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dissertation entitled

The Impact of Arbitrator Biographical Characteristics on Discharge Awards

presented by

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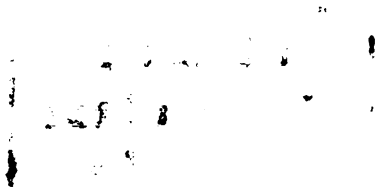
has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Social Science

Major professor

Date April 18, 1990



THE IMPACT OF ARBITRATOR BIOGRAPHICAL CHARACTERISTICS ON DISCHARGE AWARDS

By

Leslie F. Corbitt

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

College of Social Science

1990

ABSTRACT

THE IMPACT OF ARBITRATOR BIOGRAPHICAL CHARACTERISTICS ON DISCHARGE AWARDS

By

Leslie F. Corbitt

The selection of the arbitrator to hear a dispute is an important decision. To select the arbitrator most likely to sustain its position, each party evaluates arbitrators' personal attributes. These include biographical information or characteristics defining the arbitrator's qualifications and making his/her identity unique. This study examines the impact of selected arbitrator biographical characteristics (age, education, experience, occupation, residence location, professional affiliations, and gender) on discharge awards.

Two decision models were tested. The discharge award was coded either "Penalty-sustained" or "Penalty-revoked" in the two-category decision model. The three-category decision model further compartmentalized the Penalty-revoked classification into "Penalty-revoked" and "Penalty-modified." The traditional, statistical approach ($p \leq .10$) and a practitioner-oriented approach ($p > .10$) were used to test the models.

Each full model was reduced using Pearson's correlation matrix results in conjunction with saturated, hierarchial log-linear model results. Age, experience (caseload), education, and professional affiliation (NAA membership) were retained as the independent variables testing the two-category model. Age, experience, and residence location were selected for testing the three-category model.

The results of the LOGIT analysis can be summarized as follows:

(1) The traditional, statistical approach does not indicate biographical characteristics are predictive of discharge awards (no variable was significant at $p \leq .10$ in either model).

(2) The practitioner-oriented results suggest several biographical characteristics may be important in the reinstatement remedy for the three-category model. Age, experience, and residence location displayed significant interaction effects in the three-category model, indicating that "blends" of biographical characteristics may be more important than main effects. The two-category model did not yield any significant effects.

The findings are discussed in terms of their implications for the two approaches. Specific suggestions are made to employers and unions seeking even a slight advantage through the use of arbitrator biographical characteristics in selection. Methodological issues are addressed concerning future research in this area. Further research into the three-category, or possibly a four-category, model is warranted based on the practitioner-oriented approach.

ACKNOWLEDGMENTS

I will always treasure the relationships established with the faculty, staff, and students during my apprenticeship at Michigan State University. There are numerous people who stimulated my continued interest in completing the dissertation with their constructive criticism and words of support and encouragement.

Professor Jack Stieber has been, and continues to be, a most patient individual whose insights and comments added greatly to this research. He is the person most responsible for keeping this study on the proper track and ensuring that I was focused on the correct issues.

I also am greatly indebted to my committee chairman, Professor Richard Block. His observations and suggestions have consistently resulted in marked improvements in the quality and academic rigor of this dissertation. Additionally, I would like to thank Professors Block and Stieber who suggested the general topic area and were instrumental in developing the research question and securing the database.

My grateful thanks and appreciation are extended to Professors Daniel Kruger and Ira Polley for their participation on my committee and for their cogent comments and willingness to devote considerable time to this study.

Without the assistance of Cheryl Cutrona, Robert Maraldo and Cheri Lockett of LRP Publications, this dissertation could not have been completed. I am extremely grateful to these three individuals who primarily were responsible for furnishing the

discharge awards and the available biographical information for the arbitrators included in the sample.

Professor James Barnes' assistance proved invaluable for reading the manuscript and making editorial and methodological suggestions. Professors Donna Davis and Don Davis were excellent role models and willingly supplied moral support and a swift kick when necessary.

Nora Harrison did an excellent job in typing the manuscript quickly and accurately. Her repeated ability to meet my strict time constraints is greatly appreciated.

I am immeasurably indebted to my parents, Jim and Judy Corbitt, and my sister, Lauren Corbitt, who were safe havens in times of doubt and frustration. Their love, patience, understanding, and support during the completion of my coursework and dissertation always will be greatly cherished.

Finally, I must be thankful to my dogs, Moose and Mama, and my cat, Charles, who demand that I "earn a living" so they can live in style.

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CHAPTER I

INTRODUCTION

Since arbitration is normally the terminal step of the grievance process in employer-union labor agreements, the determination of the arbitrator to hear the dispute is of considerable importance to the parties involved. Apart from the testimony, evidence, and arguments presented in the actual hearing, the parties' greatest likelihood of influencing the ultimate decision is through the mutual selection of an arbitrator. Although they may not use the same criteria in arbitrator selection, the employer and union decision-making processes have one point of commonality -- each side desires to present its case before an arbitrator believed "likely to support a particular position on the basis of the facts and circumstances involved" (Dworkin, 1974, p. 200). Research examining selection criteria and arbitrator decisions is now becoming practicable because of the various private reporting services, data archives, and broad data bases that have come into existence in the last ten years. This study examines the relationship between the biographical data available to the parties in arbitrator selection and arbitrator awards in discharge cases.

Although the personal attributes considered desirable in an arbitrator may vary from advocate to advocate, each party gathers as much information as possible about potential arbitrators. In selecting the arbitrator, specific criteria such as these may be used: personal experience with the arbitrator, the arbitrator's published awards

(especially on the issue in dispute or related issues), the files of private reporting services, the prior experiences and impressions of other advocates who have used the arbitrator, and the biographical information available on the arbitrator (Alexander, 1958; Dworkin, 1974; Hilgert, 1978; Shawe, 1980). Biographical information refers to the multitude of personal characteristics and attributes (such as education, experience, and age) which define the arbitrator's qualifications and make him/her uniquely different from other arbitrators. Such characteristics, therefore, often play a crucial role in selection. In many cases the parties' lack personal experience with the arbitrator; in other instances the arbitrator's inexperience or limited publishing record (decisions) result in inadequate information about the arbitrator. In these situations the parties must rely to a greater extent on the biographical information provided. Alternatively, the desire to select an arbitrator with a specific blend of biographical attributes may be the principal concern. Thus, evaluation of the available biographical information becomes important to both parties.

LIMITATIONS OF PRIOR RESEARCH

In spite of the importance of the selection tools used by the parties, a dearth of research exists on the possible relationship between biographical characteristics and either arbitrator selection or decisions. Further research is timely and necessary. Many of the published studies were conducted before the late 1970s (Bankston, 1977; King, 1971a, 1971b; Petersen, 1970; Petersen and Rezler, 1977; Primeaux and Brannen, 1975; Rezler and Petersen, 1978; Westerkamp and Miller, 1971). While they constitute a valuable foundation for current research, they were neither extensive nor exhaustive. They also had significant weaknesses. These studies fundamentally were pioneering

ventures that tended to be of a qualitative nature or had a very limited scope of analysis. Only recently has more sophisticated research aimed at exploring the relationship between arbitrator behavior and biographical data been pursued (Block and Stieber, 1987; Heneman and Sandver, 1983; Nelson, 1986).

Conclusions of these older studies are also questionable since the instruments used to collect the data did not possess the methodological rigor required today. For example, Westerkamp and Miller (1971) used a film of a mock arbitration case designed to lead viewers to a specific conclusion. Two experienced and two inexperienced arbitrators saw the film and wrote their decisions based on the film. Employer and union advocates were then asked if they could differentiate between the awards of the experienced and inexperienced arbitrators. The small number of participants and the training and explanatory presentation of the issue in the film dictate that conclusions based on such findings must be very narrowly drawn and limited in application.

In prior research the data using arbitration awards were not representative. Many researchers have noted the inherent weaknesses of using published awards as the sole data source in studies of this nature (for example, see Holly, 1957; Jones 1970; Primeaux and Brannen, 1975; Stieber, Block, and Corbitt, 1985). The data for the current study are more representative since they include a large number of both unpublished and published discharge awards.

The data in previous research also have been limited in scope and sample size, weakening their possible applications. Sample size in prior research has been strongly criticized (see Heneman and Sandver, 1983). Often researchers in these past studies have based their conclusions on a single or limited number of cases, leading readers to question the generalization of the results. This study's data are less susceptible to

the scope limitation because they are from a nationwide population and should provide a good cross-section of discharge cases and their characteristics. The current research's sample size is much larger than any other study in this area to date.

Few studies focus on the predictive aspects of using biographical characteristics. Instead, researchers have generally considered an arbitrator's biographical characteristics in terms of selection. In this study discharge cases are used to determine which, if any, biographical characteristics are predictive of the tendency to sustain, revoke, or modify the penalty. If an arbitrator's set of biographical characteristics can be classified as falling into one of these three categories, it indicates a new avenue for exploring the selection question. This is a different, but related, perspective of arbitrator selection.

JUSTIFICATION OF FURTHER RESEARCH

Criteria used or considered by the parties in arbitrator selection must be explored systematically and thoroughly. One argument is that the arbitrators are selected based on the biographical characteristics the parties believe are important either in choosing the "right" arbitrator or in influencing the arbitrator's philosophy and subsequently the award (Alexander, 1958; Briggs and Anderson, 1980; Dworkin, 1974; Gross, 1967; Heneman and Sandver, 1983; Hilgert, 1978; Manson, 1959; Primeaux and Brannen, 1975; Rezler and Petersen, 1978; Roth, 1980; Ryder, 1968; Shawe, 1980; Stein, 1955). A principal contribution of the study lies in the support or lack of support it lends to this perception.

Practitioners should be interested in the results of this study for two reasons. First, if decisions in discharge cases can be linked with personal characteristics,

practitioners will be able to improve the probability of success by using specific characteristics in selection. Thus, the biographical characteristics approach may have some credence. Second, if the results show there is no relationship between background characteristics and awards, it casts doubt on the efficacy of the time and money spent scrutinizing biographical information in the selection process. It also provides vindication of those researchers and practitioners who claim that only the facts and circumstances of a particular case determine the case's disposition and therefore the parties are using arbitrator characteristics improperly (see Dworkin, 1974; Heneman and Sandver, 1983; Primeaux and Brannen, 1975). With either result, practitioners should gain valuable insights into the selection process.

New research in arbitrator selection is imperative. The social, economical, and political climates have changed dramatically since the 1970s and will continue to be dynamic influences in shaping the nature of arbitration. The characteristics of persons entering the arbitration profession and of the arbitration process itself have altered slowly and continuously over the years. For example, the influx of attorneys as advocates and arbitrators is undeniably responsible for much of the formalization and courtroom-type procedures now present in arbitration. Whether the decisions of attorney arbitrators differ from non-attorney arbitrators and, if so, whether these differences can be partially attributed to education and training is vital information for the parties selecting an arbitrator. A pragmatic reason for new research from a union perspective is the need to optimize selection criteria in a time of decreasing membership and limited financial resources. Therefore, the ability of either an employer or union advocate to gain an advantage by properly evaluating selection criteria is of importance.

For the reasons noted above research into one aspect of arbitrator selection, i.e., examining the relationship between arbitrator awards and biographical characteristics, is being conducted. In the remainder of this section the research objectives are specified and the content of the chapters described.

