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THE 'BLINDED' SCALES OF JUSTICE? A STUDY OF THE FACTORS THAT
INFLUENCE JUDICIAL DECISION-MAKING IN THE U.S. COURTS OF APPEALS

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ABSTRACT

What factors influence judicial-decision making in disparate impact related cases in the U.S. Courts of Appeals? Previous research focuses on either individual judge or panel composition effects, but doesn't focus on both. Many researchers focus on differing factors, whether that be ideology, race, sex, or age, but don't include all in their analyses. While previous research also has not been updated into recent years. Disparate impact related cases provide a perfect opportunity to study judicial decision-making due to federal laws and conflicting court precedents that research suggests allows judges to vote within their preferences. Two logistic regressions were utilized to determine which factors influence individual judges and overall panel voting in the appellate courts of the United States. While in both the individual and panel composition multiple variate analyses, ideology of the judge was significant and is influential in decision-making. Whether or not the case was decided before or after 1991 was found significant in the individual judge multivariate analysis. In the United States, federal judges are granted lifetime appointment once they are confirmed to their position, with very few judges ever getting impeached. Understanding what factors influence judicial decision-making in the appellate courts, especially in disparate impact related cases, can help shine a light to the American people that our judicial system is not as unbiased as we tend to believe. It could also help future plaintiffs in disparate impact cases understand their likelihood of success.

TABLE OF CONTENTS

LIST OF FIGURES	iii
LIST OF TABLES	iv
ACKNOWLEDGEMENTS	v
INTRODUCTION	1
LITERATURE REVIEW	4
THEORIES AND HYPOTHESES	15
METHODOLOGY	20
RESULTS	22
Individual Judge Analyses	22
Panel Composition Analyses	27
DISCUSSION	37
Individual Judges Discussion	37
Panel Composition Discussion	39
CONCLUSION	44
BIBLIOGRAPHY	46

LIST OF FIGURES

Figure 1: Boxplot of the Distribution of Ages of the Individual Judges	23
Figure 2: Boxplot of the Distribution of JCS Scores for the Individual Judges	24
Figure 3: Circuit Frequency for Disparate Impact Findings.....	32
Figure 4: Distribution of Decision Outcomes Pre and Post 1991.....	32
Figure 5: Boxplot of the Distribution of Panel JCS Score by Decision	33
Figure 6: Boxplot of the Average Age of Judges on Panel by Decision	33
Figure 7: Distribution for Presence of Minority on Panel and Decision	34
Figure 8: Distribution for Presence of Woman on Panel and Decision.....	34

LIST OF TABLES

Table 1: Summary Statistics for Individual Judge Characteristics	23
Table 2: Logistic Regression for Univariate Models for Individual Judges.....	25
Table 3: Logistic Regression for Univariate Models for Sex, Race, and Age Discrimination Cases	26
Table 4: Multiple Logistic Regression for the Individual Judges.....	27
Table 5: Summary Statistics of Panel Composition	28
Table 6: Panel Composition Results	29
Table 7: Logistic Regression for Univariate Models for Panel Composition	30
Table 8: Logistic Regression for Univariate Models for Sex, Age, and Racial Discrimination Cases for Panel.....	35
Table 9: Multiple Logistic Regression for Full Model for Panel Composition.....	36

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INTRODUCTION

A blindfolded woman stands tall holding a perfectly balanced scale and sword in both hands. She represents the fairness, power, and impartiality of the Judicial Branch of the United States government. She is “blinded” to all outside factors other than the interpretation of the law. Her scale balances equally, demonstrating the need for judiciaries to be fair to all. She sits outside of every appellate court house in the United States, her image portrayed to all that enter, promising equal and unbiased judgement. Although she stands this way, the judges inside of these U.S. Courts of Appeals, appointed by the President and affirmed by the Senate, may not stand as tall, fair, and unbiased as she. Federal judges are appointed for life, and only fifteen judges have ever been impeached from their position (Federal Judicial Center). The United States Courts of Appeals often set judicial precedent and are the “last word in thousands of cases,” as the Supreme Court of the United States only hears “100 to 150 cases from the 7,000 cases they are asked to review each year” (Federal Judicial Center). This makes the understanding of what influences appellate court judges an important matter to investigate due to the power that they hold within the Judicial branch.

The focus of this judicial behavior study are disparate impact related cases. Disparate impact is a claim that is used in employment law. Disparate impact claims allow employees to assert that facially neutral employment policies, like an aptitude or fitness test, are discriminatory. Disparate impact cases provide a unique opportunity to observe what influences judicial decision-making in the U.S. Courts of Appeals because of the vague federal laws surrounding disparate impact claims, as well as conflicting court precedents (Songer, 2005). As

Songer argues in his study, these vague laws and conflicting court cases allow judges to vote within their discretion after the passing of the 1991 Civil Rights Act, which Congress enacted to override the Supreme Court's decision in *Wards Cove v. Atonio* case (Songer, 2005). The passage of the 1991 Civil Rights Act makes disparate impact related court cases a unique opportunity to research judicial decision-making to help understand which factors influence both individual judges' voting behavior, as well as overall panel composition voting behavior. Other studies, such as Webber's 2015 study, also argue that political ideology influences decision-making. In addition to that, other studies, like the Boyd, Epstein, and Martin study found that the sex of the judge is influential in certain court cases types (Boyd, Epstein, & Martin, 2010). However, these studies do not extend to recent years, some only focus on other courts besides the U.S. Courts of Appeals, and other studies focus on certain specific factors rather than numerous potential factors. This study is conducted to essentially combine the existing research together to measure what influences judicial decision-making. This comprehensive analysis will include theories based on significant variables found in other studies, including cases up to the year of 2018, and including both an individual judge and panel composition analysis in regards to the judges' decision-making in disparate impact related cases.

Concentrating on disparate impact related cases allows for a better understanding of which factors really influence judicial decision-making. This is due to the fact that the passing of the 1991 Civil Rights Act, which was passed in retribution to the heavily pro-business decision on disparate impact in the *Wards Cove v. Atonio* decision. After the passing of the 1991 Civil Rights Act, courts across the United States were instructed to follow the existing precedent from prior to the *Wards Cove* decision, which was vague and often lead to conflicting decisions. This is what makes disparate impact cases such a unique opportunity to study, as it allows to see what

judges really rely on when they decide on cases in court. Understanding these influences that may sway judicial decision-making is important to study, because federal judges are granted a lifetime appointment once they are approved for their position. Overall, this study addresses the question of what other factors, besides the interpretation of law, influence the U.S. Courts of Appeals judges' decisions-making in disparate impact related cases. Regression analyses were employed to determine the association of the individual judges and panel composition decision-making behaviors independent two different univariate analyses, and an overall multivariate analysis. This study concludes with the results found in the regressions and further considerations for future research.

LITERATURE REVIEW

There has been a significant amount of research done in regards to the behavior and decision-making process of the judicial branch in the United States of America. Since the Judicial Branch holds so much power within the United States government, with those in federal courts serving lifetime tenures with very little checks on their position, studies in the field of decision-making are vital to understand. The field of judicial decision-making studies has been conflicting, with some studies urging that judges' political ideology, background, and personal characteristics influence their decisions in their cases, while others have argued that these attributes have little to no effect. The aim of this study is to research what factors influence judicial decision-making in the U.S. Courts of Appeals, if any are to suggest such a phenomenon. Research has suggested one way to analyze this question is by looking at disparate impact cases brought to the appellate courts under Title VII of the Civil Rights Act of 1964 (Songer, 2005). Under the law, disparate impact has been noted to be very vague and suggested to be up to the interpretation of the judges sitting on the appellate court. With such cases being up to the discretion of the judges, this study will analyze whether or not certain factors influence judicial-decision making in the U.S. Courts of Appeals in regards to disparate impact cases. The surrounding literature fails to paint a comprehensive picture of this phenomenon, which I intend to research. The literature compounded in this review introduces differing theories and explanation to judicial decision-making and behavior in the United States.

General Theories on Judicial Behavior and Decision-Making

The U.S. Courts of Appeals lay beneath the United States Supreme Court and often create precedent due to less than one-tenth of one percent of appeals court decisions being reviewed by the Supreme Court (Bowie & Songer, 2009). With the large amount of legal precedent being defined by the U.S. Court of Appeals, it is important to understand the existing frameworks and models that offer explanation to judicial behavior and decision-making. There are many frameworks and models suggesting explanations to judicial behavior and decision-making. Both the strategic and attitudinalist approaches suggest that judges' "have a goal of making good public policy that is consistent with their own political preferences" (Bowie & Songer, 2009). However, these approaches differ in the fact that the strategic approach suggests that judicial actors may "take into account of the potential actions of other actors and may modify their behavior in response to probable reaction of others," where the attitudinalist approach infers that judges will vote in accordance to the outcome that they most agree with or prefer (Bowie & Songer, 2009). The attitudinal framework suggests that judges will act in accordance to their own behaviors without thinking of others, while the strategic approach suggests that judges with similar opinions will "determine that his preferences (or closer approximation thereof) can be actualized only if his choices also account for the preferences and expected reactions, of for example, his fellow judges on his court or panel" (Hettinger, Lindquist, & Martinek, 2004). Another model considered in seeking to explain judicial behavior is the integrated model, which somewhat blends both the attitudinal and strategic model. The integrated model denotes that "[judges] decide cases based largely on ideology but are tempered in this political motive by strategic influences and by the constraining force of the law itself" (Webber, 2015).

