or more employees, public and private employers, employment agencies, labor organizations Does not include religious organizations for purposes of religious, sexual orientation, or gender identity discrimination	Race, creed, color, sex, sexual orientation, gender identity, national origin, religion, physical or mental disability, pregnancy, childbirth, age, genetic information, HIV testing, polygraph testing (excludes police or corrections officers)

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

Kansas	Employers with four or more employees, public and private employers, employment agencies, labor organizations, nonsectarian corporations, and organizations engaged in social service work Does not include non-profits or social clubs	Race, religion, color, sex, national origin, ancestry, physical or mental disability, age, genetic testing, retaliation Public employer: height (exception for fire department, law enforcement, and security officers)
Kentucky	Employers with eight or more employees within the state in each of twenty or more calendar weeks in the current or preceding calendar year, public and private employers, employment agencies, labor organizations For disability discrimination, an employer with fifteen or more employees	Race, color, religion, national origin, sex, pregnancy, childbirth, age over forty, disability, HIV status, black lung disease, smoking, disability, retaliation For public employers, sexual orientation and gender identity by Executive Order
Louisiana	Employers with twenty or more employees, employers with twenty-five or more employees for pregnancy, childbirth, or related medical condition cases, public and private employers, employment agencies, labor organizations	Race, color, religion, sex, national origin, sickle-cell disease traits, pregnancy, childbirth, and related conditions, age forty and above, disability, veteran status, genetic information

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

Maine	Public and private employers with any amount of employees, employment agencies, labor organizations Does not include religious organizations, non-profits, fraternal organizations	Race, color, sex, sexual orientation, gender identity, physical or mental disability, religion, age, ancestry, national origin, retaliation, genetic information, pregnancy, breastfeeding, medical marijuana Does not apply to illegal drug use or alcohol use during working hours
Maryland	Employer with fifteen or more employees for each working day in each of twenty or more calendar weeks in the current or preceding calendar year, public and private employers, employment agencies, labor organizations, publications or advertisements Baltimore County: employers with fewer than fifteen employees Does not include private membership, tax exempt clubs, or religious organizations	Race, color, religion, national origin, ancestry, sex, age, marital status, sexual orientation, gender identity, physical or mental disability, genetic information, retaliation, pregnancy
Massachusetts	Employers with six or more employees, public and private employers, employment agencies, labor organizations Does not include exclusively social organizations if not-for-profit or religious organizations	Race, religious creed, color, national origin, ancestry, sex, gender identity, sexual orientation, disability, genetic information, age forty and above, pregnancy, criminal record, lie-detector test, victim of sex offense or domestic violence

Michigan	Employers with one or more employees, public and private employers, employment agencies, labor organizations	Race, color, religion, sex, national origin, marital status, height, weight, age, pregnancy, childbirth, or related medical condition, disability, retaliation For public employers, sexual orientation and gender identity by executive order
Minnesota	Employers with one or more employees, public and private employers, employment agencies, labor organizations Does not include religious or fraternal organizations for purposes of religious or sexual orientation discrimination, or nonpublic service organizations for purposes of sexual orientation discrimination	Race, color, creed, religion, national origin, sex, sexual orientation, gender identity, marital status, acceptance of public assistance benefits or housing, physical/sensory/mental disability, age, pregnancy, childbirth, and related medical conditions, familial status, medical marijuana
Mississippi	State employers Breastfeeding accommodation: public and private employers	Political affiliation, race, national origin, sex, religion, age, disability Accommodation for breastfeeding

Missouri	Employers with six or more employees, public and private employers, employment agencies, labor organizations Does not include religious corporations or sectarian corporations	Race, color, religion, national origin, sex, ancestry, age forty to seventy (exception for high policy-making positions and executives), physical or mental disability, pregnancy, retaliation For the executive branch, sexual orientation by Executive Order
Montana	Employers with one or more employees, public and private employers, employment agencies, labor organizations, prints and advertisements Does not include fraternal, charitable, or religious non-profit organizations, or Indian tribes	Race, creed, religion, color, national origin, age, physical or mental disability, marital status, sex, pregnancy, retaliation For public employers, sexual orientation by Executive Order
Nebraska	Employers with fifteen or more employees, public and private employers, employment agencies, labor organizations For age discrimination, employers with twenty or more employees Does not include religious corporations, associations, or societies with respect to religious discrimination	Race, color, religion, sex, disability, marital status, national origin, age forty and above, pregnancy, childbirth, and related medical conditions, retaliation Does not apply to members of the Communist Party, or include illegal drug use