RESEARCH OBJECTIVE

The major objective of this research is to determine to what extent, if any, biographical variables are associated with the following categories of arbitrator decisions -- "Penalty-sustained" (employer position upheld), "Penalty-revoked" (union position upheld), or "Penalty-modified" (union and employer positions upheld in part, e.g., reinstatement with partial or no back-pay). Specifically, the biographical variables examined will be those most commonly cited by researchers as influential in arbitrator acceptability issues, important selection criteria, or significant with respect to the award aspects of arbitration cases. They include the arbitrator's (1) age, (2) education or professional background, (3) occupation, (4) gender, (5) professional affiliations, (6) experience, and (7) residence.

DESCRIPTION OF CHAPTERS

In Chapter II the prior research on arbitrator biographical data as related to arbitrator acceptability and behavior is summarized. The major hypotheses tested in this study are presented in Chapter III in addition to a description of the data and the methodology used. The results of the statistical analyses are presented in Chapter IV, and the support or lack of support for each hypothesis is discussed. This final chapter

examines the theoretical and applied implications of the research and the possible directions of future research.

CHAPTER II

LITERATURE REVIEW

In order for the reader to appreciate more fully the impact and importance of selection criteria, this chapter will examine several of the major reasons behind the parties' attempts to choose the "proper" arbitrator and then review the literature relating to the biographical characteristics of arbitrators.

Researching a potential arbitrator's biographical characteristics includes evaluating as many of the arbitrator's personal attributes as are available. Given the importance of the arbitrator to the final outcome in the grievance process, very little theory and evidence has been generated in this area. Gross hypothesizes that arbitrators are influenced by their personal philosophies and experiences:

> Consciously or unconsciously, arbitrators bring ... ideas about ethics, man, law, private property, economics, and so forth to their cases. Although he might be unaware of the existence of such a frame of reference, ... [the ideas] held by the arbitrator subtly influence his selection and organization of what he decides are "relevant" data, his emphasis of certain evidence and de-emphasis of other, his acceptance of a certain procedural method, his attitude toward prior arbitration awards, and his literal or broad reading of the contract. (Gross, 1967, p. 55).

He argues that selection analysis should include not only an investigation of the arbitrator's professional, social, and educational backgrounds, but also an examination of other arbiter biographical characteristics which would aid the parties in understanding his/her philosophy and thinking.

Similar thinking has been pursued in examining decision-making in the political science arena. Frank's (1978) judicial paradigm --

is applicable to the arbitration setting as long as it is recognized that how the arbitrator perceives the facts determines how FACTS are interpreted and RULES applied. In theory arbitrators, presented with the same facts, testimony, evidence, etc., would render identical awards. In the real world, however, arbitrators have very divergent backgrounds. Unlike physicians, attorneys, and accountants who receive a basic, uniform grounding in their disciplines, arbitrators enter their profession in different ways and with widely varying degrees of training and expertise. A small minority of arbitrators enter the profession after receiving training in the clergy or in industrial engineering, but almost 60% of all arbitrators have legal backgrounds while an additional 20% are educators (Bernstein, et. al., 1957, 1964; Brown, 1976; Herrick, 1982; King, 1971b; McKelvey and Rogers, 1971; Jensen, et. al., 1959; Petersen and Rezler, 1977). Because of this diversity, ten arbitrators with different backgrounds, confronted with an identical factual situation, will not perceive it in a like manner and therefore may not reach the same conclusion. Therefore, a major goal of each party's selection criteria or analysis is to gain insights into the potential arbitrator's philosophy and thinking or to ascertain the arbitrator's "frame of reference," thereby anticipating how the arbitrator might view the factual situation of their dispute and predicting the arbitrator's award.

Another reason for the importance of proper selection criteria is that most labor agreements provide for "final and binding" arbitration. Unless a party can enjoin

implementation of an award under a limited right of judicial review, both parties are bound by the arbitration decision for the remainder of the life of the agreement.[1] One result of this is that neither disagreement with the arbitrator's findings nor economic loss suffered as a consequence of an adverse decision is sufficient grounds for judicial review. The merits of the case are not considered by the courts. Only questions of law -- whether implementation of the award would lead to a contravention of the law, whether the arbitrator has misinterpreted judicial or agency rulings, or whether the arbitrator has exceeded the authority granted him/her in the labor agreement -- are considered.

The economics of the dispute are also of considerable interest. It is reasonable to believe that arbitrators deciding issues involving large sums of money would undergo greater scrutiny than would those hearing cases concerning relatively de minimis sums. For example, in highly technical, manufacturing industries such as the chemical or oil industries, cases determining the amount of work that can be done by outside employers may quite easily run into tens of thousands of dollars. A case resolving the amount of severance pay due the workforce of a large, permanently closed factory could run into the hundreds of thousands of dollars. Both the employer and union representatives responsible for selecting arbitrators in such highly significant disputes will strive to locate an arbitrator with whom they feel comfortable.

The issues and principles involved may also affect the weighting of the selection criteria. The parties may believe that certain issues, such as management's rights and complex contract provisions, require arbitrators of a certain "type" or training. They may

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[1] The NLRB right of review can be exercised pursuant to either the Spielberg or Collyer doctrines under specific conditions involving interpretation of the Labor-Management Relations Act.

also believe that emotionally charged issues which may have stigmas attached (such as theft, falsification, or substance abuse) or cases which are potentially precedent setting need arbitrators of different backgrounds than does a case concerning a minor disciplinary action.

The above is not intended to be an exhaustive list of the reasons to research an arbitrator's background but is intended to present a few of the more consequential reasons for concerns with arbitrator selection. Many factors external to the case may contribute to the direction of the award. Some of these factors are community values and standards, increasing governmental intervention in the arbitration process through laws and court and agency rulings, the influence of attorneys as advocates, the use of briefs and transcripts, the economic climate, the industry, the size of bargaining unit, and the employer and union involved. Many of these extrinsic variables, however, are outside the scope of the parties' power while the selection of the arbitrator is one variable firmly within their grasp. The parties attempt to select an arbitrator whose biographical information or past performance indicates an understanding and identification with the principles intrinsic to the case. Both the employer and union thus attempt to predict the arbitrator's reaction to their particular case by using proxy variables.

BIOGRAPHICAL CHARACTERISTICS

There is evidence indicating that an arbitrator can stimulate strong positive or negative value-system responses in the parties, thus affecting their perceptions and evaluation of that arbitrator (Crane and Miner,1988; see also, Bloom and Cavanagh, 1986). Several attempts have been made to duplicate the process of arbitrator selection

in various ways and with conflicting results. Surveys and questionnaires have provided insights into arbitrator characteristics and the determinants of arbitrator acceptability. Researchers also have analyzed arbitrator behavior in terms of value differences between arbitrators, experience, or general biographical characteristics. In the following sections the focus will be on developing a biographical profile of arbitrators today, looking at the importance of biographical characteristics in selection and acceptability, and reviewing the studies which examined the relationship between arbitrator decisions and biographical data.

Basic Studies of Biographical Characteristics

Background or biographical characteristics are usually supplied to the parties by the agency providing the panel for arbitrator selection. When the parties examine an arbitrator's attributes, competence is an implicit consideration. Competence in experienced and novice arbitrators may be evidenced by any one or combination of these or other characteristics deemed important by the parties. The parties may weight the same attribute differently depending upon their evaluations of that particular characteristic's value in predicting potential outcomes. In the literature seven characteristics are most often cited: age, education, experience, occupation, geographical proximity or residence location, professional affiliation, and gender.

Age of the Arbitrator

Entry into the arbitration profession and NAA membership traditionally have been accomplished by individuals at least forty years of age. In the early 1950s the average NAA arbitrator's age was 49.7 years (Bernstein, et. al., 1957). By 1971 this figure had

risen to fifty-seven to fifty-eight years old (King, 1971b; McKelvey and Rogers, 1971). Simultaneously, the percentage of NAA arbitrators under forty years old decreased from 11.6% (Bernstein, et. al., 1957) to 1.8% (McKelvey and Rogers, 1971) while the percentage of arbitrators at least sixty years of age increased dramatically from 16.1% (Bernstein, et. al., 1957) to 41.9% (McKelvey and Rogers, 1971).

The average age of arbitrators as a group has not changed greatly since that time. In 1977 the average experienced arbitrator was 57.9 years of age (Petersen and Rezler, 1977). Five years later the mean age had increased slightly to 58.7 years, and, although most arbitrators were between forty-seven and seventy-five years old, one-fourth of all arbitrators fell within the ages of forty to fifty-five years. (Herrick, 1982). One aspect of the age distribution not noted in previous research, however, was the existence of bimodal points at fifty-seven and sixty-five years of age.

The most recent NAA study found the average age of its members to be 59.2 years. The distribution, consistent with the studies prior to the mid-1970s, was heavily skewed toward the older arbitrator. Only five percent of the arbitrators were under forty, while almost eighty percent were at least fifty years old. Additionally, nineteen percent of the arbitrators were at least seventy years old (Dunsford and Murphy, et. al., 1985).

According to Sprehe and Small (1984), non-NAA arbitrators were more evenly distributed among the age groups. Younger arbitrators remained a scarce commodity with only 11.4% being under forty years old. Less than seventy percent of the arbitrators were fifty or older, while seventeen percent were seventy or older. Contrary to the NAA membership, however, non-NAA arbitrators under fifty years old represented a substantially larger proportion of the total.

Education of the Arbitrator

Arbitrators have always been well-educated. Whether defined as years of schooling or as either degrees held or highest degree obtained (including multiple degrees), arbitrators have at least a high school degree. By 1971 most arbitrators had gone to college and many had received advanced degrees. At that time a bachelor's degree in the field of social science was the choice of the majority. A smaller group pursued further education at either graduate or law school. A law degree was preferred although graduate or Ph.D. degrees in the social science area were greatly treasured (Bernstein, et. al., 1957, 1964; Jensen, et. al., 1959; McKelvey and Rogers, 1971).

King (1971b) found the legal profession to be the dominant entry portal into the arbitration profession. The majority of arbitrators had at least one degree, with 68.9% holding law degrees. For younger arbitrators (under fifty years old) this was especially true; 85.7% of them had law degrees. In King's view this was partially attributable to three factors: the increasing complexity of labor contracts and the law, the uniform training attorneys receive, and the inclination of some parties toward legalistic and judicial type hearings which attorney-arbitrators would find comfortable.

Later studies confirmed the shifting away from Ph.D.s toward law degrees. Brown (1976) found that although arbitrators were consistently pursuing their undergraduate and graduate degrees at schools located in the East and Midwest, the number of younger non-attorney professors educated in these areas was much lower than that of older non-attorney professors (forty-five or older). Attorneys and Professors of Law were the predominant educational backgrounds. Petersen and Rezler (1977) observed that legal careers continued to be the principal training ground of arbitrators.

Law degrees were held by 59% of the arbitrators, the remainder possessing other professional qualifications to ensure continued acceptability.

Lawson's findings (1981) supported the trend toward additional education and training. All but one of the thirty participating arbitrators had completed undergraduate degrees, while 90% held either a graduate degree (47%) or a law degree (43%). Thus, King's prediction (1971b) that the demand for highly qualified arbitrators, cross trained in law and business, would increase as arbitration matured and grew more sophisticated appeared to have been fulfilled within ten years.

Herrick (1982) discovered slightly different results. While multiple degrees were common, the single most often occurring level of education was not the law or Professor of Law degrees, but the Ph.D. The influence of the legal profession in education was again evident. A law degree, either singly or in combination, occurred in slightly over half of the sample. An economics degree, singly or in combination, was claimed by one-fourth of the arbitrators. As in previous studies, cross training between law and other disciplines was becoming more common. Almost ten percent declared cross training between economics and law.