The existing literature on the three separate models is conflicting in its findings. A general acceptance of the judicial politics community is that the attitudinal model is significant in explaining individual ideological preferences influence case outcomes in certain types of law. There is much debate within the newly introduced strategic model. In some instances, measuring ideological behavior and its implications on disparate impact suits, all three models: strategic, attitudinal, and integrative were found to be statistically significant in explaining judicial behavior in the Supreme Court (Webber, 2015). There has also been some suggestion that personal attributes, such as tenure, age, partisanship, career characteristics, and education have a statistical significance in influencing the judicial decision in “split decision” areas of the law such as civil rights and liberties and economic cases brought to the Supreme Court (Tate, 1981).

In regards to circuit courts, there have been differing and concluding opinions about which models can explain judicial behavior and decision-making. Some note ideology matters in regards to the Supreme Court granting a writ of certiorari, stating that the odds of granting certiorari “decreases by approximately 55 percent when the lower court decision is conservative” (Bowie & Songer, 2009). When interviewing appellate court judges, many of them noted that they can often predict and think about their panel colleagues’ views and reactions to key issues (Bowie & Songer, 2009). While there is “a definite attempt to accommodate each other’s views ‘whenever possible,’” it has been concluded that appellate court judges do not act strategically when “necessary to avoid reversal by the Supreme Court” (Bowie & Songer, 2009). This finding that strategic decisions among judges comes from their colleagues rather than fear of being reversed from the Supreme Court is logical due to the extremely small amount of cases that the Supreme Court hears per year, making the chance of reversal small, and the fear of reversal from the appellate court judges, very small and insignificant. However, the notion of appellate court

judges interacting with their colleagues, as well as strategically aligning themselves with their colleagues' opinions, offers a sound argument that the strategic approach is evident in panel composition and panel effects.

However, some of the literature disagrees about the strategic approach in regards to dissenting opinions, citing that the strategic approach cannot be generalizable to all courts (Hettinger, Lindquist, and Martinek, 2004). The Hettinger, Lindquist, and Martinek study set out to conceptualize whether or not judicial dissents represent ideological differences or rather if they are used as a signal for circuit intervention (Hettinger, Lindquist, and Martinek, 2004). The findings of this study suggest that the attitudinalist approach offers a stronger explanation as to why a judge dissents on a court case (Hettinger, Lindquist, and Martinek, 2004). Their findings contradict with the findings of Van Winkle, who concluded that “where a judge is an outlier on a panel dominated by mainstreamers (for example, a liberal judge on a circuit dominated by conservatives), the judge is less likely to dissent (Van Winkle, 1997). These discrepancies come from the evaluation of different case types as well as time frame. Nevertheless, the strategic, attitudinal, and integrated models are all important to study and keep in mind when conducting this thesis. Although attitudinal approaches have been widely accepted by the judicial politics realm as a sound reasoning for the influence of ideology and case outcomes, besides Tate, barely any studies focused on other aspects of the attitudinal approach that could influence decision making like personal characteristics and they have not studied these models in accordance with disparate impact cases. The same goes for the strategic and integrated approach, where only ideological aspects were researched, and the literature suggests disagreement due to the different case types as well as time frames. I suggest by looking at disparate impact cases and the vagueness and conflicting court precedents that exist, that it could be very likely that these

approaches can be explained or attempted to be considered as the framework for understanding judicial behavior.

The Role of Panel Composition

Panel composition is an important factor when considering judicial decision-making and behavior. The appellate courts of the United States consist of three-judge panels deciding on cases brought up by the district courts, and in some cases, an en banc decision, of having the entirety of the appellate court weigh in on a decision. Research has noted that “negotiation, compromise, and respect for the positions of colleagues are seen by appeals court judges as a normal part of crafting opinions” (Bowie & Songer, 2009). Some suggest that racial diversity on a panel can influence the overall decision in affirmative action cases (Kastellec, 2013). In over 182 cases, with 514 votes, 58 votes were cast with an African-American colleague present (Kastellec, 2013). With the presence of an African-American colleague on the panel, 80% of the time the panel will vote in favor of the affirmative action case, suggesting that racial diversity has a correlation with affirmative action cases, which then can be applied to this study to analyze whether or not diversity of a panel is influential in disparate impact related cases (Kastellec, 2013).

The inclusion of women on a panel is also an influential factor in judicial decision-making in regards to sex discrimination cases (Boyd, Epstein, & Martin, 2010). When analyzing 12 out of 13 areas of law, there was no significant panel effects (Boyd, Epstein, & Martin, 2010). However, in regards to sex discrimination cases, the “probability of a judge deciding in favor of the party alleging discrimination decreases by 10 percent when the judge is male” (Boyd, Epstein, & Martin, 2010). Not only do “males and females bring distinct approaches to [sex

discrimination] cases, but the presence of a female on a panel actually causes male judges to vote in a way they otherwise would not – in favor of the plaintiff” (Boyd, Epstein, & Martin, 2010). Panel composition and effects are important to study because “the greater the diversity of participation by judges of different backgrounds and experiences, the greater the range of ideas and information contributed to the institutional process and the higher the likelihood of altered deliberations in response” (Boyd, Epstein, & Martin, 2010). Overall, studying panel effects and the notion of diverse panel composition is important for this study, since there is such vagueness around the law of disparate impact, we would expect to see variables like race and sex having an effect on the decisions made on the overall panel. The background in panel composition is interesting because it deals with labor and employment related cases and found statistical significance, and under the umbrella of disparate impact, there are cases that deal with affirmative action and sex discrimination, so it will be interesting to see if there is some type of statistical significance among panel composition and judicial behavior.

The Role of Political Ideology and Differences in Circuit Courts

As noted from the discussion above, there has been extensive research on the impact of judicial political ideology in the courts of the United States, with a large majority of studies concluding political ideology has some correlation with judicial decision-making and behavior. There has been some research that measures whether or not there is a comprehensive ideology of judicial figures in the different circuit courts of the United States. Meaning, if a case was brought to a specific circuit due to their jurisdiction, if they should experience a more liberal or more conservative decision based on geography. A lot of the existing research stems off of the media coverage in the 9th circuit, which the media claims to be the most “progressive” and “liberal” of

all the thirteen circuit courts throughout the United States. A key study on the ideological differences between circuit courts is the 2011 Broscheid study.

The Broscheid study measures the correlation between political ideology and differences between circuit courts during the Clinton presidency from 1993 to 2000 (Broscheid, 2011). The study provides an explanation that there are ideological differences between the circuit courts through an attitudinalist approach, stating that “different circuits have different shares of liberal and conservative judges, and the median ideology of three-judge panels is clearly associated the probability a conservative decision” (Broscheid, 2011). This research noted that the 2nd and 9th circuits were likely to be liberal than the 4th, 5th, and 7th circuits, with the 5th, 7th, and 8th, circuits likely to make conservative verdicts (Broscheid, 2011). However, Broscheid also notes that these findings that “knowing who appointed the judges on a federal appeals panel, and which circuit the panel is located in, improves the ability to predict case outcomes only marginally” (Broscheid, 2011). Although this literature suggests ideological differences among the circuit courts, it by no means serves as a predictor for case outcome. However, this literature sparks an interesting argument in relation to disparate impact cases that are studied in this thesis. Due to the ambiguity of the law surrounding disparate impact, it will be interesting to see if there are ideological differences among the circuit courts in relation to this case type, as well as investigating if one can predict or conclude the case outcome in a disparate impact case among the circuits through an attitudinalist approach.

Introduction to Disparate Impact

Disparate impact is a claim filed under Title VII of the Civil Rights Act of 1964. The Civil Rights Act of 1964 was passed by Congress, a federal law which prohibited “discrimination against employees on the basis of sex, race, color, national origin, and

religion...generally applying to employers with 15 or more employees, including federal, state, and local governments, private and public employment agencies, colleges, universities, and labor organizations” (Rutherglen, 2006). After the passing of Title VII, the Supreme Court extended “Title VII in yet another direction: to facially neutral employment practices with an adverse impact on persons of a particular race, national origin, sex, or religion” with the ruling of *Griggs v. Duke Power Co.* (Rutherglen, 2006). With the ruling of *Griggs*, came the birth of the disparate impact claim in the courts of the United States. *Griggs* changed Title VII through the simple requirement of the plaintiff of the cases only needed to prove adverse, or disparate impact, not discriminatory intent (Rutherglen, 2006). If the plaintiff carries or proves the problem of disparate impact, the “defendant must prove that the disputed employment practice is justified by job relationship or business necessity” (Rutherglen, 2006). The claim of disparate impact “puts a lighter burden of proof on the plaintiff to prove adverse effects instead of discriminatory intent and it puts some burden of proof on the defendant to justify practices with adverse [discriminatory] effects” (Rutherglen, 2006).

Disparate impact cases have stemmed from section 703 (a)(2) of Title VII of the Civil Rights Act of 1964. Section 703 (a)(2) makes it unlawful for a defendant:

- [1] to limit, segregate, or classify his/her employees or applicants for employment
- [2] in any way which would deprive or tend to deprive any individual of employment opportunities or otherwise adversely affect his status as an employee,
- [3] because of such individual's race, color, religion, sex, or national origin.

The understanding of Title VII and the notions of a disparate impact related court case are crucial for this study. I will be testing whether or not disparate impact cases allow for judges to utilize their own personal beliefs and opinions on the ruling of the

cases, as existing literature suggests. The surrounding literature makes this claim due to the ambiguity of the law and precedent brought by this type of case.