Nevada	Employers with fifteen or more employees, public and private employers, employment agencies, labor organizations, prints and advertisements Does not include Indian tribes, religious corporations, associations, or societies for purposes of religious, sexual orientation, or gender identity discrimination	Race, color, religion, sex, sexual orientation, age, physical or mental disability, national origin, genetic testing, pregnancy, retaliation, gender expression, gender identity, pregnancy, use of lawful products off premises of employer, medical marijuana
New Hampshire	Employers with six or more employees, public and private employers, employment agencies, labor organizations Does not include religious organizations or exclusive social clubs	Age, sex, race, creed, color, marital status, national origin, physical or mental disability, sexual orientation, pregnancy, and medical conditions, retaliation
New Jersey	Employers with one or more employees, public and private employers, employment agencies, labor organizations, prints and advertisements Does not include religious organizations, social clubs, or fraternal clubs	Race, creed, color, national origin, ancestry, age, marital status, civil union status, domestic partnership status, affectional or sexual orientation, genetic information, pregnancy, sex, gender identity or expression, disability or atypical hereditary cellular or blood trait of any individual, nationality, military service, genetic testing, retaliation

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

New Mexico	Employers with four or more employees, public and private employers, employment agencies, labor organizations For sexual orientation and gender identity, employers with fifteen or more employees For spousal affiliation, employers with fifty or more employees Does not include religious organizations for purposes of sexual orientation or gender identity discrimination	Race, age, religion, color, national origin, ancestry, sex, physical or mental handicap or serious medical condition, retaliation, sexual orientation, gender identity, spousal affiliation
New York	Employers with four or more employees, public and private employers, licensing agencies, employment agencies, and labor organizations, employers employing one or more domestic worker Does not include distinctly private clubs or religious corporations and non-profits	Age, race, creed, color, national origin, sexual orientation, military status, sex, disability, predisposing genetic characteristics, marital status, domestic violence victim status, pregnancy, sealed arrest or conviction record, retaliation, medical marijuana (starting July 1, 2015) For public employers, gender identity by executive erder

North Carolina	Employers with fifteen or more employees, public and private employers, employment agencies, labor organizations Employers with three or more regularly employed employees for use of lawful products off the job	Race, religion, color, national origin, age, sex, disability, sickle-cell trait or hemoglobin C, AIDS/HIV (with restrictions), retaliation
North Dakota	Employers with one or more employees, employment agencies, and labor organizations, advertisements Does not include private clubs	Race, color, religion, sex, national origin, age forty and above, physical or mental disability, status with respect to marriage or assistance, participation in lawful activities during non-work hours, pregnancy, retaliation
Ohio	Employers with four or more employees, public and private employers, employment agencies, labor organizations Does not include religious organizations	Race, color, religion, sex, national origin, disability, age, ancestry, pregnancy, childbirth, and related medical conditions, retaliation For public employers, sexual orientation and gender identity by executive order
Oklahoma	Employers with one or more employees, public and private employers, employment agencies, labor organizations Does not include Indian tribes or bona fide tax-exempt membership clubs, or religious organizations	Race, color, religion, sex, national origin, age, disability, genetic information, pregnancy, childbirth, and related medical conditions