By 1984, over 86% of the NAA arbitrators were educated in law, economics, or labor relations, or had received cross-training within these areas. Approximately 58% held law degrees, while 28% held economics degrees (Dunsford and Murphy, et. al., 1985). Almost fifty-five percent of the non-NAA arbitrators held law degrees and were slightly more likely than NAA arbitrators to have business administration backgrounds (Sprehe and Small, 1984).

Experience of the Arbitrator

Experience typically overlaps with occupation and is often reflective of education. "Real world" experience, experience as an arbitrator, full-time versus part-time experience as an arbitrator, number of cases heard, and years as an arbitrator are the most frequent measures of experience. Prior experience usually includes past occupations in union, employer, and government positions. Researchers have also attempted to discern the minimum standards of experience used in determining acceptability. In this regard caseload is often used as a determinant of experience. It is clear from the literature that the advocates do not agree on the dimensions that define "experience" and that the definition varies from one practitioner to another.

According to four NAA-sponsored studies conducted between 1954 and 1971, the experience of NAA arbitrators has remained relatively constant (Bernstein, et. al., 1957, 1964; Jensen, et. al., 1959; McKelvey and Rogers, 1971). During the 1960s under 10% of the arbitrators gained labor relations experience from working within the labor movement, while between 15% to 17% of the arbitrators had worked full-time in labor relations positions for companies or employer associations or in the state or municipal governments. Gaining labor relations experience through employment within the Federal Government was prevalent among NAA members, although the occurrence of this trait decreased between 1964 (74.9%) and 1971 (64.6%). Understandably, older NAA arbitrators were replaced by arbitrators who were not employed by the Government during World War II or the Korean War. Experience with the National War Labor Board (NWLB) in World War II, the Wage Stabilization Board (WSB) of the Korean War, and the National Labor Relations Board (NLRB) were the three most common forums for obtaining labor relations expertise.

The NAA findings were supported by King (1971b) who concluded that the older the arbitrator, the more likely he/she was to have Government experience, especially with the NWLB or WSB. Arbitrators under fifty years old were more often attorneys (85.7%) who undoubtedly practiced or taught law before becoming arbitrators. These younger arbiters were likely to have no Government experience, and one-third of them had no labor relations experience prior to arbitration. Also, it is noteworthy that, denied the availability of NWLB or WSB experience, one-third of the younger group pursued alternative avenues to gain the needed labor relations experience through working for employers.

Brown (1976) also found experience in business or labor to be rare. If an arbitrator did gain experience in the field, it was most likely from the employer rather than the union or the Government. As expected, NWLB-trained arbitrators were the oldest arbitrators and constituted a fairly large percentage of that age group.

In Lawson's study (1981) at least two-thirds of the participants had served as arbitrators, mediators, and fact-finders. Further, the mean arbitrator had completed fifty awards during his/her career. On average, the arbitrator had seven years of advocacy experience, and 13% had more than twenty years of such experience.

Herrick (1982) measured experience as years of service, which ranged from one to forty years. The most frequently stated experience level was ten years. Ten or fewer years of experience was reported by over half of the participants, while 14.2 years was the mean. The distribution of caseload as an indicator of experience did not approximate the normal curve and had an extremely broad range, from an average of 1 case per year to an average of 390 cases per year. The mean number of cases per year was 35.9, while the median was 20.3 cases per year.

Over one-fourth of the NAA membership in 1984 had arbitrated for at least thirty years. Nearly 18% were relative newcomers, having been arbitrators for ten years or less (Dunsford and Murphy, et. al., 1985). The findings of Sprehe and Small (1984) supported the view that NAA arbitrators were more experienced than non-NAA arbitrators. Compared with non-NAA arbitrators, NAA members had higher caseloads, greater arbitral experience, and were less likely to have gained labor relations experience by working for management or unions.

Occupation of the Arbitrator

Occupation, experience, and education or professional background are the three most interrelated terms used by researchers. Frequently, occupation is discussed in terms of present occupation, full-time versus part-time arbitrators, and percentage of time spent in another occupation. The majority of current arbitrators are either educators and/or attorneys, leading to difficulty in clearly delineating between experience, education, and occupation. As a result, the definitions of these three characteristics as utilized by different researchers are not uniform, and comparisons of findings are difficult.

In 1954 almost 59% of the NAA arbitrators were educators (Bernstein, et. al., 1957). Principally, these educators were teaching in the fields of either law or social science. The second most popular alternative profession was the law practice, in which almost one-fourth of the arbitrators participated. By 1964, arbitration accounted for one-third of the arbitrator's time, while over 40% of his/her time was spent as an academician (Bernstein, et. al., 1964). Again, arbiter-educators tended to teach law or social science. Outside of arbitration and university work, the law practice was one of

the most important occupations. Arbitration as a full-time occupation was practical for about one-fourth of the NAA arbitrators (McKelvey and Rogers, 1971). The remainder were engaged in other professions, especially as educators or attorneys.[2]

In King's study (1971b) the distributions within current occupation were different based on the arbitrator's age. Over 57% of the younger arbitrators (under fifty years old) were attorneys, followed distantly by educators (19%). Of those in education, three-fourths taught law. Older arbitrators were less likely than younger arbitrators to be attorneys or to teach law. Older arbitrators, however, were equally likely to be attorneys (38.0% to 40.5%) or educators (36.8% to 38.4%). If an academician, the older arbitrator was more likely to teach social science than law. Approximately one-fifth of the arbitrators were full-time arbitrators, and this was the only major occupation in which similarities in percentages appeared for the entire sample and across the age categories.

Brown (1976) similarly concluded that a significant proportion of arbitrators in all age groups were seeking legal training. Over 60% of the arbitrators under fifty-five years old were attorneys or Professors of Law; this figure was closer to 45% for arbitrators fifty-five years or older. Non-attorney professors constituted 20% to 25% of the arbitrators forty-five years or older. Only 15% of the arbitrators under forty-five years old were professors. Brown's findings differed from King's results (1971b) in one major area. Whereas in King's study age was not a factor in an arbitrator's ability to practice arbitration full-time, Brown found it an important consideration. Arbitrators who

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[2] Unless arbitrators meet the"grandfather" requirements of the Codes of Ethics of the NAA, they neither may serve as advocates in labor matters nor be members of law firms representing employers or unions in labor matters.

were fifty-five years or younger were much less likely to be full-time arbitrators (3% to 13%) than their older brethren (20%).

Petersen and Rezler (1977), Herrick (1982), and Dunsford and Murphy (1985) reported different results than did King (1971b) and Brown (1976). Petersen and Rezler's study indicated that experienced arbitrators were full-time arbitrators in 32% of the sample. Attorneys were second at 26% while 23% were university professors. Herrick found the principal occupation to be educator (30%), followed closely by attorneys at 25% and full-time arbitrators (24%). Dunsford and Murphy reported that, for NAA members, the ability to be a full-time arbitrator was claimed by 46% of the respondents. Further, over half stated they spent over three-quarters of their time in arbitration. At the other extreme, there were 24% who did not arbitrate more than one-fourth of their time. Of the 54% of the part-time arbitrators, the major occupations were teaching (29%) and practicing law (13%). Attorneys devoted a substantially larger amount of time to arbitration than did teachers. Approximately one-third of the attorneys spent over half their time in this profession, while two-thirds of the teachers did so. From these studies the principal occupations clearly were full-time arbitrator, attorney, and educator.

Geographical Proximity or Residence Location of the Arbitrator

The two most common usages of this term refer to the (1) actual proximity to a dispute as a factor in selection and (2) region of the country in which the arbitrator has a stable residence or practice. Residence location is directed more at analyzing the award aspect of the selection issue, while proximity is strictly used as a selection criterion.

Herrick (1982) determined that most arbitrators' residences or practices were located in New York, California, and Pennsylvania. No arbitrators from Idaho participated, and one arbitrator each from Montana, Nevada, North Dakota, South Dakota, and Wyoming returned the questionnaire.

Dunsford and Murphy (1985) reported similar findings. New York, California, Pennsylvania, Ohio, Illinois, Michigan, and Massachusetts accounted for almost 53% of the NAA respondents. An additional 13.6% of the arbitrators resided in Wisconsin, Missouri, Texas, and Kentucky. These eleven states represented almost two-thirds of the arbitrators.

Professional Affiliation of the Arbitrator

Professional affiliation usually refers to the arbitrator's association with the NAA, the American Arbitration Association (AAA), or the Federal Mediation and Conciliation Service (FMCS). Other professional organizations include the Industrial Relations Research Association (IRRA), the Society of Professionals in Dispute Resolution (SPIDR), and the American Bar Association (ABA).

The NAA is the most prestigious association in which an arbitrator can be a member, and membership is a mark of success. In his sample King (1971b) found that almost 50% of the arbitrators under fifty years old were already NAA members. Age and NAA membership appeared to have a direct relationship -- the older the arbitrator, the greater was the likelihood of NAA membership. Affiliation with AAA and FMCS was an important characteristic with the successful arbitrators, more so with the older than with the younger arbitrators.

NAA members also belonged to other professional organizations. IRRA (66%), SPIDR (43%), and ABA (35%) memberships were the most common affiliations followed by AAA and State Bar Association participation (Dunsford and Murphy, et. al., 1985).

Stieber, Block, and Corbitt (1985) found that, at least among Michigan arbitrators, there may be a difference in the denial rates for NAA and non-NAA arbitrators. They found that NAA arbitrators were more likely to reinstate a discharged employee than were non-NAA arbitrators.[3]

Gender of the Arbitrator

Acceptability and selection are both crucial questions with regard to women being accepted members of the arbitration profession. Surveys normally report the percentage of female arbitrators in the sample, and some researchers have looked at whether a difference exists between the awards of male and female arbitrators. As greater numbers of women have entered the profession in the last few years, there has been a corresponding interest in this variable.

In studies by Lawson (1981), Herrick (1982), and Sprehe and Small (1984) very different rates of female participation were observed. Lawson, examining the issue of arbitrator acceptability, had a high response rate of 14% by female arbitrators who were clearly concerned about their acceptability to the parties. Herrick's research was somewhat underrepresented with only two percent of the sample being female. Sprehe and Small found that 5.1% of the NAA and 4.6% of the non-NAA arbitrators were women.

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[3] This was a surprising finding that runs counter to the findings of other studies. It is most likely reflective of the sample, and replication of the results are doubtful.

One of the first attempts to statistically examine sex-related questions was by Zirkel (1983). Almost seven percent of the sample was female, indicating they were becoming more acceptable to the parties. In examining the relationship between sex and case outcome, Zirkel found no significant differences.

Using undergraduate students as arbitrators, Bigoness and DuBose (1985) reached a similar conclusion. They found that, although male and female decisions concerning a discharge case involving the alleged consumption of an alcoholic beverage at the grievant's work station were not significantly different, females viewed the offense as somewhat less serious than did males.

A small sample of male and female NAA arbitrators indicated they believed NAA membership made it easier to succeed as an arbitrator. Only one-third of the females and slightly over one-third of the males thought there were few or no barriers for women. Over one-third of the females believed discrimination by the parties to be the primary barrier to success as an arbitrator. Almost one-third of each group felt that discrimination, whether called "conservatism," "chauvinism," "traditionalism," or simply "narrow-mindedness" operated against the selection of female arbitrators (Petersen and Katz, 1988).

Profile of the Arbitration Profession

The basic characteristics of arbitrators as a group have changed dramatically during the last forty years. In 1951 Warren and Bernstein found that, even in the early days of labor arbitration, experienced employer and union representatives and arbitrators possessed a strong desire to use professional arbitrators, i.e., those people making their living primarily from arbitration. Arbitrators from the attorney and educator

professions were also highly desirable. This study was a precursor of the future trend in arbitration – educators and attorneys were to become the dominant sources of arbitrators.