The Role of the 1991 Civil Rights Act and the Decision of *Wards Cove v. Atonio*

In 1989, *Wards Cove Packing Co., Inc v. Atonio* was decided by the Supreme Court in favor of employers for disparate impact suits. *Wards Cove* restricted “Title VII plaintiffs’ use of statistical evidence and eliminated the burden of persuasion on employers to refute a prima facie case of disparate impact” (Songer, 2005). In short, the *Wards Cove* decision heavily favored the employers rather than the employees. In retribution to the Supreme Court ruling, Congress enacted the 1991 Civil Rights Act. The 1991 Civil Rights Act changed the language of the “legitimate business justification” defense, by requiring the employer to “demonstrate that the challenged practice is job-related for the position in question and consistent with business necessity” (Songer, 2005). The Act also instructs for future court cases to be based on court precedents before the *Wards Cove* decision, which are often conflicting (Songer, 2005). The change in language and reliance on conflicting court opinions have created an ambiguity around adverse impact suits. Research suggests that this ambiguity “encourages broad judicial discretion based on the ideologies of individual judges deciding Title VII disparate impact cases” (Songer, 2005).

Songer’s study analyzes the impact of the *Wards Cove* decision and the retaliation of the 1991 Civil Rights Act. Songer tests the correlation of political ideology in disparate impact cases brought to the court by African American plaintiffs from selected circuit courts pre-1991 and post-1991 (Songer, 2005). The outcome suggested that judges’ use the legal ambiguity from post-*Wards Cove* decision and the 1991 Civil Rights Act to vote on outcomes that are consistent

with their own political ideologies (Songer, 2005). Scholars like Webber have suggested that the Supreme Court consistently is split ideologically in regards to disparate impact cases, with conservative judges' voting to restrict the capabilities of Title VII and liberal voting to enhance these capabilities (Webber, 2015). The findings of this study are consistent with the fact that Supreme Court Justices continually vote along ideological lines in regards to disparate impact due to the recent ambiguity around the law (Webber, 2015). The surrounding literature on disparate impact cases pre-1991 and post-1991 suggest there is a correlation between judicial ideology and case outcomes in disparate impact cases. These studies provoke a strong argument about the ambiguity of the law surrounding disparate impact cases and the ability of judicial discretion and ideological influence in case outcomes. The literature reviewing the *Wards Cove* decision and the 1991 Civil Rights Act, however, fail to take in consideration of other factors besides ideology that can influence outcomes and only researches a strict amount of cases and circuits. The literature also fails to take into account of panel composition and judicial personal attributes other than political ideology, which other studies have suggested to be significant.

Overall, the compounding literature suggests that judicial politics still needs to be studied in regards to judicial behavior and decision-making. There are many frameworks and models that researchers have claimed to be significant or insignificant in relations to their studies. There has been a consensus among the literature that ideology and the attitudinal framework have some relation to the outcome of a court decision. There has also been literature that suggests personal attributes, like tenure, age, appointing president, sex, and race, all can contribute to the outcome of a case decision. The literature stems from studies regarding the Supreme Court as well as the Courts of Appeals, in which this studies provide interesting frameworks, arguments, or variables that can be applicable to this study. This study will take all of the existing literature and

compound them into a comparative analysis between case characteristics, judges' backgrounds, ideology, and personal characteristics, as well as comparing individual and panel effects among court decisions in regards to disparate impact cases. The existing literature provides arguments, theories, and research models that will be used and tested to see if their claims hold up in disparate impact cases. I think the incorporation of disparate impact cases to the existing literature's arguments will be interesting, as disparate impact theories have largely been thought of as vague and up to the judges' discretion due to the language of the 1991 Civil Rights Act and the conflicting court precedents on existing disparate impact cases.

THEORIES AND HYPOTHESES

My broad theory is that individual judicial demographics and characteristics, case characteristics, and panel composition influence the decision made in disparate-impact related cases in the U.S. Courts of Appeals. I will be conducting logistic regression analyses, with the unit of analysis being either the vote cast by the individual judge, or the overall decision made by the panel. In each case, the decision will be coded as either for (=1) or against (=0) findings of disparate impact evidence. To explore these research questions, I integrate appeals court data from the Judicial Common Space scores, Westlaw Database, and the U.S. Appeals Court Database, as well as the Nexis University Database.

Individual Judge's Decision Hypotheses

Hypothesis #1:

As a judge's *JCS score* increases (that is, gets closer to 1 / becomes more conservative), we would expect a judge to be less likely to favor findings of disparate impact evidence in case outcomes. Conversely, as *JCS* scores decrease (closer to -1), we would expect a judge to be more likely to favor findings of disparate impact evidence in their vote.

Hypothesis #2:

If a judge is a member of a racial or ethnic *minority*, we would expect them to be more likely to vote in favor of findings of disparate impact evidence. Conversely, if a judge is not a minority, we would expect them to be more likely to vote not in favor of findings of disparate impact evidence in their voting.

Hypothesis #2a:

If a judge is a member of a racial or ethnic minority, we would expect them to be more likely to favor of findings of disparate impact evidence *in disparate impact cases*

involving racial or ethnic discrimination. Alternatively, if a judge is not a minority, we would expect them to be more likely to not support findings of disparate impact evidence in *racial discrimination* disparate impact cases.

Hypothesis #3:

If a judge is a female, we would expect them to be more likely in favor of findings of disparate impact in case outcomes. Conversely, if a judge is not a female, we would expect them to be more likely not in favor of findings of disparate impact.

Hypothesis #3a:

If a judge is a female, we would expect them to be more likely in favor of findings of disparate impact evidence in *sex discrimination* disparate impact cases. Alternatively, if a judge is not a female, we would expect them to be more likely not in favor of findings of disparate impact evidence in *sex discrimination* disparate impact cases.

Hypothesis #4:

If a judge is younger, they will be more likely to vote in favor of findings of disparate impact evidence in case outcomes. Alternatively, if a judge is older, they will be more likely to vote not in favor of findings of disparate impact evidence in case outcomes.

Hypothesis #4a:

In *ADEA discrimination* disparate impact cases if a judge is older, they will be more likely to vote in favor of findings of disparate impact evidence in case outcomes. Alternatively, the younger a judge is the less likely they are to vote in favor of findings of disparate impact evidence in *ADEA discrimination* disparate impact cases in case outcomes.

Hypothesis #5:

If the case was heard before 1991, a judge's decision is more likely to be in favor of findings of disparate impact evidence. If the case was heard after 1991, a judge's decision is less likely to be in favor of findings of disparate impact evidence.

Hypothesis #5a:

If the case was heard before 1991, political ideology or JCS score of the judge will be less likely to be a powerful predictor of case outcomes. If the case was heard after 1991, political ideology or JCS score of the judge will be more likely to be a powerful predictor of case outcomes.

Overall Hypothesis #6:

The individual judicial appellate disparate impact decisions are influenced by one or more of the case characteristics or individual judicial characteristics and demographics.

Overall Panel Decision Hypotheses

Hypothesis #1:

If the average JCS score increases (closer to 1 or conservative), the panel will be less likely to vote in favor of findings of disparate impact evidence in case outcomes. Alternatively, if the average JCS score decreases (closer to -1 or liberal), the panel will be more likely to be in favor of findings of disparate impact evidence in case outcomes.

Hypothesis #2:

If the panel consists of at least 1 minority, the panel would be more likely to be in favor of findings of disparate impact evidence in case outcomes. If the panel does not consist of a minority, the panel would be less likely to be in favor of findings of disparate impact evidence in cases outcomes.

Hypothesis #2a:

If the panel consists of at least 1 minority, the panel would be more likely to be in favor of findings of disparate impact evidence in *racial discrimination* case outcomes. If the panel does not contain a minority, the panel would be less likely to be in favor of findings of disparate impact evidence in *racial discrimination* case outcomes.

Hypothesis #3:

If the panel consists of at least 1 woman, the panel would be more likely to be in favor of findings of disparate impact evidence in case outcomes. If the panel does not contain a woman, the panel would be less likely to be in favor of findings of disparate impact evidence in case outcomes.

Hypothesis #3a:

If the panel consists of at least 1 woman, the panel would be more likely to be in favor of findings of disparate impact evidence in *sex discrimination* case outcomes. If the panel does not contain a woman, the panel would be less likely to be in favor of findings of disparate impact evidence in *sex discrimination* case outcomes.

Hypothesis #4:

As the average age of the panel increases, the panel would be less likely to be in favor of findings of disparate impact evidence in case outcomes. As the average age of the panel decreases, the panel would be more likely to be in favor of findings of disparate impact evidence in case outcomes.

Hypothesis #4a:

Whereas in *ADEA disparate impact* cases, as the average age of the panel increases, the panel would be more likely to vote in favor of findings of disparate impact in ADEA

discrimination cases. As the average age of the panel decreases, the panel would be less likely to vote in favor of findings of disparate impact evidence.

Hypothesis #5:

If the panel heard the case before 1991, the panel would be more likely to vote in favor of findings of disparate impact evidence. If the case was heard after 1991, the panel would be less likely to vote in favor of findings of disparate impact evidence.

Hypothesis #5a:

If the case was heard before 1991, it would be less likely that the political ideology or JCS score of the panel to be a powerful predictor of case outcomes. If the case was heard after 1991, it would be more likely we would expect to see political ideology or JCS score of the panel to be a powerful predictor of case outcomes.

Overall Hypothesis #6:

The panel decision on disparate impact decisions are influenced by one or more case characteristics or panel composition.