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

Oregon	Employers with one or more employees, public and private employers, employment agencies, labor organizations Federal law exempts private clubs and religious organizations for race and sex discrimination and religious organizations for religious discrimination	Race, religion, color, sex, sexual orientation, gender identity, national origin, marital and familial status, age eighteen and above, disability, expunged juvenile record, pregnancy, childbirth, and related medical conditions, injured workers, retaliation, requiring submission to breathalyzer test, lie detector, genetic testing, psychological stress test, use of legal tobacco during non-working hours, person with a degree in theology or religious occupations, victims of domestic violence or sexual crimes, credit history, testifying at unemployment compensation hearings, leave to attend a criminal proceeding, military service Does not include illegal drug use
Pennsylvania	Employers with four or more employees, public and private employers, employment agencies, labor organizations Does not include religious organizations for purposes of religion-based sex discrimination, fraternal organizations, charitable organizations	Race, color, familial status, religious creed, ancestry, age forty and above, sex, pregnancy, national origin, disability, use of service animal, refusal to perform abortion or sterilization, retaliation For public employers, sexual orientation and gender identity by executive order

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

Puerto Rico	Employers with one or more employees, public and private employers, labor unions, publications and advertisements Federal law exempts private clubs and religious organizations for race and sex discrimination and religious organizations for religious discrimination	Age from which minors can work, race, color, sex, social or national origin or social condition, political affiliation, political or religious ideology, or for being a victim or perceived as a victim of domestic violence, sexual aggression or stalking, sexual orientation, gender identity, retaliation, military status
Rhode Island	Employers with four or more employees, public and private employers, employment agencies, labor organizations Does not include religious organizations for purposes of religious discrimination	Race, color, religion, sex, sexual orientation, gender identity, gender expression, disability, age forty and above, country of ancestral origin, retaliation, pregnancy, childbirth, and related medical conditions
South Carolina	Employers with fifteen or more employees, public and private employers, employment agencies, labor organizations Does not include Indian tribes, private clubs, or religious organizations for religions discrimination	Race, religion, color, sex, age forty and above, national origin, pregnancy, childbirth, and related medical conditions, physical or mental disability, medical examinations

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

South Dakota	Employers with one or more employees, public and private employers, employment agencies, labor organizations, advertisements Does not include religious organizations for religious discrimination	Race, color, creed, religion, sex, ancestry, disability, national origin, retaliation
Tennessee	Employers with eight or more employees, public and private employers, employment agencies, labor organizations Does not apply to religious organizations for purposes of religious discrimination	Race, color, creed, religion, sex, age forty and above, national origin, mental, visual, or physical disability, retaliation
Texas	Employers with fifteen or more employees engaged in industry affecting commerce, public and private employers, employment agencies, labor organizations Does not apply to religious organizations for purposes of religious discrimination	Race, color, disability, religion, sex, national origin, age, pregnancy, childbirth, and related medical conditions, retaliation, genetic information
Utah	Employers with fifteen or more employees, public and private employers, employment agencies, labor organizations Does not include religious organizations	Race, color, sex, pregnancy, childbirth, and related medical conditions, age forty and above, religion, national origin, disability, retaliation, sexual orientation, gender identity

SAINT LOUIS UNIVERSITY SCHOOL OF LAW

Vermont	Employers with one or more employees, public and private employers, employment agencies, labor organizations Does not include religious organizations for purposes of religious, sexual orientation, or gender identity discrimination	Race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability, ancestry, place of birth, HIV status, retaliation, genetic testing, pregnancy, credit history
Virginia	Employers with more than five but less than fifteen employees For purposes of age discrimination, employers with more than five and less than twenty employees	Race, color, religion, national origin, sex, pregnancy, childbirth, and related medical conditions, age forty and above, marital status, disability For public employers, sexual orientation and gender identity by executive order
Virgin Islands	Employers with one or more employees, public and private employers, other legal entities Does not include religious organizations for the purposes of religious discrimination	Age, race, creed, color, national origin, sex, political affiliation, pregnancy, childbirth, and related medical

Washington	Employers with eight or more employees, public and private employers, employment agencies, labor organizations Does not include religious organizations organized not for profit	Age, sex, marital status, sexual orientation, gender identity, race, creed, color, national origin, honorably discharged veteran or military status, or the presence of any sensory, mental, or physical disability or the use of a trained dog guide or service animal by a person with a disability, breastfeeding, pregnancy, retaliation
West Virginia	Employers with one or more employees, public and private employers, employment agencies, labor organizations, prints and advertisements Does not include private clubs	Race, color, religion, sex, national origin, age forty and above, disability, ancestry, retaliation, pregnancy, childbirth, and related medical conditions