The divergent paths individuals utilize to gain access to the arbitration profession and the slow specialization of arbitration over the last forty years are obvious. Women represent 2% to 14% of the samples studied, and preliminary results indicate no differences in awards based on the arbitrator's sex. The average age of arbitrators is approximately fifty-seven to fifty-nine years old, and entry into the profession is difficult for individuals under forty years of age. For arbitrators under fifty years old, the major difficulty is in gaining acceptance by the parties. Legal training may be one avenue that eases entry into the profession since the parties are very conscious of the training attorneys receive in law school. Arbitrators thus tend to be highly educated, the most common academic training being in the fields of law, industrial relations, and/or economics. Cross training between law and other fields is becoming prevalent as contracts and arbitration become more complex and formalized. Consequently, arbitrators predominantly practice law or are educators.

Based on these studies, it appears that over twenty percent of all arbitrators arbitrate full-time.[4] The high concentration of part-time arbitrators may indicate that many arbiters view arbitration as a supplement to their regular professions, such as the practice of law or the teaching profession. Alternatively, it may be that for the most part, these individuals are unable to support themselves as full-time arbitrators. For

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[4] Relative to the non-NAA population, NAA arbitrators undoubtedly are able to practice arbitration as a full-time profession at a much higher rate. Thus, the estimate of twenty percent probably understates the actual status of arbitration as a full-time profession.

younger, less experienced arbitrators, this is the most likely situation since acceptance is a slow process. Finally, there are undoubtedly arbitrators who simply desire a part-time arbitration practice regardless of the demand for their services.

NAA membership is heavily concentrated among arbitrators fifty years or older. Many senior members of the arbitration profession (at least 65 years old) typically obtained their initial training through the NWLB or the WSB, while younger arbitrators gained labor relations related experience through working for employers or in education. The aspect that remains constant across age groups is the high incidence of NAA membership as a symbol of success. In general arbitrators are becoming segregated into two groups based on age: the older arbitrators are comprised mainly of individuals with law and/or social science degrees, are equally likely to be educators or practicing attorneys, and have considerable labor relations experience through the NWLB or the WSB; the younger arbitrators have little or no Government experience but some experience with employers, hold law degrees, and are much more likely to be attorneys than educators. The obvious question is whether or not the experiences, training, and education of these two emerging age groups are so different that they affect how the arbitrators perceive factual situations and ultimately influence the direction of the award.

One may surmise from the increased specialization and the different combinations of age and experience naturally occurring in the profession that the ages of arbitrators as a group may be bimodal as found by Herrick (1982). This appears to be a consequence not only of the natural maturation process, but also of the reluctance of employers and unions to select younger, less experienced arbitrators. Although Zirkel (1983) finds this trend changing, older and younger arbitrators will continue to have vastly different practical experiences.

Another inference that may be drawn is that, with the dramatic changes in the educational system and in society as a whole, older and younger arbitrators have been educated and socialized differently and may thus have different perceptions. Hence, older and younger arbitrators in the 1980s have less in common in the form of shared educational and practical experiences and are less likely to conceptualize in a similar manner. The dichotomy between age groups may be tempered by the fact that most arbitrators are educated in the two most heavily industrialized and unionized sections of the country. Arbitrators trained and practicing in the East and Midwest are more likely to have a more common educational background than their colleagues in other areas of the U.S. This could easily lead to the supposition that the education and experiences received by arbitrators in different regions of the country result in different perceptions and philosophies that are based on regional biases.

In general it appears that over the years the parties consciously or unconsciously have been imposing a specific set of qualifications on entering arbitrators such that over half of the current arbitrators have legal training. It may be that, as suggested by King (1971b), the parties wish to ensure that any chosen arbitrator has sufficient legal training to understand the increasing legal complexities of the labor relations field. For example, any attorney should have at least a fundamental comprehension of contract, labor, and EEO law. Parties involved in such disputes as sexual harassment, subcontracting, or management's rights may be less likely to accept an arbitrator who it believes lacks competency in this area. Therefore, they may be less likely to strike an attorney's name from the list than a non-attorney, especially if the advocate is an attorney (Lawson, 1981).

Another possibility is that, in order to generate a more "harmonious" body of decisions, the parties feel that arbitrators with common training are more likely to render like decisions which then should be more predictable. Attorney-arbitrators would clearly satisfy this belief. It is plausible to surmise that arbitrators of the future will possess more uniform backgrounds and that legal training will enhance the likelihood of acceptance and/or success.

Given the above profile of the arbitration profession, the next step is to examine whether prior research has discovered any relationships between these biographical characteristics and arbitrator selection and/or behavior.

Biographical Characteristics and Selection

Not all researchers believe the arbitrator to be a crucial variable in predicting the award. Petersen (1970) found the ability of union advocates to predict their arbitration outcomes after the hearings but prior to the issuance of the awards was greater than expected. The dominant basis for their predictions was the strength or obvious merit, or lack thereof, of the union case. Knowledge of an arbitrator's prior decisions on similar issues was rated less important than the strength of established precedent in similar cases. According to Petersen, the choice of a particular arbitrator and the practice of assembling box scores of an arbitrator's decisions for selection purposes or determining continued acceptability were not supported by this study.

When management and union representatives determined which arbiter attributes were most important and compared inexperienced and experienced arbitrators on these attributes, they considered an inexperienced arbitrator to be one lacking at least one of these qualifications:

(1) forty years of age or older;

(2) at least a Master's degree;

(3) a minimum of ten years of labor relations experience;

(4) four or more years of labor arbitration experience; and,

(5) at least one organizational affiliation such as AAA, FMCS, or NAA (King, 1971a).

Both management and union representatives believed experienced and inexperienced arbitrators differed significantly in terms of decision-making, consistency, and information development during the hearing. They also rated the experienced arbitrator higher than the inexperienced arbitrator on each of these attributes. It is easy to understand why the parties believed these three attributes to be important not only to the outcome of the case, but also to the differentiation between the two extremes in experience. Rendering consistent rulings and using questions to develop the record are attributes requiring some length of service as an arbitrator to establish a pattern of rulings or a style or preference of information gathering. Basing the decision on the facts of the case may be indicative of arbitral experience, but training also may play a role in the parties' perceptions of this attribute. Thus, a significant difference existed in the attitudes of the participants toward experienced and inexperienced arbitrators, with the difference definitely favoring experienced arbiters. The union, however, perceived a much smaller gap between the two experience levels than did management.

The objective and subjective considerations utilized by unions and management selecting an arbitrator were studied in 1978 by Rezler and Petersen. The participants agreed that, when considering an unfamiliar arbitrator, they would carefully research his/her background and experience. The arbitrator's experience and expertise was their foremost consideration. The number of years serving as an arbitrator, the number

of cases handled, the number of awards published by the reporting services, and NAA membership were cited as the minimum standards used to qualify an arbitrator as experienced. Experience in conjunction with the issue involved were important factors in many selection decisions. Respondents indicating a willingness to employ a less experienced arbitrator in certain types of cases maintained that experienced arbitrators were necessary in contract interpretation cases requiring the arbitrator to "read between the lines." The majority of participants amenable to using less experienced arbitrators would select them for uncomplicated issues where no broad principle was involved, where the case had limited or no precedent value, or when the entire panel was inexperienced.

Rezler and Petersen felt that, at the very least, the original profession in which the arbitrator was trained influenced his/her skills, techniques, philosophy, and approach to arbitration. The parties also believed the arbitrator's professional background to be an important criterion, although they stated that acceptability was determined more by experience than by professional background. In general attorney- and economist-arbitrators had equal chances of being selected by attorney representatives while non-attorney selectors were slightly more prone to choose economist- rather than attorney-arbitrators. The least important criteria were the arbitrator's geographical proximity to the dispute and the arbitrator's fee.

The issue of selecting a female arbitrator yielded mixed responses from the parties. Eight of the twenty-six participants stated that the sex of the arbitrator was irrelevant. Five advocates avoided the issue by declaring they had never utilized a female arbitrator, while seven union and management representatives objected to

selecting a female arbitrator on the bases of the arbitrator's sex, lack of experience, or bias.

Lawson (1981) investigated the parties' and the arbitrators' perceptions of the objective selection criteria for arbitrators considered acceptable in the private sector. The average age of the arbitrators participating in this study was forty-eight years, somewhat younger than expected based on prior studies. Table 2.1 represents the arbitrators' rankings of the ten factors they believed were most important in selection. The users (management and union practitioners) and arbitrators agreed that name recognition was the single most important criterion. Users indicated they often relied on the selection advice of trusted colleagues. From their comments users appeared to place greater significance on securing an arbitrator they believed could render a just award than on winning the case. A possible inference is that name recognition may be a proxy for experience and/or professional affiliation since new arbitrators are less likely to be widely known.

Arbitrators and users agreed that geographic location was the third most important selection factor. Comments from the users suggested that, in a particular selection decision, other factors may be rated of greater importance than geographic location.

There was further consensus between the two groups that real world experience was important but that other criteria may reduce its significance. The practitioners believed the arbitrator must possess arbitral experience, but they attached little importance to the arbitrator's age.

Table 2.1

Arbitrator Ranking O Ten Factors Deemed
Most Important In Arbitrator Selection

	Arbitrator Ranking
Name Recognition	1
Reputation for Integrity	2
Geographic Location	3
Real World Experience	4
Published Awards	4
Arbitrator is an Attorney	6
Level of Education	7
Size of Per Diem Fee	8
Professional Organizations	9
Sex/Ethnic Characteristics	10

Source: Lawson, 1981.

The attorney-arbitrator was ranked exactly midway on the list by arbitrators and users alike. Arbitrators expressed mild disagreement with the statement that attorney-arbitrators had a "distinct advantage over nonattorney arbitrators" in hearing cases. Users, however, were strongly reluctant to strike the name of an attorney-arbitrator. Lawson believed that users perceived attorney-arbitrators as mildly preferable over non-attorneys and would not reject an arbitrator because he/she was an attorney.

The greatest disagreement occurred in the ranking of formal education. Users rated it as the second most important factor, while arbitrators believed it belonged in the bottom half of the criteria. The users did not appear to discriminate as to the nature of the education; they desired well-qualified arbitrators, and may have seen a high level of formal education as evidence of qualifications.

The number of professional organizations with which the arbitrator was associated and the sex or ethnic characteristics of the arbitrator ranked at the bottom of both lists in terms of their importance in selection.

Searching the data further to determine which factors may have disproportionately influenced the results, Lawson concluded that attorney-arbitrators had a higher regard for their attractiveness to the parties than did the rest of the arbitrator population. The advantage, he stated, did not appear to be overwhelming even if one assumed the modest bias held by the attorney-arbitrators was also applicable to the attorney-user. The probable result was that practicing attorneys would demonstrate a preference for attorney-arbitrators. Since the undifferentiated practitioner population ranked attorney- and non-attorney-arbitrators relatively the same, this consequence seemed likely.

A second interesting discovery was the disagreement within the arbitrator population as to the importance of the level of formal education. This was of special interest because of its high ranking by users. Of the attorney-arbitrators, 58% ranked formal education in the top half of the scale, but only 17% of the non-attorney-arbitrators perceived it as that important.

Three-quarters of the female arbitrators expressed disagreement with the statement that "the sex of the arbitrator was rarely if ever a factor in the determination of the parties to strike or not strike" her name, thus supporting Rezler and Petersen's findings (1978). Of the male arbitrators, 40% concurred with the women's assessment of the situation. It appeared that the low ranking of sex and ethnic characteristics by the undifferentiated arbitrator population occurred as a result of the small proportion of female arbitrators (14%) in the population.