METHODOLOGY

For this study, there were 370 disparate impact related cases that were selected from the Nexis University database. The selected cases were from the time period of 1980 to 2018, to allow for variation among judicial demographics, panel composition, and overall decisions. The cases were selected by utilizing the search engine in Nexis University to look for all federal reported cases from the allotted time period, which were then narrowed to disparate impact discrimination in labor and employment law, specifically in employment practices. From these selections 370 cases were chosen. For this study, a database was created by combining information from the Nexis University cases with Epstein's Judicial Common Space score for appellate court judges, the Boyd Judicial Common Space score for district court judges (some cases included district court judges), and the biographic information of federal judges from the Federal Judicial Center database. Each case decision was read and then coded as either in favor of findings of disparate impact evidence or not in favor of findings of disparate impact evidence. Each judge's name, age, race, sex, and their individual vote on findings of disparate impact evidence was recorded in the database. After creating the database, R Studio statistical software was used to create tables and graphs. R Studio was also used to run logistic regressions and calculate odds ratios as described below.

The dependent variable, the decision of whether or not there were findings of disparate impact, was analyzed using logistic regression models. These analyses were done for both individual judges and the overall panel composition. The independent variables that were tested for the individual judge models were judges' sex, race, age at the last case the individual judge

heard, and JCS score, as well as whether or not the case was decided before or after 1991. The independent variables that were tested for the overall panel composition models were whether or not the panel had a minority or woman present, the average panel age, the average panel JCS score, whether or not the case was decided before or after 1991, and the circuit that the case was decided in. Additionally, multiple logistic regression was conducted to evaluate the simultaneous influence of these independent variables had on the individual judge model and the overall panel composition model. In order to understand and interpret the logistic regressions, p-values and odds ratio were calculated. A p-value was considered statistically significant if it was less than or equal to 0.05. An odds ratio is defined as follows: first, the odds of an outcome is the ratio of the probability of an event happening over the probability of that same event not happening, the ratio of the odds for an independent variable (i.e., for sex, the odds of a female voting in favor of findings of disparate impact evidence divided by the odds of a male voting in favor of findings of disparate impact evidence) is then determined. In the case of continuous variables, such as the JCS score, the odds ratio is the change that corresponds to a one unit change in that variable. The odds ratio was calculated from the logistic regression estimates. If the 95% confidence interval for the odds ratio included a value of 1, then there was no difference between groups, whereas if 1 was not included in the confidence interval, there was a statistically significant difference between groups.

RESULTS

Individual Judge Analyses

The following section highlights the findings and association individual judicial characteristics and case characteristics have on the outcome of findings in disparate impact cases. The individual judge analyses include summary statistics, a univariate logistic regression for each of the independent variables, another univariate logistic regression for race and sex variables on racial and sex discrimination cases, and a multiple logistic regression including all the independent variables. The independent variables used in the individual judge analyses include sex, race, age, and Judicial Common Space (JCS) score from the Judicial Common Space Score Database created by Epstein (Epstein, 2007). The independent variables used for the individual judge's logistic regressions were coded as follows: sex (0=male, 1=female), race (0=non-minority or white, 1=minority), age (continuous from ages 36 to 84), pre or post 1991 (pre=0, post=1), and JCS score (-1=liberal to 1=conservative). The dependent variable used in these analyses is decision made individually by the judges, 0 being not in favor of a finding of disparate impact, 1 being in favor of a finding of disparate impact.

Table 1 shows the summary statistics of individual judge characteristics. In summary, there were 370 disparate impact related cases in the individual judge analysis. There were a total of 380 different judges. 333 (88%) of these judges were male, while 47 (12%) were female. 337 (89%) of these judges were white, 25 (6%) were black, 14 (4%) were Hispanic, and 4 (1%) were Asian. The average age of the individual judges is 61.9 years old, and their average JCS score was 0.035, revealing a conservative score.

Table 1: Summary Statistics for Individual Judge Characteristics

Number of Cases Reviewed	370
Number of Judges	380
Sex, n(%)	
Male	333 (88%)
Female	47(12%)
Race, n(%)	
White	337(89%)
Black	25(6%)
Hispanic	14(4%)
Asian	4(1%)
Age*	
Mean (SD)	61.9(10.3)
Median	62
JCS	
Mean (SD)	0.035(0.381)
Median	0.057
*Age at last case heard	

Figure 1 is a boxplot that shows the distribution of the judges' ages. Figure 2 is a boxplot that shows the distribution of the judges' JCS scores.

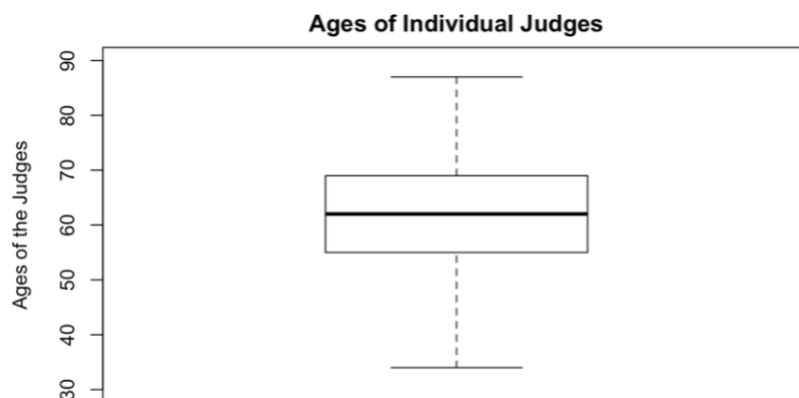
Figure 1: Boxplot of the Distribution of Ages of the Individual Judges

Figure 2: Boxplot of the Distribution of JCS Scores for the Individual Judges

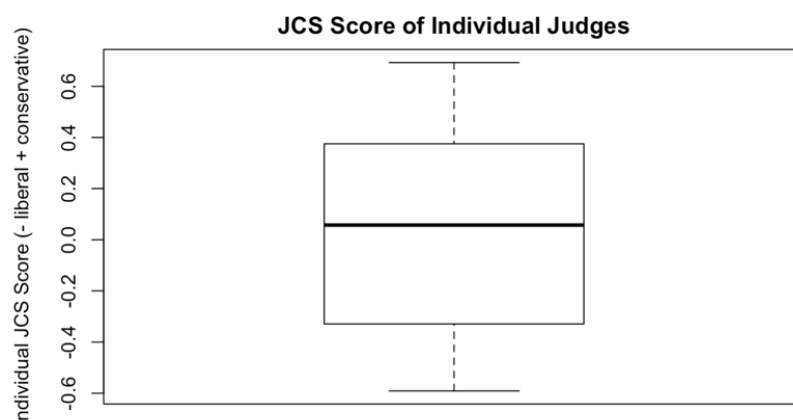


Table 2 shows the results of the logistic regression analyses for the univariate models for the individual judges. The univariate regression models included testing each independent variable separately with the dependent variable of the findings of either in favor of or not in favor of disparate impact findings. Table 2 includes the variable, p-value, odds ratio and 95% confidence intervals from the regression. The univariate analyses revealed that judge's race, pre/post-1991, and JCS score variables were all statistically significant with p-values less than the 0.05 significance level.

The judge's race, was significant with a p-value of 0.046. The odds ratio for the minority judge variable is 1.49, meaning that the odds of a minority judge voting in favor of findings of disparate impact is 1.49 times greater than the odds for a non-minority, or white, judge voting in favor of findings of disparate impact. The pre/post-1991 variable was significant with a p-value of <0.001. This results in an odds ratio of 0.61, which means that the odds for cases after the 1991 Civil Rights Act are 0.61 times less likely to be in favor of disparate impact findings than the odds of cases before 1991. Lastly, the JCS score variable was significant with a p-value of <0.001 and an odds ratio of 0.42. This indicates that as the JCS score increases, or becomes more conservative, the likelihood of a decision in favor of findings of disparate impact is less likely.

This indicates that a change of one unit in the JCS score variable, for example, a change from moderate (0) to very conservative (1), corresponds to an expected decrease of 58 percent in the odds of a finding of disparate impact evidence. The univariate analysis also revealed that the judge's gender, and age were not statistically significant. This means that there did not appear to be any association between individual decision on findings of disparate impact and the individual judge's age or sex, as their p-values were greater than the 0.05 significance level.

Table 2: Logistic Regression for Univariate Models for Individual Judges

Variable	p-value	Odds Ratio (95% Confidence Interval)
Sex: Female Judge vs Male Judge	0.386	1.20(0.79, 1.82)
Race: Minority Judge vs White Judge	0.046*	1.49(1.01 2.19)
Pre/Post 1991	<0.001*	0.61(0.45, 0.62)
Age	0.850	1.00(0.99, 1.01)
JCS Score	<0.001*	0.42(0.29, 0.60)
Note: Univariate logistic regression model included one variable at a time.		
*p<0.05		

Table 3 shows the logistic regression for univariate models for the sex, age, and race discrimination cases. The data was subset to analyze whether or not race of the judge was significant in racial discrimination cases, whether or not sex of the judge was significant in sex discrimination cases, and whether or not age of the judge was significant in age, or ADEA discrimination cases. These univariate analyses revealed that the sex, race, and age variables were not statistically significant in sex, racial, and age discrimination cases, respectively. This means that there did not appear to be any association between the individual findings of disparate impact in sex, racial, and age discrimination cases, and the individual judges' sex, race, or age. While race was marginally significant in the first univariate model in Table 2, a possible

explanation could be that the race of the judge is no longer a significant factor because fewer cases are included in the analysis for racial discrimination cases.