The relationship between biographical characteristics and caseload initially was studied by Primeaux and Brannen (1975). They hypothesized that since the parties were willing to incur additional delay and expense in order to retain a member of the select group of arbitrators who handled a large proportion of the cases, the parties must believe the benefits of presenting a case before one of these busy, experienced arbitrators outweighed the disadvantages. The parties therefore considered experience as equivalent to qualifications and were using subjective and objective characteristics depicting what the arbitrator was or represented as the basis for selection.

A set of objective characteristics -- past experience, current occupation, membership in professional associations, age, education, and past caseload -- were chosen, and the variables affecting arbitrator selection isolated. Regression analysis indicated the parties had a strong preference for experienced arbitrators and that experience as an arbitrator ($p < .01$), arbitration as a full-time occupation ($p < .05$), education ($p < .10$), and the number of cases published in a prior period ($p < .01$) were all significantly and positively related to caseload. The lack of professional affiliation was significant and negatively related to caseload ($p < .10$). The variables explained 70% of the variation in the caseload handled during the period studied. Age was consistently insignificant in all equations tested.

While the preceding best explained the reasons for arbitrator selection, Primeaux and Brannen looked further into the relationships between the variables in the analysis. They discovered that statistically significant differences existed in the demands for arbitrators with different types of experience. After arbitrator experience, the next most important type of experience was experience as an attorney ($p < .01$), followed by

experience in industry or government ($p < .01$), and finally by experience in education ($p < .01$).

In testing differences in occupations, they found no statistically significant difference between attorneys and full-time arbitrators. Attorneys appeared to fare better in the selection process than did educators, who were significantly different from professional arbitrators at the .10 level.

Professional affiliation was relatively unimportant except for those arbitrators with no ties to any professional association. Non-affiliated arbitrators were adversely affected ($p < .10$) and retained less frequently than arbitrators listed on AAA or FMCS panels.

Briggs and Anderson (1980) utilized arbitrators' responses to background variables as indicators of the acceptability measure caseload. The dependent variable, caseload, was defined as the number of cases heard by the arbitrator within the twelve months preceding the survey. Regression analysis revealed the overall relationship between the background characteristics and caseload was weak. Of the background characteristics shown in Table 2.2, stability of residence ($p < .10$) was positively related to caseload at a significant level while years of college ($p < .05$) and the Ph.D. degree ($p < .05$) were negatively related at a significant level. These findings may be interpreted as an indication that arbitrators with more years of college and who would tend to be the Ph.D. arbitrators either were offered fewer cases and were less acceptable or could accept fewer cases because of the requirements associated with most Ph.D. professionals, i.e., teaching or school limitations on outside activities.

Although formal education did not appear to be a significant factor in caseload, the completion of a formal arbitrator development program ($p < .05$) was a positive and

significant variable. Arbitrators completing such a program tended to hear more cases during the preceding twelve months than did those receiving no such training.

Being listed with private and public sector designating agencies (both $p < .01$) or in agreements as a permanent umpire ($p < .01$) and memberships in professional organizations ($p < .01$) were very strongly and positively related to caseload. Overall, the number of contracts in which the participant was listed as the permanent umpire was the sole highly significant variable in the regression analysis.

Briggs and Anderson suggested that young arbitrators may improve their selection possibilities by being listed with private and public sector designating agencies, attaining an advanced degree prior to attempting to arbitrate and compete with other arbitrators, and submitting their awards for publication as often as the parties grant their permission.

Summary of Biographical Characteristics and Selection

When rating the importance of the biographical characteristics, practitioners and arbitrators consistently considered experience to be an important criterion. It was variously defined as years as an arbitrator, labor relations or real world experience, caseload, and published awards. Education was found to be important in selection, but management and union representatives placed a much higher value on it than did arbitrators. Age and gender were reported as important factors in one study and unimportant in another, although an arbitrator's gender seemed to be an issue in both of these studies. In two studies professional affiliation was thought to be an important factor, while in a third study, it was one of the least important criteria. Geographical proximity was ranked very highly in one study and discounted in another. Finally,

Table 2.2

Zero-Order Correlations' And Regression Coefficients' Directions For Selected Arbitrator Characteristics With Caseload

Background Characteristics	Expected	Total
Age	+	-
Sex	-	-
Years of College	+	- **
Law Degree	+	+
Ph.D.	+	- **
Stability of Residence	+	+ *
Completion of Seminars	+	-
Completion Formal Program	+	+ **
Apprenticeship	+	+
Years Since First Case	+	-
Years Since Second Case	+	-
Sector of First Case	-	-
Management Experience	+	+
Labor Experience	+	-
Government Experience	+	+
Administrative Agency Experience	+	-
Educational Experience	+	-
Arbitration Experience (Advocate)	+	+
Listed with Private Sector Agencies (Number)	+	+ ***
Listed with Public Sector Agencies (Number)	+	+ ***
Listed in Agreements as Permanent Umpire	+	+ ***
Memberships in Professional Organizations	+	+ ***

* $p < .10$
** $p < .05$
*** $p < .01$

Source: Briggs and Anderson, 1980.

occupation never played more than a minor role in any of these studies. Clearly, the parties neither wholly agreed on the definitions nor on the proper weighting of these biographical characteristics.

The two studies examining biographical characteristics and caseload did not brighten the picture appreciably. Experience as an arbitrator, attorney, educator, or in the real world plus the occupation of full-time arbitrator were two crucial factors in being selected in one study but not in the other. Education, in the form of years of college and the Ph.D. degree, was negatively associated in one study and positively associated in the other. In both studies lack of professional affiliation was indicative of lower caseloads, while in only one study was stability of residence related to higher caseloads. Age and gender were not significantly related to caseload. Thus, the two different approaches of scrutinizing how biographical information are used in selection yielded contradictory and confusing results.

Biographical Characteristics and Arbitrator Behavior

Fleming (1965) conducted two experiments examining experience and decision-making. In the first study third-year law students were provided transcripts, exhibits, and briefs of cases from Fleming's personal files and then were asked to write the decisions. The issues involved discipline, discharge, simple contract interpretation, and a combination of contract interpretation and bargaining history.

In the disciplinary cases, four of the five opinions submitted agreed with Fleming's actual decisions of whether or not the discipline should be upheld or reversed. Eleven of the eighteen awards concurred with Fleming's decisions concerning revoking or modifying the discharge penalties. Twelve of the thirteen contract

interpretation opinions were consistent with Fleming's interpretations. The most difficult case, involving contract interpretation and bargaining history, was decided by two students, neither of whom agreed with Fleming.

Fleming concluded that, in uncomplicated contract interpretation cases requiring no subtle labor relations considerations, inexperienced and experienced law-trained decision-makers were likely reach the same conclusions. In discipline and discharge cases, the abundance of texts and published cases provided sufficient guidance for decision-makers to discern the "general rule." The problem, Fleming noted, was that such cases often involved credibility issues which the students may have been able to resolve had they the opportunity to view the witnesses.

In the second experiment Fleming tried to determine to what extent experienced NAA arbitrators (two attorneys, three economists) and experienced employer and union attorneys would be able to predict the outcome of an arbitration case. He was also interested in whether there was a difference between the decisions of attorney- versus economist-arbitrators. The case selected involved a very complicated contract interpretation question (scheduling versus layoff), plus a potential legal issue.

The five management attorneys believed the case would ultimately go to arbitration and that the outcome was doubtful. Only two of these attorneys thought the employer would win the case. The remaining three thought the union would prevail, but only two agreed on a remedy. All five felt the outcome could differ from arbitrator to arbitrator, but they did not necessarily attribute this to the educational background of the arbitrator. Instead, they stated that other factors, such as experience, could also influence the arbitrator's decision. They acknowledged that if the arbitrator was inexperienced, then educational or professional training might play a greater role.

The two participating labor lawyers believed the union position was stronger and would be upheld in arbitration. One of them did not think the arbitrator's training as an economist or attorney would make any difference in the outcome as long as the arbitrator followed the dictates of the law with regard to bargaining. Since the second lawyer felt the case hinged on a legal question requiring knowledge of contract law, an attorney-arbitrator was preferred. Both labor lawyers agreed on the basic remedy.

Five of the seven labor and management attorneys believed the union would prevail; the five arbitrators, however, were greatly divided over the outcome of the case. One attorney- and one economist-arbitrator declared the union would win the case. According to one attorney- and two economist-arbitrators, the employer would win the case. None of the arbitrators believed a layoff had occurred, and only one of them thought the layoff issue to be serious.

Fleming concluded that, had the labor and management attorneys known the arbitrators' identities, their predictions might have been different. Management's rights was a question over which arbitrators had decidedly different views, and the presence of the possibility of bad faith made predictability more tenuous. Predictability and the individual arbitrator's viewpoint might be related, however, and Fleming surmised, if they were, then labor and management could study the views of the experienced arbitrators in order to make an educated guess as to a particular arbitrator's potential award.

Westerkamp and Miller (1971) also used management and labor advocates to determine if the parties could differentiate between the awards of experienced (more than eighty cases heard during career) and inexperienced (no cases heard) arbitrators. In this study two experienced and two inexperienced arbitrators wrote abbreviated

opinions and awards after viewing a training film depicting a mock arbitration case. Management and union labor attorneys viewed the film and attempted to determine which decisions were written by the experienced versus the inexperienced arbitrators. A five-step scale from 0 to 8 was utilized, with 0 representing an inexperienced arbitrator (Arbitrators W and X) and 8 being an experienced arbitrator (Arbitrators Y and Z).

The results indicated that neither management nor union attorneys could differentiate between the two levels of experience based on the award. The scores ranged from an average low of 2.6 for Arbitrator Y to an average high of 5.6 for Arbitrator Z. With the exception of Arbitrator Z's 5.6 rating, the average rating for each arbitrator clustered around 4.0, indicating that the attorneys could not differentiate between the experienced and inexperienced arbitrators. The combined average ratings of the experienced and the inexperienced arbitrators was 4.1, further emphasizing the inability of the attorneys to differentiate the two extremes of experience. The experience level of Arbitrator Z was properly estimated 60% of the time, but no other arbitrator's experience level was predicted correctly more than twice. Further, the inexperienced arbitrators actually had a narrower rating range than the experienced arbitrators (3.8 to 4.4 versus 2.6 to 5.6 respectively). Arbitrator Y, designated as experienced, received the lowest average rating of the four arbitrators, while Arbitrator Z, also experienced, had the highest average rating. Thus, experience may be a strong factor in the parties' opinions with respect to arbitrator acceptability, but in this study it appeared to have little effect on the actual award or the parties' ability to predict the award based on the arbitrator's experience.

Bankston (1977) was interested in whether any value differences could be attributed to differing educational backgrounds in the relatively small cadre of arbitrators

who, at that time, rendered the majority of the arbitration decisions. He hypothesized that attorney-arbitrators and economist-arbitrators had different attitudes about specific cognitive objects.

A profile of the participants showed that over half of the arbitrators had law degrees, 34% were classified as economists, and 12.5% were listed as other. An arbitrator with a law degree was designated an attorney-arbitrator, while a holder of a degree in labor relations, economics, or business was classified as an economist-arbitrator. Persons having degrees other than those listed above were deemed other-arbitrators.