Table 3: Logistic Regression for Univariate Models for Sex, Race, and Age Discrimination Cases

Variable	p-value	Odds Ratio (95% Confidence Interval)
Sex: Female Judge vs Male Judge	0.651	1.23(0.51, 2.98)
Race: Minority Judge vs White Judge	0.215	1.41(0.82 2.43)
Age	0.797	1.00(0.97, 1.04)
Note: Univariate logistic regression model included one variable at a time. *p<0.05		

Table 4 depicts the results from the multivariate logistic regression, which included testing all of the independent variables with the dependent variable, the decision on findings of disparate impact. This multiple logistic regression was provided to evaluate the simultaneous influence of the independent variables of race, sex, age, JCS score, and Pre/Post 1991. The results of the full model are generally consistent with the previous univariate logistic regressions from Tables 2 and 3. Pre/Post 1991 and JCS remained significant at the two-sided 0.05 significance level, however differing from the univariate regression from Table 2, race was not statistically significant. The interpretation of JCS score and Pre/Post 1991 being significant can be explained using the odds ratio. JCS score had an odds ratio of 0.48. This means that as the JCS score increases, the likelihood of an individual judge's decision in favor of findings of disparate impact is less likely. This indicates that a change of one unit in the JCS score variable, for example, a change from moderate (0) to very conservative (1), corresponds to an expected decrease of 52 percent in the odds of a finding of disparate impact evidence. Pre/Post 1991 was significant at a p-value of 0.002 and had an odds ratio of 0.63. This suggests that the odds for

cases after the passing of the 1991 Civil Rights Act are 0.63 times less than the odds of cases before 1991 to be in favor of findings of disparate impact.

Table 4: Multiple Logistic Regression for the Individual Judges

Variable	p-value	Odds Ratio (95% Confidence Interval)
Sex: Female Judge vs. Male Judge	0.335	1.25(0.79, 1.95)
Race: Minority Judge vs. White Judge	0.420	1.18(0.78 1.79)
Age	0.731	1.00(0.99, 1.02)
JCS Score	<0.001*	0.48(0.33, 0.70)
Pre/Post 1991	0.002*	0.63(0.47, 0.85)
Note: The full model included all variables of interest in the model. *p<0.05		

Panel Composition Analyses

The following section highlights the findings and association panel composition has on the outcome of findings in disparate impact cases. The panel composition analyses include summary statistics, a univariate logistic regression, another univariate logistic regression for racial, sex, and age discrimination cases, and a multiple logistic regression for each of the independent variables. The independent variables used in the panel composition analyses include sex, race, age, pre/post 1991, circuit, and Judicial Common Space (JCS) score from the Judicial Common Space Score Database created by Epstein (Epstein, 2007). The independent variables used for the panel composition logistic regressions were coded as follows: sex (0=male, 1=female), race (0=non-minority or white, 1=minority), age (continuous from ages 36 to 84), pre/post 1991 (pre=0, post=1), circuit (from 1 to 12), and JCS score (-1=liberal to 1=conservative). The dependent variable used in these analyses is decision made overall by the panel of three judges, 0 being not in favor of a finding of disparate impact, 1 being in favor of a finding of disparate impact.

Table 5: Summary Statistics of Panel Composition

Number of Cases Reviewed	370
In Favor of Disparate Impact	111(30%)
Not in Favor of Disparate Impact	259 (70%)
Circuit, n(%)	
1	19(5%)
2	29(8%)
3	21(6%)
4	11(3%)
5	44(12%)
6	47(13%)
7	55(15%)
8	33(9%)
9	47 (13%)
10	25(7%)
11	29(8%)
12	10(3%)
Frequency, n(%)	
Cases with Minority on Panel	109(29%)
Cases with Woman on Panel	100(27%)
Cases Prior to 1991	230(62%)
Age of Panel Judges	
Mean (SD)	62.1(5.8)
Median	62.33
JCS Score of Panel Judges	
Mean (SD)	0.04(0.23)
Median	0.04

Table 5 shows the summary statistics of the panel composition characteristics. In summary, there were 370 disparate impact related cases in the panel composition analysis. There were a total of 370 different panels. 111 of the 370 (30%) cases reviewed were voted in favor of findings of disparate impact. 259 of the 370 (70%) cases reviewed were voted not in favor of findings of disparate impact. Circuit 7 provided the most cases (15%), whereas Circuits 4 and 12 only provided 3% of cases. Less than one-third of panels had either a minority (29%) or a woman (27%). A majority of the cases reviewed were prior to 1991 (62%). The average panel

age was 62.1 years and the average panel Judicial Common Space (JCS) score was 0.04, a conservative score.

Table 6: Panel Composition Results

	Not in Favor of Disparate Impact	In Favor of Disparate Impact
Circuit, n(%)		
1	18(85%)	1(5%)
2	17(59%)	12(41%)
3	14(67%)	7(33%)
4	6(55%)	5(45%)
5	32(73%)	12(27%)
6	39(83%)	8(17%)
7	37(67%)	18(33%)
8	24(73%)	9(27%)
9	34(72%)	13(28%)
10	16(64%)	9(36%)
11	15(52%)	14(48%)
12	7(70%)	3(30%)
Frequency, n(%)		
Cases with Minority on Panel	73(67%)	36(33%)
Cases with Woman on Panel	68(68%)	32(32%)
Cases Prior to 1991	149(65%)	81(35%)
Cases After 1991	110(79%)	30(21%)
Age of Panel Judges		
Mean (SD)	62.0(6.01)	62.1(5.14)
Median	62.3	62.0
JCS Score of Panel Judges		
Mean (SD)	0.07(0.23)	-0.04(0.20)
Median	0.08	-0.05

Table 6 shows the summary of the panel composition categorized by the decision of the panel. There were 73 (67%) of cases that had a minority on the panel that voted not in favor of disparate impact findings and 36 (33%) of cases that had a minority on the panel that voted in favor of disparate impact findings. There were 68 cases with a woman on the panel that voted not

in favor of disparate impact findings, while 32 cases with a woman on the panel that voted in favor of disparate impact findings. There were 149 cases before the 1991 Civil Rights Act that the panel voted not in favor of disparate impact findings and 81 cases that the panels voted in favor of disparate impact findings. Conversely, there were 110 cases after the 1991 Civil Rights Act that the panels voted not in favor of disparate impact findings, and 30 cases that the panels voted in favor of disparate impact findings. The average age of the panels that voted not in favor of disparate impact findings was 62.0, while the average age of the panels that voted in favor of disparate impact findings was 62.1. The mean JCS score for panels that voted not in favor of disparate impact findings was 0.07, a conservative score. While the mean JCS score for panels that voted in favor of disparate impact findings was -0.04, a liberal score.

Table 7: Logistic Regression for Univariate Models for Panel Composition

Variable	p-value	Odds Ratio (95% Confidence Interval)
Circuit (vs. Circuit 1)		
2	0.020*	12.71 (1.49, 108.53)
3	0.051	9.00 (0.99, 81.92)
4	0.023*	15.00 (1.45, 155.30)
5	0.078	6.75 (0.81, 56.24)
6	0.234	3.69 (0.43, 31.78)
7	0.042*	8.76 (1.08, 70.86)
8	0.082	6.75 (0.78, 58.20)
9	0.074	6.88 (0.83, 56.92)
10	0.037*	10.12 (1.15, 88.94)
11	0.010*	16.80 (1.97, 142.97)
12	0.099	7.71 (0.68, 87.25)
Race: Minority Present v. All White Panel	0.412	0.82(0.51, 1.32)
Sex: Female Present v. All Male Panel	0.610	0.88(0.54, 1.44)
Pre/Post 1991	0.005*	0.50(0.31, 0.82)
Panel Age	0.898	1.00(0.96, 1.04)
Panel JCS Score	<0.001*	0.10(0.03, 0.28)
Note: Univariate logistic regression model included one variable at a time. *p<0.05		

Table 7 shows the results of the logistic regression analyses for the univariate models for panel composition. The univariate regression models included testing each independent variable separately with the dependent variable of the findings of either in favor or not in favor of disparate impact findings. Table 6 includes the variable, p-value, odds ratio and 95% confidence intervals from the regression. The univariate analyses revealed that the panel JCS score, pre/post 1991, and Circuits 2, 4, 7, 10, and 11 were all statistically significant with p-values less than the 0.05 significance level. Figure 4 shows the results for each circuit. While Circuit 1 only had 5% of its cases in favor of disparate impact, most other circuits had at least 25% of their cases in favor of disparate impact. However, the number of cases in some of the circuits was very small and the confidence intervals for the odds ratios are wide. Pre-1991 35% of cases were in favor of disparate impact whereas Post-1991 only 21% of cases were in favor (Figure 5). This results in an odds ratio of 0.50 which means that the odds for cases after 1991 are 0.5 times less than the odds of cases before 1991 to be in favor of disparate impact. Panel JCS score has an odds ratio of 0.10 which indicates that as the panel JCS score increases, the likelihood of a panel decision in favor of disparate impact is less. This indicates that a change of one unit in the JCS score variable, for example a change from moderate (0) to very conservative (1) corresponds to an expected decrease of 90 percent in the odds of a finding of disparate impact evidence. It should be noted that since this analysis is looking at panel composition, a change in one unit on the JCS score is a large change. This is because it would require multiple judges to be more conservative or liberal to lead to that great of panel-level change in the JCS score. This pattern can be seen in the Figure 6 which show the distribution of JCS scores via box plots by panel decision.

Figure 3: Circuit Frequency for Disparate Impact Findings

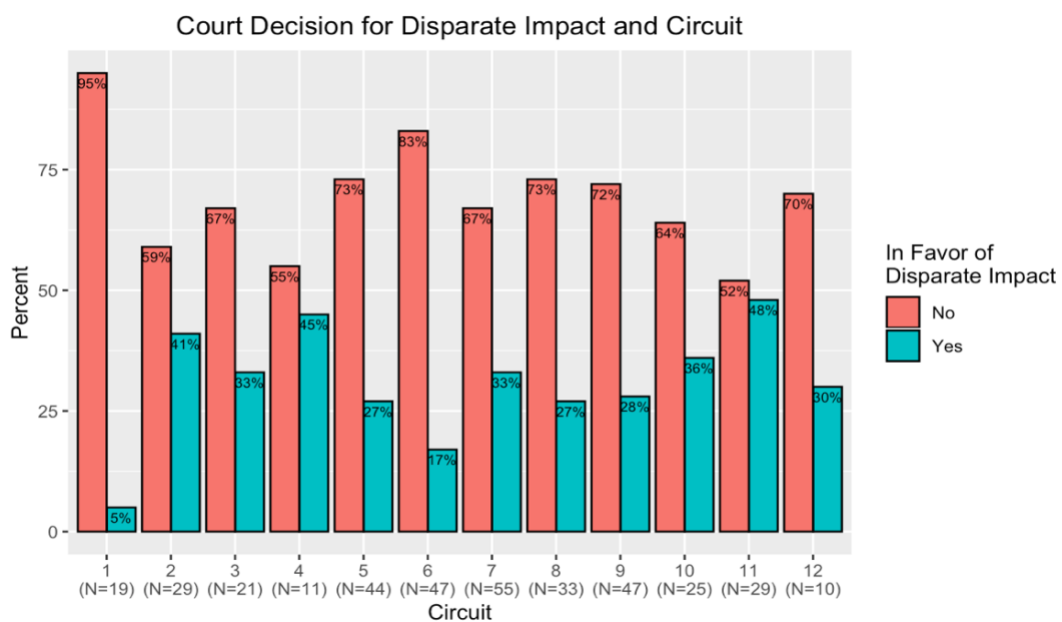


Figure 4: Distribution of Decision Outcomes Pre and Post 1991

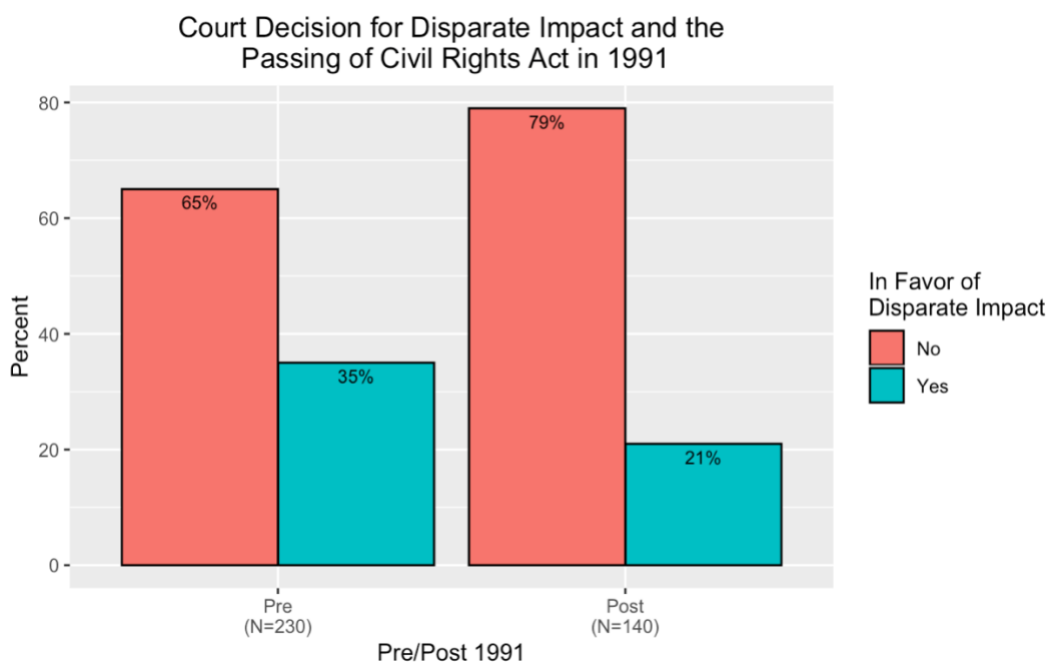
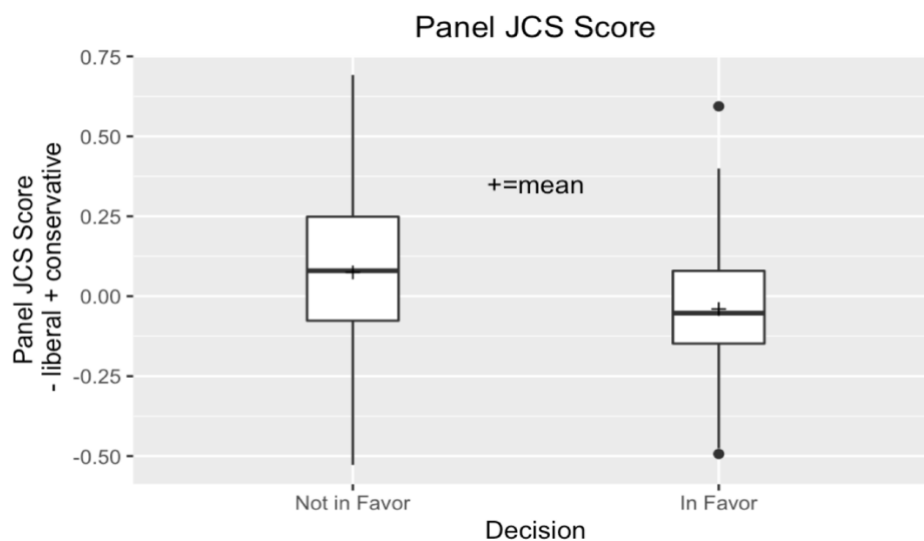


Figure 5: Boxplot of the Distribution of Panel JCS Score by Decision



There did not appear to be any association between panel decision on disparate impact and panel age or if there was a minority or woman on the panel as the odds ratios for these variables were close to one and the p-values were >0.05 . (Figures 7, 8, and 9, respectively).