It was found that economist- and attorney-arbitrators differed significantly on four concepts: economic efficiency, union penetration of managerial decision-making, the use of compulsory arbitration in the private sector, and the existence of right-to-work laws. In each instance the economist-arbitrator tended to adopt a position farther toward one extreme or the other than did the attorney- or other-arbitrator. Right-to-work laws ranked as the lowest significant concept while economic efficiency was the concept given the most credence. In descending order after economic efficiency came union penetration and compulsory arbitration.

The next step taken by Bankston was to isolate the concepts that were significantly different for the attorney- and economist-arbitrators. A significant difference occurred between the two groups for the concepts of right-to-work laws ($p < .05$), compulsory arbitration ($p < .01$), and union penetration ($p < .01$). The results indicated that economist-arbitrators held a conclusively more negative attitude toward right-to-work laws than did attorney-arbitrators who saw it as a slightly negative or sometimes neutral concept. The greatest separation in viewpoints concerned compulsory

arbitration in the private sector. Attorney-arbitrators were generally supportive of the concept (rating it as fair, modestly valuable, and important), while economist-arbitrators were distinctly opposed to it. Their positions were reversed for union penetration of managerial decision-making with attorney-arbitrators expressing more negative viewpoints. Attorney-arbitrators perceived this concept as rather neutral to negative, but economist-arbitrators evaluated it as neutral to positive.

Bankston concluded that each arbitrator's personal values and attitudes differed and reflected his/her educational background. Consequently, an arbitrator's perspective of various concepts was affected, and the parties should consider educational background in selecting an arbitrator for a particular issue.

Doeringer (1977) noted that Bankston's study population consisted of the most experienced, active arbitrators who tended to be older, were "further removed from the prejudicial effects of education," and shared common arbitral experiences (p. 187). The concepts found to be significant represented several of the most controversial and divisive issues and probably had been discussed by the arbitrators. The possibility thus existed that the differences were understated. Doeringer, however, believed it more likely that the data overstated the differences in the attitudes of the two groups since arbitrators try to minimize the degree to which their personal views intrude into their decisions. Hence, educational background would not be as significant a factor in how arbitrators view different issues.

In a study by Nelson and Curry (1981), arbitrators submitted background data on their age, education, occupation, and experience as an arbitrator. The arbitrators also reviewed an edited transcript of a discharge case and were asked to render their

judgments. The discharge penalty was sustained by 55.4% of the arbitrators, while 44.6% revoked or modified the penalty.

Arbitrators were classified according to Bankston's nomenclature on education: all arbitrators with law degrees were designated attorney-arbitrators; economist-arbitrators held business, economics, or labor relations degrees; and those individuals with degrees in other fields were categorized as other-arbitrators. Approximately 45% of the economist- and attorney-arbitrators modified or revoked the discharge penalty, while 33% of the other-arbitrators and arbitrators without advanced degrees did so. For the education categories together and for each one separately, Chi-square statistics were not significant.

The possible selections for the arbitrator's primary occupation were full-time arbitrator, non-labor attorney, labor advocate or attorney, management advocate or attorney, or other. Advocates were the group most likely to revoke or modify the penalty. Interestingly, management advocates (66.7%) were more prone to overturn the discharge penalty than were labor advocates (60%). Among the full-time arbitrators, professors, and non-labor practicing attorneys, 40% modified or revoked the discharge penalty. Other-arbitrators were least likely to overturn the discharge (27.3%). Nevertheless, while it appeared that advocates were more "liberal" in their interpretation, a Chi-square statistic computed for all the occupations was not significant.

The most significant factors in the arbitrators' decisions were age and experience. The arbitrators were divided into thirds with respect to experience. Arbitrators who had heard at least 200 cases in their careers were classified as highly experienced arbitrators and constituted 33.8% of the respondents. Slightly over 10% of the arbitrators had never heard a case. These arbitrators and arbitrators who had

heard fewer than twenty cases were categorized as the least experienced arbitrators (33.8%). The arbitrators with modest experience, 20 - 199 cases, comprised 32.4% of the sample.

The least experienced arbitrators tended to reinstate more often than the modestly to highly experienced arbitrators. The discharge penalty was modified or revoked by 87.5% of the arbitrators who had heard no cases and by 80.0% of the arbitrators who had heard one to nine cases. Thus, arbitrators with very little experience had a large impact. The Chi-square statistic supported the statement that the decision to modify or revoke the penalty was related to experience ($p = .02$).

Age ranged from thirty-one to eighty years, with a mean age of 55.9 years. Of those upholding the discharge penalty, the mean age was 58.5 years; of the arbitrators modifying or revoking the penalty, 52.6 years was the mean age. This difference was statistically significant at the .03 level.

Nelson and Curry investigated the impact of age further, dividing the respondents into thirds with respect to age. Of the oldest third, the 62 - 80 age group, 20% modified or revoked the penalty, while among the arbitrators 31 - 50 and 51 - 61 years old, the penalty was modified or revoked by 58.3% and 56.0% of the arbitrators respectively. Hence, the 62 - 80 age group appeared to have a significant impact on the decision to modify or revoke the penalty, and the Chi-square statistic supported the relationship between age and penalty modification or revocation ($p = .01$).

Age and experience were discovered to be related. Few arbitrators in the most experienced third were less than sixty-two years old, and few arbitrators in the least experienced third were at least sixty-two years old. The Chi-square statistic indicated that experience and age were not independent ($p = .00$). Table 2.3 shows the impact

of experience controlling for age. Arbitrators in the 31 - 50 and 51 - 61 age groups and with fewer than twenty cases modified and revoked the discharge penalty more frequently than did the more experienced arbiters. The Chi-square statistic was not statistically significant for these two age groups, but the impact of experience was consistent with their earlier findings on experience. Only two arbitrators in the 62 - 80 age group had heard fewer than twenty cases, and the results for that age group were not conclusive.

Table 2.3

Combined Effects Of Arbitration Experience And Age On The Modification And Revocation Of The Discharge Penalty

Number of Cases	31 - 50 Years Number (%)	51 - 61 Years Number (%)	62 - 80 Years Number (%)
0 - 19	13 (69.2)	10 (80.0)	2 (0.0)
20 - 199	9 (44.4)	9 (44.4)	6 (0.0)
200 or more	2 (50.0)	6 (33.3)	17 (29.0)

Source: Nelson and Curry, 1981.

Nelson and Curry's research supported Fleming's assertion (1965) that no difference existed between the awards of economist- and attorney-arbitrators. It did not support Bankston's theory (1977) that an arbitrator's educational background influenced not only that individual's values and attitudes, but also his/her arbitral decision-making. More likely, they argued, these results gave credence to Doeringer's assertion that arbitrators minimize the effect of values and attitudes in their decisions.

Contrary to the conclusions of Fleming (1965) and Westerkamp and Miller (1971), Nelson and Curry believed the fact that the oldest and youngest age groups

differed so greatly indicated that the members of the oldest age group had shared certain experiences over the years which influenced their decision-making.

If winning was the parties' sole concern, Nelson and Curry did not think that consideration of the arbitrator's occupation and education was necessary. Concerning the parties' preference for highly experienced arbitrators, the data showed that arbitrators with modest experience rendered decisions no different than those of their more experienced colleagues. Furthermore, the results suggested the union should prefer arbitrators with very little experience for certain types of cases. Finally, as opposed to previous beliefs, the arbitrator's age should be a consideration.

Nelson (1986) built upon the above study and analyzed how management and union advocates would have used age, education, experience, and occupation to select the arbitrator to hear this discharge case. An analysis of the parties' perceptions of these four criteria yielded two major points. First, both parties ranked the criteria the same in terms of importance -- experience, occupation, education, and age. Second, although they ranked the criteria similarly, the parties weighted the factors differently. Unions viewed experience as a key criterion and occupation, education, and experience respectively also were seen as significant factors. Although considering experience to be the most important criterion, management valued it less did the union. Management believed occupation was only slightly less important than experience while education and age were of much lesser importance.

The next step was to determine which mix of these criteria the parties preferred for the discharge case. Both sides desired an arbitrator from the two younger groups (i.e., less than sixty-two years old), unions indicating that they strongly (69.2%) wanted an arbitrator from the middle age category (fifty-one to sixty-one) and did not want an

arbitrator from the oldest group (0%). Management also favored the middle group (47.6%) and, although they would accept an arbitrator from the oldest group (19%), it was their third choice.

In terms of education 41.2% of the representatives wanted an attorney-arbitrator and the remainder desired an arbitrator with either an economics or advanced degree. Two-thirds of the management representatives liked arbitrators with economics degrees, and over half of the union representatives wanted arbitrators with a law background. Neither side wanted an arbitrator who lacked either a law or economics degree or an advanced degree.

Arbitrators with a minimum of twenty decisions were the overwhelming choice of the parties. Management exhibited a strong preference (71.4%) for the modestly experienced group; unions favored the highly experienced over the modestly experienced group by a slight margin (53.8% to 46.2% respectively).

Full-time arbitrators were the first choice of both management (47.6%) and union (61.5%), although management was equally likely to select an attorney-arbitrator. Unions also favored attorney-arbitrators (23.1%) but at a much lower rate than management. Both sides agreed that arbitrators who were not either full-time or attorney-arbitrators or college professors were not to be selected.

From the above it was clear that the parties considered background factors as important to the selection of the arbitrator, but it was equally obvious that neither side chose the mix of biographical characteristics which would have maximized the chance of winning. Management preferred arbitrators younger than sixty-two years old, but it was this oldest group that was least likely to reinstate the grievant. The union correctly

wanted to avoid this oldest group, but only one-third of the union advocates preferred to use the age group most likely to reinstate the grievant, the youngest arbitrators.

With respect to experience, no union representative selected an arbitrator from the group most likely to reinstate the grievant, the arbitrators with fewer than twenty decisions. Instead, they preferred the highly experienced group and the one least likely to reinstate. Management did better in this area by strongly favoring the modestly experienced group which was only slightly more likely than the highly experienced group to reinstate the grievant.

Occupation and education played a greater role in selection decisions than in arbitrators' decisions. Occupation was ranked the second most important factor by both groups, and management viewed it as only slightly less important than experience. Occupational differences, however, were not statistically significant. Management was equally likely to pick a full-time arbitrator or an attorney, but attorneys were the most likely occupations to order reinstatement (52.9%). Less than one-fourth of the union representatives selected the attorney-arbitrator, choosing instead the full-time arbitrator who was less likely to order reinstatement (42.9%). Education was ranked as the third most important selection factor. It was not deemed a key factor by management and was only slightly more important to unions. Indeed, the lack of a significant relationship between education and awards supported the parties' lack of a clear preference in this regard.

Nelson concluded that age and experience were related to arbitral decisions, but education and occupation were independent of awards. The parties ranked the criteria similarly, but did not utilize them appropriately to maximize the likelihood of winning.

They did not properly gauge the importance of the age and experience categories, and they both weighted occupation too heavily and age too lightly.

Heneman and Sandver (1983) attempted one of the more sophisticated studies of the relationship of biographical characteristics and arbitrator behavior. Each arbitrator included in the sample had a minimum of four published cases. In addition to the cases and biographical sketches gathered, performance rating data on the arbitrators were collected from a private arbitration reporting service.

With 144 independent variables that could enter four regression models, the independent variables were grouped according to the arbitrator's personal characteristics: education, current occupation, past occupation, registration with arbitration services, and professional activities. A profile of the arbitrators indicated that the average age was sixty years, women were underrepresented at only 2% of the sample, and almost three-fourths of the arbitrators lived outside the South. The arbitrators were a highly experienced group with an average professional career spanning thirty years. They gained labor relations experience through the customary prior occupations: (1) government employee (Federal (30.8%), State (14.0%)), (2) attorney (34%), (3) non-attorney professor (23.6%), (4) management employee (19.2%), and (5) law professor (17.6%). Rarely had an arbitrator also worked in the labor movement (3.6%).

As expected, the group was also highly educated. Over 96% had Bachelor's degrees; 37.6% had Master's degrees while 18.4% had obtained their Ph.D. degrees. Law degrees were held by 72.4% of the sample, indicating that cross-training with law continued to be a popular entry portal into the profession. This was further supported by the large group of law professors (12%) and full-time attorneys (38.4%). Non-

attorney professors (19.6%) and full-time arbitrators (25.2%) completed the greater proportion of current occupations in the sample.

Professional affiliations with AAA (77.6%) and FMCS (65.6%) were the principal listings of the group, although 46.8% of the arbitrators belonged to the NAA. This high percentage of NAA arbitrators indicated they were very experienced arbiters and had rendered a large number of decisions. Affiliation with these three organizations also insured that name recognition was high and selection opportunities increased.

Only ten of the independent variables were statistically significant, and none of the variables appeared in each equation. Very little of the overall variance was explained in any of the models. In the PERCENTAGE OF CASES DECIDED FOR THE UNION regression model, residence (non-South, positive), Bachelor's degree (negative), and highest degree from a private school (negative) were statistically significant. Only the consultant variable (present occupation) was statistically significant in the equation examining the PERCENTAGE OF DECISIONS MODIFIED. From the PERCENTAGE OF DECISIONS APPROVED (by the clients of the reporting service) equation, three variables -- no degree, Economics professor (current occupation), and consultant (past occupation) -- were statistically significant. Age and arbitrator (current occupation) were the only statistically significant variables in the final model, the CONSENSUS equation, which was an overall rating of the arbitrator made by the reporting service.

Heneman and Sandver concluded there was little support for the relationship between biographical characteristics and arbitrator behavior. They believed that, based on the results, the parties should not rely solely on consultation and arbitrator biographical data. Clearly, these results challenged prior findings that age and experience should be considered in arbitrator selection.

Summary of Biographical Characteristics and Arbitrator Behavior

Early studies of arbitrator behavior indicated that decision-makers involved in relatively simple issues reached the same conclusions regardless of their levels of experience. Management representatives believed education or training could affect the decisions of inexperienced arbitrators; the level of experience, they stated, may result in awards varying from arbitrator to arbitrator. Educational background was thought to be important but later studies failed to confirm this finding.

Recent research has not clarified the relationship between biographical characteristics and decisions. Age, education, experience, residence, occupation, and professional affiliation all yielded significant and contradictory results. According to two studies, older arbitrators (62 - 80) were more likely to sustain discharges than were younger arbitrators. The least likely age group to sustain the discharge was the youngest one (31 - 50). The same relationship existed for experience -- the least experienced arbitrator (fewer than twenty decisions) was less likely sustain the discharge than modestly or highly experienced arbitrators. Age and experience were not independent, and the great disparity between the oldest and youngest arbitrators was believed to indicate differences in shared experiences. Neither education nor occupation were found to be influential. These conclusions were not supported by the third study which determined that biographical characteristics did not consistently appear in the award-related equations. Instead, the finding was that little justification existed for weighting biographical characteristics heavily in arbitrator selection.

The prior section concerning the difficulties encountered in defining the importance and usage of biographical characteristics was confirmed. It was very clear that either each party was not properly utilizing characteristics to maximize its chance

of winning or other factors were entering into the selection decision which reduced the importance placed on the arbitrator's personal characteristics. For example, although the least experienced arbitrator was more likely to revoke or modify the discharge penalty, unions were more likely to desire the least likely group to order reinstatement, that is, the highly experienced arbitrator. While management strongly wanted the modestly experienced arbitrator, the first choice should have been the highly experienced arbitrator. In terms of the age consideration, similar results occurred. Management did not prefer to use arbitrators in the oldest group, yet they were the most likely ones to sustain the discharge. Only one-third of the union advocates correctly wanted to use the youngest arbitrators who were the most likely group to revoke or modify the penalty.

From the above, it appears there is no consensus on the importance of biographical characteristics, their usage, and their relationship to awards. In the next chapter the ways in which this study differ from previous research will be addressed in addition to a discussion of the theoretical expectations and the methodology employed.

CHAPTER III

METHODOLOGY

In this chapter the data, theoretical expectations, and analysis technique used in this research are discussed. The first section is devoted to a discussion of the data, including its advantages and limitations. The second section outlines the expected relationship between each of the biographical attributes and the discharge decisions. Specifically, the anticipated roles of age, education, experience, occupation, residence location, professional affiliation, and gender are scrutinized in terms of tendencies in discharge awards to (1) sustain, (2) modify, or (3) revoke the penalty. In the third section two different approaches to analyzing the data in terms of the acceptable significance level are considered.

DATA

The data were provided by the LRP Publications (LRPP), an independent private reporting service for union and management clients. LRPP receives published awards from the Bureau of National Affairs (BNA), Commerce Clearing House (CCH), and other services and agencies. It also contacts union and management representatives and arbitrators throughout the country seeking submission of arbitration decisions. Awards encompass both the public and private sector and a broad range of industries,

occupations, issues, and unions. It thus provides a good, nationwide cross-section of discharge cases.

The cases selected for analysis were discharge cases with award dates between January 1, 1980, and September 30, 1984. From a research standpoint, the use of LRPP data from this time frame provides a source from which others can replicate the research reported here. It can also be used as a basis to study post-1984 trends or changes which may have occurred. Discharge cases were chosen because they afford the opportunity to study a relatively homogeneous population of cases and provide a control over factors which, in other contract interpretation issues, may cloud the delineation of the outcome. That is, discharge cases require value judgments since collective bargaining agreements and arbitrators' opinions almost uniformly discuss discharge in terms of "just cause." Just cause cases are predominantly concerned with performance or behavioral issues which are broadly similar. The awards are clear-cut, definitive, and easily operationalized, i.e., penalty-denied, penalty-revoked, etc.[5] A second reason for using discharge cases is that it is the issue most frequently arbitrated and thus one of great concern for the parties.[6] The presence of both published and unpublished cases within the LRPP data base reduces the problems of representativeness and bias, and the scope of the data is national in nature. Finally, unlike most studies which generally use simple, uncomplicated issues or are designed to lead the decision-maker to a specific conclusion, the LRPP cases are not mock

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[5] For a discussion of the advantages and disadvantages of using discharge awards, see Block and Stieber (1987).

[6] In 1972 discharge and discipline accounted for 29.7% of the issues arbitrated under the FMCS auspices; this figure had risen to 39.9% in 1981 (FMCS, 1982). For AAA-administered cases, discipline and discharge represented between 29.7% - 34.0% of the issues arbitrated from September 1981 to October 1982 (American Arbitration Association, 1983).

cases; they represent real-life issues which, with all their simplicities and complexities, require arbitrators to make easy and difficult value decisions. Hence, the relationship between arbitrator characteristics and awards should become more evident, if indeed such a relationship exists.

The limitations of this data set are several. Arbitrators who, for whatever reason, elected not to submit any or all of their decisions are underrepresented. By definition, all arbitrators who did not render a discharge award during this time frame are omitted, thereby limiting the ability to define experience in terms of total caseload. Utilizing only discharge awards restricts the ability to generalize the results beyond discharge arbitration because arbitrators normally have greater latitude in discharge than in other interpretation issues. Moreover, discharge cases represent only one segment of an arbitrator's total awards. To the extent that the importance of biographical characteristics in discharge cases do not truly represent the importance of the arbitrator's characteristics for all his/her decisions, then they distort the overall importance of the arbitrator's characteristics.

The Sample

Arbitrators included in the sample must meet the following criteria: (1) The arbitrator was alive during the entire time frame; (2) The biographical information was readily available for that arbitrator; and, (3) The arbitrator decided a minimum of twenty-six cases. The third criterion was implemented because the study could not examine disparities between arbitrators with the least and greatest experience levels. Therefore, the decision was made to concentrate on the arbitrators with the greatest numbers of cases in order to determine whether biographical factors are predictive of their

decisions. These arbitrators are clearly acceptable to the parties; it may actually develop that in terms of years as an arbitrator and caseload, the parties are using less experienced arbitrators in discharge cases.

THEORETICAL EXPECTATIONS

From the literature it is apparent that employer and union representatives believe arbitrator characteristics examined prior to selection provide useful insights into the arbitrator's thinking process. Alternatively, researchers trying to duplicate this process have had mixed success in determining the significance of the various characteristics and relating them to awards. In this section, based upon the literature review and following a brief description of the dependent and independent variables, the specific hypotheses to be tested are presented.

Dependent Variable

The dependent variable used in this research study is the award. This is arguably the most important variable in the arbitration case and one of the most scrutinized by the parties in their research. In this study it is a categorical variable operationalized in two different ways. The first way is based on the prior empirical studies which have used the two-categorical approach: (1) Penalty-sustained or (2) Penalty-revoked. Penalty-sustained means the grievance is denied and the discharge upheld. This is generally interpreted as an employer victory. Penalty-revoked, on the other hand, has the opposite meaning. The union is the victor and the grievant is reinstated with full, partial, or no backpay.

More recent researchers, however, have further compartmentalized the Penalty-revoked classification. Stieber, Block, and Corbitt (1985) and Block and Stieber (1987) used a four-category approach which broke Penalty-revoked into Penalty-revoked, Penalty-modified-no backpay, and Penalty-modified-partial backpay. Following their lead, this study uses a three-categorical approach. Under the previous Penalty-revoked category, Penalty-revoked and Penalty-modified categories are now possible. Penalty-revoked is now perceived as equivalent to the full backpay award of the union win in the two-categorical model. Penalty-modified represents a "split" decision in which the grievant is reinstated with either no or partial backpay. A graphical representation of the two approaches appears below:

These new delineations allow the effect of value judgments to come through more clearly since it can be argued that the compromise category of Penalty-modified is a reflection of the difficulty encountered by the arbitrator in reaching a clear-cut won or lost decision.

Independent Variables

Age

Most of the prior research uses arbitrarily defined decade intervals to examine age. Since past studies have not agreed on common breakpoints for the intervals, the current study also will arbitrarily designate the intervals. Based upon the arbitrator's

age as of December 31, 1983, AGE is broken into decade intervals: 40 AND UNDER, 41 - 50, 51 - 60, 61 - 70, and OVER 70 years.

Experience

Two measures of experience are used in this study. In many prior studies CASELOAD was defined as total cases in a preceding time period or during the arbitrator's career. Neither approach is appropriate based on the sample drawn for this study. Therefore, as has been done in other past research, caseload is broken into thirds based on the distribution of discharge cases heard by the arbitrators in the sample.

Years of EXPERIENCE as a full- or part-time arbitrator is broken into intervals -- FEWER THAN 10, 10 - 15, and OVER 15 years. This is based on the premise that if, as was indicated in the previous chapter, the older arbitrators (World War II and Korea) are being replaced by younger arbitrators, the parties are more likely to test new arbitrators and develop an arbitrator pool using discipline and discharge cases. Consequently, arbitrators with limited arbitral experience may have higher than expected discharge caseloads.

Education

For the purposes of this study, arbitrators who are professors in business, labor relations, or the social sciences are classified EDUCATOR-ARBITRATORS. Arbitrators with law degrees are considered ATTORNEY-ARBITRATORS regardless of whether they also are educators. LIR-ARBITRATORS are those arbitrators who are not educators but possess advanced degrees in business, labor relations, or the social sciences.