Figure 6: Boxplot of the Average Age of Judges on Panel by Decision

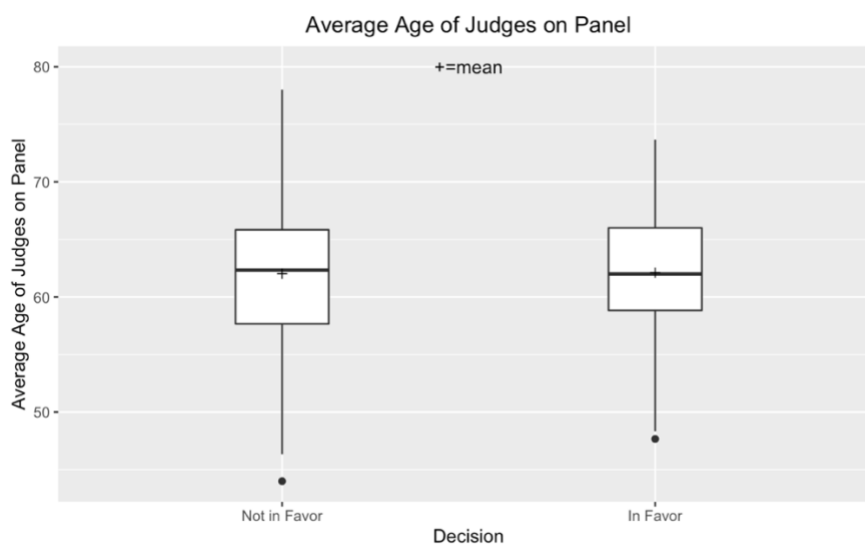


Figure 7: Distribution for Presence of Minority on Panel and Decision

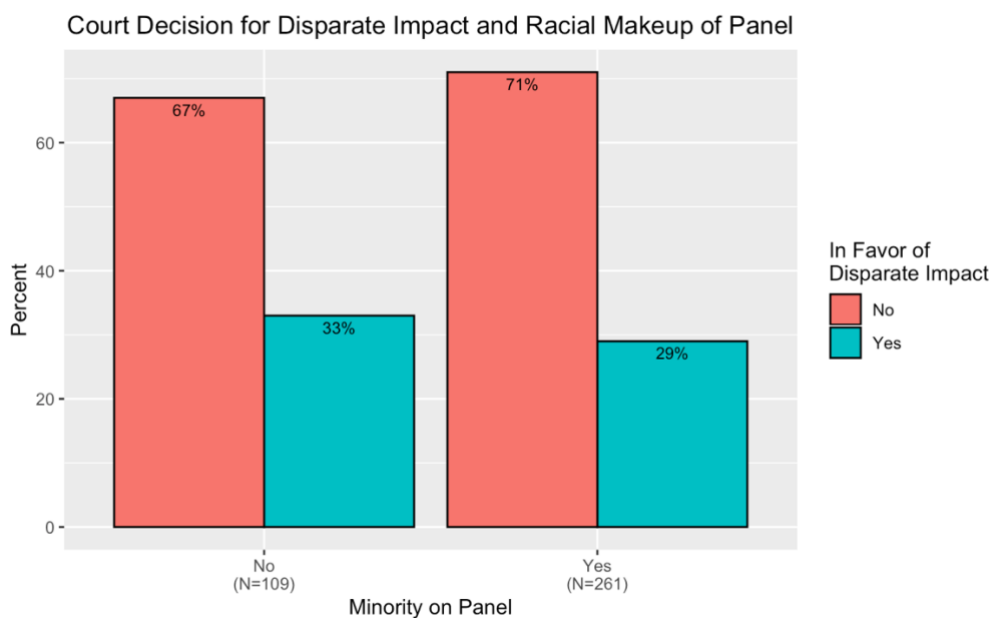


Figure 8: Distribution for Presence of Woman on Panel and Decision

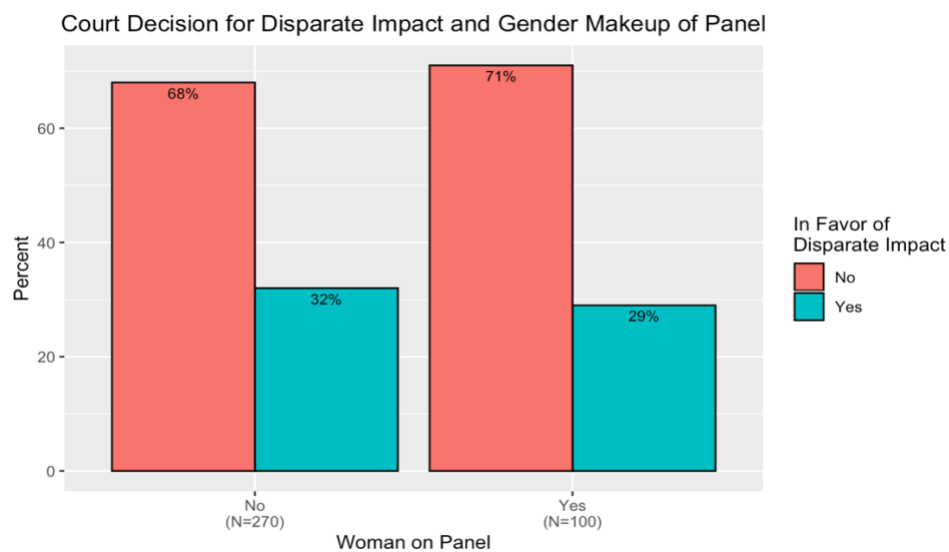


Table 8 shows the logistic regression for univariate models for the sex, age, and race discrimination cases. The data was subset to analyze whether or not the presence of a minority judge on the panel was significant in racial discrimination cases, whether not the presence of a

woman on the panel was significant in sex discrimination cases, and whether or not the average age of the panel was significant in age, or ADEA, discrimination cases. These univariate analyses revealed that the sex, race, and age variables were not statistically significant in sex, racial, and age discrimination cases. This means that there did not appear to be any association between the panel findings of disparate impact in sex, racial, and age discrimination cases, and the average panel age, presence of a woman, or presence of a minority on the panel.

Table 8: Logistic Regression for Univariate Models for Sex, Age, and Racial Discrimination Cases for Panel

Variable	p-value	Odds Ratio (95% Confidence Interval)
Sex: Female Present vs All Male	0.609	1.34(0.44, 4.08)
Race: Minority Present vs All White	0.269	0.69(0.35 1.34)
Age	0.867	1.01(0.91, 1.12)
Note: Univariate logistic regression model included one variable at a time. *p<0.05		

Table 9 depicts the results from the multiple logistic regression, which included testing all of the independent variables with the dependent variable, the decision on findings of disparate impact. This multivariate logistic regression was provided to evaluate the simultaneous influence of the independent variables of race, sex, age, circuit, JCS score, and Pre/Post 1991. The results of the full model are generally consistent with the previous univariate logistic regressions from tables 7 and 8. Circuit and Panel JCS score remained statistically significant at the two-sided 0.05 significance level, however, Pre/Post 1991 was not statistically significant. Panel JCS score was significant at a p-value of <0.001 and had an odds ratio of 0.09. This suggests that as the JCS score increases, the likelihood of the panel's decision in favor of disparate impact findings is less likely. This shows that a change of one unit in the JCS score variable, for example moderate, 0, to very conservative, 1, corresponds to an expected decrease of 91 percent in the odds of a

finding of disparate impact evidence. Like noted beforehand, a change of one unit on the JCS score is a large change due to there being more than one judge on the panel.

Table 9: Multiple Logistic Regression for Full Model for Panel Composition

Variable	p-value	Odds Ratio (95% Confidence Interval)
Circuit (vs. Circuit 1)		
2	0.015*	14.93(1.68, 133.07)
3	0.054	9.23(0.96, 88.63)
4	0.014*	21.29(1.84, 246.47)
5	0.035*	10.46 (1.17, 93.10)
6	0.140	5.19 (0.57, 46.97)
7	0.018*	13.43(1.56, 115.31)
8	0.062	8.21(0.90, 75.04)
9	0.079	6.92(0.80, 59.77)
10	0.018*	15.19(0.80, 143.37)
11	0.004*	26.53(2.87, 245.38)
12	0.090	9.38(0.71, 124.11)
Race: Minority Present v. All White	0.476	0.81(0.46, 1.43)
Sex: Female Present v. All Male	0.338	0.74 (0.40, 1.37)
Pre/Post 1991	0.076	0.58 (0.32, 1.05)
Panel Age	0.739	1.01 (0.96, 1.06)
Panel JCS	<0.001*	0.09(0.03, 0.31)
Note: The full model included all variables of interest in the model.		
*p <0.05		

DISCUSSION

Individual Judges Discussion

When looking at the individual judges' analyses, we find that in the univariate model, Judicial Common Space score of the judge, the judges' race, and whether or not the case was decided before or after 1991 were statistically significant. Additionally, another univariate model was run specifically for the variables of sex, race, and age of the judges in sex, racial, and age (ADEA) discrimination cases. The results of this univariate model found that the variables of sex, race, and age of the individual judges were statistically insignificant in sex, racial, and age (ADEA) discrimination cases. Lastly, a multiple variate analysis was done for the individual judges that found that JCS score and whether or not the case was decided before or after 1991 were both statistically significant.

The findings that race was significant in the first univariate model suggested that when race is the only factor or variable considered, it influences judges deciding in disparate impact related cases. A possible explanation as to why race wasn't significant in the overall multiple variate model could be because of the lack of representation in the appellate courts, as 43 out of the 380 judges were a minority, or could also be because other factors were more influential when deciding in favor or not in favor of disparate impact evidence in these particular cases. In addition, another possible explanation is that research has suggested that race is highly correlated with JCS score, because most African-American judges are also relatively liberal. This can suggest that in the multivariate model, race and JCS scores account for the same variation in voting or decision patterns. However, it is interesting to note that race was found significant in

the earlier univariate model, as Kastellec's 2013 study found racial makeup of the panel to be significant in affirmative action cases (Kastellec, 2013). Although the Kastellec study focused on panel composition, the findings from this study that race may matter in individual decision-making is important for future research. If race is a variable that is tested in the future in regards to judicial decision-making, researchers should focus on a more diverse group of judges to study. The same argument can be made for the variable of sex of the judge. In all three analyses, sex was found statistically insignificant. Although previous research from Boyd, Epstein, and Martin found that sex of the judge matters in sex discrimination cases, this was not found in the univariate results (Boyd, Epstein, & Martin, 2010). This could also be because of the lack of women that were assigned to these cases, as there were 47 females and 333 males. Additional research on sex of the judge should include more women to test further if sex influences judicial decision-making. Lastly, age was found not to be significant in any of the univariate analyses, as well as the multiple variate analysis. This could suggest that because typically appellate court judges are appointed later in their lives after they achieved success in other judicial roles, thus having judges be in similar age ranges. Studies like the 1981 Tate studies have also tested age of judges in judicial decision-making and found age to be statistically insignificant (Tate, 1981). Thus, the similar age ranges can offer a potential explanation as to why age seems to not influence judicial decision-making.

Furthermore, in both the univariate and multiple variate analyses for the independent variables included for the individual judge model, both Judicial Common Space score, and whether or not the case was decided before or after 1991 were both significant. These findings corroborate with the existing literature, particularly the Songer and Webber studies. While both studies focused on panel composition, they both found that political ideology influences judicial

decision-making. The year the case decided, whether or not it was before or after the passing of the 1991 Civil Rights Act, was also statistically significant. These findings also support the Songer study, as the Songer study claimed that the year 1991 was significant in disparate impact cases, as after the passing of the 1991 Civil Rights Act, there was a rise in conservative opinions (against disparate impact evidence), due to the amount of conservative judges on the appellate courts (Songer, 2005). This study also discovered the same directionality with the odds ratios, as the odds ratio for pre/post 1991, suggested both for the univariate and multiple variate analyses that cases are less likely to be in favor of disparate impact evidence after 1991.

Panel Composition Discussion

When looking at the panel composition analyses, we find that in the univariate model, circuit (the second, fourth, seventh, tenth, and eleventh circuits) was statistically significant. In addition to the circuit variable, whether or not the case was heard after 1991 and average panel JCS score were significant in the univariate model. Like the individual judge model, there was also a univariate model that was run for whether or not there was a woman on the panel for sex discrimination cases, whether or not there was a minority present on the panel for race discrimination cases, as well as calculating the average age of the panel for age or ADEA cases. When conducting this univariate analysis, none of the variables of race, sex, or age were found to be statistically significant. Although the race findings do not corroborate with the findings from Kastellec study, which found the presence of a minority was significant in affirmative action cases, these results could be due to the lack of diversity on the panel (Kastellec, 2013). As discussed in the individual judge section, there were only 109 cases out of the 370 that included a

minority. The same can be said for presence of a woman on the panel, as there were only 100 cases where there was at least one woman present on the panel. Although sex wasn't significant, especially in sex discrimination cases like Boyd, Epstein, and Martin found in their study, the findings that sex was insignificant throughout the models could be due to the lack of representation on the panels. Finally, there was a multiple variate analysis, where JCS score, and circuit (the second, fourth, fifth, seventh, tenth, and eleventh circuits) were statistically significant. An interesting finding was that pre/post 1991 variable was not statistically significant in the multiple variate analysis.

The findings from the univariate and multiple variate analyses seem to corroborate the surrounding research. The JCS score was statistically significant, which means that as the JCS score increases, the likelihood of the panel being in favor of disparate impact evidence is less likely. In Webber's 2015 study, it was found that political ideology was statistically significant, as the Supreme Court was often split ideologically in regards to disparate impact cases (Webber, 2015). Perhaps this could be due to the claims that Songer suggested in his 2005 study, that the vague federal laws and conflicting court precedents, allow for judges to vote within their own discretion (Songer, 2005). An interesting find from the panel composition analysis, is that the second, fourth, fifth, seventh, tenth, and eleventh circuits were found statistically significant. These findings seem to suggest that circuits can be influential when measuring decisions in favor or not in favor of findings of disparate impact evidence. However, like the 2011 Broscheid study, as though it seems there is ideological differences among the circuits, researchers should take caution when using it as a predictor for a case outcome (Broscheid, 2011). This observation from Broscheid should be used in this study, as each of the circuits odds ratios were created from the outcomes from the first circuit, in which 95% of the cases were voted not in favor of findings of

disparate impact evidence, and 5% of the cases were voted in favor of findings of disparate impact. This makeup of the first circuit could have skewed the other circuits to being statistically significant, so researchers should take caution when drawing conclusions about circuits from this study. Additionally, if researchers choose to research circuits in the future in a logistic regression model, it is suggested that they have close to an equal amount of the yes or no dependent variable that they are studying. Furthermore, when looking at the pre/post 1991 variable, it was statistically significant in the univariate model, but was not statistically significant in the multiple variate model. Although this doesn't corroborate Songer's findings, a possible explanation could be that there was a large amount of cases before 1991, with 230 of the 370 cases having been decided before 1991. This number could have skewed results and should be researched again in the future when there are closer to equal amounts before and after 1991. Another explanation could be that Songer only used 90 total cases in his study and focused primarily on cases that had an African American plaintiff, so it could be that the findings of 1991 being significant were only for a select group of disparate impact related cases, rather than general disparate impact related cases across the U.S. Courts of Appeals.

Both the individual analysis and panel composition analysis suggest that both frameworks of decision-making could be used to explain why certain variables were statistically significant. The attitudinalist approach suggests that judges will vote with the case outcome that they most prefer. The strategic approach suggests that judges act strategically, understanding their colleagues' stances on issues, and then "determining that his preferences and expected reactions, can be actualized only if his choices also account for the preferences and expected reactions of his fellow judges on his court or panel" (Hettinger, Lindquist, & Martinek, 2004).

With the individual judge analysis, it can be assumed that judges used an attitudinalist approach due to the fact that JCS score and pre/post 1991 were statistically significant. With both of these variables being significant, the judges most likely understood the vague laws and conflicting court cases surrounding disparate impact related cases allowed them to vote within their political preferences. Additionally, we would have hoped to see the panels conform to women and minority judges' opinions, but perhaps the lack of diversity on the court discouraged minorities, and they voted in accordance with the majority counterparts. However, political ideology could also be explained using the strategic approach in panel compositions, as most of the judges were conservative, so perhaps they acted strategically within the panel to get the outcome that they wanted on the case. Although this study included potential reasoning as to why outcomes occurred using previous research's suggested approaches, further research needs to be done to test which approach can thoroughly explain judicial decision-making in the U.S. Courts of Appeals.

Although this study produced interesting findings, it is important to talk about the limitations that incurred. One important limitation is brought up by Boyd, Epstein, and Martin. This study tested whether or not sex of the judge mattered when deciding on panels for different types of court cases. At the end, they concluded that even though they found statistically significant evidence, it is impossible to figure out how an all-male panel would vote on cases where women were on the panel, and vice versa. The same goes for this study. It is impossible to conclude how panels or judges would have voted on particular cases if certain minorities or women were involved, if there were younger judges involved, or if there were differing or similar political ideologies among them. Also there were limitations due to the amount of cases that occurred after 1991, and the amount of minority and women judge present in on the panels.

For future research regarding disparate impact related cases, researchers should include cases that have more representation with both women and men, if this data is available, as it might just represent the U.S. Court of Appeals as a whole, since there are not many women or minority judges present.

CONCLUSION

The woman that represents the judicial system holds a perfectly balanced scale, to represent fair and equal decisions for all, to weigh each side of the argument presented in court. She is blindfolded, to shroud herself from bias and prejudice. She stands tall above all of the courts of the United States to remind those within to embody her stature. However, this study has demonstrated that although the woman that stands outside of the court rooms demonstrates the best of the judicial branch in the United States, the judges often fall short inside. Studying disparate impact related cases offered a unique window to understand which factors influence judicial decision-making, due to the laws and conflicting court cases surrounding disparate impact decisions. Through this study, there were two logistic regressions that were conducted. In the multiple variate model for the individual judge model that the judges' JCS score, and whether or not the case happened before or after 1991 was significant. While in the multiple variate model for the panel composition, only average JCS score of the judge remained significant, and certain circuits were also significant. From these findings, we can conclude that there are factors that influence judicial decision-making both in the attitudinalist individual judge model, as well as the strategic panel composition model.

This study corroborates with the results found in the Songer and Webber studies in regards to political ideology influencing judicial decision-making. Furthermore, although sex, race, and age were found to be statistically insignificant, which differs from the Boyd, Epstein, and Martin study, as well as the Kastle study in regards to race being significant on a panel. However, that could be due to the lack of representation of women and minorities on the panels. As the number of judges that are women and/or a minority is dwarfed by those who are men and

who are white. Further research should continue to study whether or not race and sex influence judicial decision-making, where more panels include women and minorities. This study also found that certain circuits were significant in the panel composition. Further research should consider that the circuits found significant in this study could be due to the dispersion of cases from the first circuit, which had 95% of cases deemed not in favor of findings of disparate impact evidence, and only 5% cases deemed in favor. If further research studies circuits, they should aim to have evenly dispersed circuits with whatever variable they are testing. My hypotheses were confirmed about JCS score (in both multiple variate models for individual and panel composition), while the year of when the case was decided was only found to be significant in the multiple variate analysis for individual judges. The hypothesis regarding age of the judge was most certainly disproved. while the hypotheses about sex and race of the judge, which were confirmed by other studies, was put into question, as these results could just be from the make-up of the 380 judges that were included, as there were significantly smaller numbers of judges who were a minority or a woman.

Overall, the findings of this study suggest that judges in the U.S. Courts of Appeals can be influenced by political ideology both in panels and individually, while being individually influenced by what year the case is decided, as well as having certain disparities among circuits in regards to decision-making. This study brought together many different theories and hypotheses from other research and applied these theories to disparate impact related cases, as well as to the U.S. Courts of Appeals, and found that there are factors that influence judicial decision-making, especially in disparate impact related cases.

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Pennsylvania State University

Bachelor of Arts in Labor and Employment Relations and Political Science

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Dean's List (All Semesters)

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Senior Honors Thesis

University Park, PA

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May 2020

“What Factors Influence Judicial Decision-Making in the United States Circuit Courts of Appeals?”

- Analyze a large dataset of labor and employment cases to investigate factors influencing appellate judicial decision-making in both disparate impact cases and other labor and employment cases
- Implement research design methods, create individual datasets, and develop and refine R statistical programming code to investigate the statistical correlation between variables

Study Abroad Experience

International Studies Institute

INTERNSHIP EXPERIENCE

Florence, Italy

January 2019-May 2019

Tru Beauty Concepts

Intern, Human Resources

Warminster, PA

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- Managed up to 75 employee personnel files including I-9, W-4, 401k, and other confidential information to ensure proper handling of employee onboarding and payment methods.
- Assisted in updating all employee records to comply with newly implemented employee handbook and non-disclosure agreements
- Built organization system in Excel to track product-line back orders with purpose of informing supply chain logistics

Department of Homeland Security

Intern, Office of the Principal Legal Advisor

Buffalo, NY

May 2018-July 2018

- Collaborated and assisted attorneys in trial preparation, conducting written reports, timelines, and writing motions to reappear for future court appearances
- Led a collaboration of other interns to clear backlog of cases and institute new office organization efficiencies
- Gained trial experience in both Immigration and District Courts

LEADERSHIP EXPERIENCE

Global Programs Education Abroad

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- Mentor prospective students by providing information on individual programs, assisting in financial aid analysis, and advising on educational opportunities abroad
- Perform group and individual class presentations on program logistics for prospective study abroad students
- Conduct one-on-one information sessions multiple times a week on class scheduling, visa applications, and travel planning for pre-departure study abroad students

International Studies Institute

Student Ambassador

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- Serve as a liaison between Penn State and ISI Education Abroad offices to provide information to incoming students

San Giuseppe Istituto Education Department

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PROFICIENT SKILLS

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