Arbitrators who fall outside these boundaries, that is, have degrees in other areas or lack an advanced degree are termed OTHER-ARBITRATORS.

Residence Location

For the present investigation, an arbitrator's residence location arbitrarily is broken into four major geographic areas. The Southeast (RES-SE) contains Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Missouri, Mississippi, North Carolina, Tennessee, South Carolina, Virginia, and West Virginia. Arizona, California, Colorado, Kansas, New Mexico, Nevada, Oklahoma, Texas, and Utah represent the Southwest (RES-SW). In the Northwest (RES-NW) are Idaho, Montana, North Dakota, Nebraska, Oregon, South Dakota, Washington, and Wyoming. Connecticut, Delaware, Iowa, Illinois, Indiana, Massachusetts, Maryland, Maine, Michigan, Minnesota, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, and Wisconsin make up the Northeast (RES-NE).

Professional Affiliation

Two professional affiliation measures, both binary variables, are used. The first one denotes association with AAA, FMCS, or NAA (known as PA-Y), while lack of affiliation with at least one of these organizations is designated PA-N. The second looks at NAA membership (PA-NAA) and non-NAA membership (PA-NN).

Occupation

An individual who arbitrates full-time is deemed OCC-F, while a part-time arbitrator is known as OCC-P. OCC-P is broken into primary occupations as a teaching or practicing attorney (OCC-ATTY), an educator (OCC-EDUC), or other (OCC-OTHER).

Gender

An arbitrator's gender is a binary variable (MALE, FEMALE).

Research Hypotheses

Based on the study's objectives, seven major hypotheses are to be tested in both two- and three-category decisions.

H (1): There is no significant relationship between age and the discharge decision.

H (2): There is no significant relationship between experience and the discharge decision.

H (3): There is no significant relationship between education and the discharge decision.

H (4): There is no significant relationship between residence location and the discharge decision.

H (5): There is no significant relationship between professional affiliation and the discharge decision.

H (6): There is no significant relationship between occupation and the discharge decision.

H (7): There is no significant relationship between gender and the discharge decision.

Prior research has shown that models which use union "wins" or "split" awards explain less than seventeen percent of the variance (Block and Stieber, 1987; Heneman and Sandver, 1983; Stieber, Block, and Corbitt, 1985). Should the two- or three-categorical decision models of this study explain more than twenty percent, it would indicate that an arbitrator's biographical characteristics are of much greater importance than previously thought and there should be further examination of biographical characteristics and awards.

ANALYSIS

One of the objectives of this research is to investigate the topic from the practitioner perspective. Although researchers require significance levels of .10, .05, or .01, this is a matter of convention rather than absolute requirement (Tull and Hawkins, 1987). The parties are unlikely to be interested in such strict statistical interpretations. Instead, they seek an opportunity to analyze biographical characteristics in such a way as to gain any advantage, however slight. If, by evaluating the mix of biographical characteristics, an advocate can increase his/her likelihood of either winning or insuring a "fair" hearing and decision, then the advocate probably will attempt to select the arbitrator who comes closest to meeting the criteria. The level of significance would not need to be high for the practitioner's purposes. That is, a .50 level of significance between the decision and the biographical characteristic would indicate the characteristic is not strongly related to any decision classification. A significance level of .40, .30, or .20, however, may indicate that arbitrators with those characteristics are

marginally, philosophically disposed toward one decision category and should be further investigated. From the standpoint of economics, this may outweigh the higher probability of a Type I error (Meek and Turner, 1983). Therefore, to allow for both the practitioner and academic standards, the hypotheses will be tested at the .40, .30, .20, .10, and .05 levels.

Because of the restrictions placed on the analysis by the use of a categorical dependent variable, LOGIT will be used to analyze the relationship between the independent variables and the awards.[7] Using the shortened notation for describing the LOGIT model, the relationship between the dependent and independent variables is:

$$D = f\{A,Ex,C,Ed,O,Pa,Na,RI,G\}$$

where

D = the decision category;
A = age;
Ex = experience;
C = caseload;
Ed = education;
O = occupation;
Pa = professional affiliation;
Na = NAA association;
RI = residence location; and,
G = gender (Knoke and Burke, 1980, p. 20).

This notation indicates that the letters enclosed within the brackets are hypothesized to be related to the decision category. Further, the set of bracketed letters denotes not only the highest order effect parameter, but also all the lower order relationships, i.e.,

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[7] For a discussion of LOGIT and log-linear models, see Aldrich and Nelson (1984), Bishop, Fienberg, and Holland (1975), Haberman (1978), and Knoke and Burke (1980).

the two-way, three-way, and so forth, interactions. Thus, this model represents a saturated, hierarchical approach which will require the computation and fitting of all marginal and conditional odds. The Student's t-statistic will be used to examine the individual coefficient estimates. The maximum likelihood estimate ratio (L^2) and Pearson's chi-square (X^2) will be used to determine the goodness of fit, and a pseudo-R^2 used to measure the success in fit (the degree to which the error variance is minimized) will be computed. The importance or significance of at least two, but not all, coefficients will also be evaluated.[8]

SUMMARY

In this chapter the data, theoretical expectations, and methodology to be used in the research study were discussed. The data section included a description of the data set plus its advantages and limitations and the sample drawn. The second section explained the nature of the dependent and independent variables and the hypothesized relationships between them. In the final section the two approaches that will be taken with respect to acceptable significance levels were discussed, and the model and the test statistics to be used were outlined. In the next chapter the results will be reported, and the discussion will focus on the support or lack of support for each hypothesis.

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[8] For a discussion of the appropriate test statistics, see Aldrich and Nelson (1984).

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

In this chapter the population and sample characteristics are briefly summarized. The results are presented and a discussion of the support or lack of support for each hypothesis is included.

POPULATION AND SAMPLE CHARACTERISTICS

The data set has 8,570 discharge cases decided by 1,423 arbitrators. Forty-six arbitrators each decided over twenty-five cases; of these, two either died before October 1, 1984, or the biographical information was unavailable. Forty-four arbitrators thus meet all three criteria, and the sample is composed of their 1,657 awards.

In terms of individual caseload within the population, the range is from one to 118 awards, with a mean caseload of 6.0 decisions per arbitrator. For the sample the range is from twenty-six to 118 cases, and the average caseload is 37.66 cases per arbitrator. The caseload categories used in the analysis are divided roughly into thirds: sixteen arbitrators (36.4%) rendered twenty-six to thirty decisions, fourteen (31.8%) issued thirty-one to thirty-five awards, and fourteen (31.8%) had more than thirty-five discharge awards.

A scan of the names in the population shows that 80 (5.6%) are easily identified as female. This figure falls more closely to Zirkel's (1983) and Sprehe and Small's

(1984) findings than to Herrick's (1982) percentage of 2% and Lawson's (1981) 14% participation rate. The sample set is extremely underrepresentative of female arbitrators since there are no females who meet the criteria for inclusion in the sample. Therefore, Hypothesis 7 concerning the relationship between gender and the discharge award is not tested.

The population and sample also can be examined in terms of the distribution of the decisions by category and on a yearly basis. In Table 4.1 a comparison of the award distributions indicates there are no major differences between the sample and population.

Table 4.1

Distribution Of Awards For
Population And Sample

	Penalty-Sustained	Penalty-Modified	Penalty-Revoked	Total
Population[a]	4228 (49.5%)	2557 (29.9%)	1763 (20.6%)	8548
Sample[b]	855 (51.7)	512 (31.0)	286 (17.3)	1653

[a] Twenty-two cases are missing information.

[b] Four cases are missing information.

From Table 4.2 it is clear that the sample and the population deviate in their case by year patterns. The years 1981 and 1982 are the most heavily arbitrated years in both data sets. In the sample, however, in 1980 arbitrators surprisingly rendered the fewest awards, even less than the 1984 nine-month total. It is unclear why these frequently used arbitrators are not reported more often in this year. One possibility is that LRPP may not have been as widely known to these arbitrators or their parties in

that year. Alternatively, it may be that between 1980 and 1981 these arbitrators made a conscious choice to submit more of their awards to LRPP.

Table 4.2

Distribution Of Cases By Year
For Population And Sample

	1980	1981	1982	1983	1984	Total
Population	1630 (19.0%)	2567 (30.0%)	1854 (21.6%)	1516 (17.7%)	1003 (11.7%)	8570
Sample	238 (14.4)	427 (25.8)	389 (23.5)	345 (20.8)	258 (15.6)	1657

The arbitrators' ages in the sample ranged from 36 to 75 years, with thirteen (29.5%) under 51 years old. Of these thirteen, only two (4.5%) were no more than 40 years old. Seventeen (38.6%) were between 51 and 60 years old, while eleven (25%) were in the 61 to 70 years old group and three (6.8%) were over 70 years old. The mean age of the sample was 55.9 years, somewhat younger than expected.

Consistent with prior findings, law training was the most frequently cited educational background, especially among the younger arbiters. Thirty arbitrators (68.2%) had law degrees, followed distantly by the six educators (13.6%) with advanced degrees in social science, business, or labor relations. Five arbitrators (11.4%) were classified as Human Resource Management/Industrial Relations/Management arbitrators (HRM/IR/MGT) with master's degrees in these areas. The remaining three arbitrators (6.8%) were labeled "Other" since they had either no degree or a bachelor's or master's degree in fields other than social science, business, or labor relations. Of the fourteen arbitrators with no legal training, three were in their forties, four were in their fifties, six

were in their sixties, and one was over seventy. It thus appears many arbitrators believe a law degree to be a valuable asset.

The years of experience as full- or part-time arbitrators as of January 1, 1980, was concentrated heavily between eight and fifteen years. Consequently, the intervals were restructured into less than ten, ten to fifteen, and greater than fifteen years' experience. This information was unavailable for seven arbitrators. For the remaining arbitrators, experience was distributed as follows: (1) Fourteen arbitrators (37.8%) had fewer than ten years' experience, (2) Thirteen arbitrators (35.1%) had between ten and fifteen years' experience, and (3) Ten arbitrators (27.0%) had more than fifteen years' experience. Within the least experienced group, two arbitrators had a year or less of arbitral experience, one had three years of experience, and two more had five years of experience. The most experienced arbitrators were two individuals, each with 37 years' experience. The average arbitrator had 13.1 years of full- or part-time arbitral experience which is much closer to Herrick's findings (1982) than to the results reported by Dunsford and Murphy, et. al., (1985).

Eleven arbitrators (25.0%) practiced arbitration full-time, comparing favorably with the findings of Brown (1976), Herrick (1982), King (1971b), and McKelvey and Rogers (1971) but disagreeing with the results of Dunsford and Murphy, et. al., (1985) and Petersen and Rezler (1977). As expected, of the part-time arbitrators, the legal profession was represented by 27 attorneys (61.4%) and was the dominant alternate profession. Only five arbitrators (11.4%) were also educators, while one (2.3%) was classified as "Other." The concentration of part-time arbitrators with law backgrounds supports prior research suggesting that legal training is an important avenue of entry into the profession, although the percentage of educators is much lower than expected.

Arbitrators in the sample come from eighteen states. Thirteen arbitrators had residences located in six of the states designated as the southeast: Alabama (1), Arkansas, Florida, Georgia (1), Kentucky, Louisiana (2), Missouri (7), Mississippi (1), North Carolina, Tennessee, South Carolina, Virginia, and West Virginia (1). Nine arbitrators lived in California, and arbitrators were also located in three other states classified as the southwest: Arizona (1), California (9), Colorado, Kansas, New Mexico, Nevada, Oklahoma (1), Texas (1), and Utah. There were no arbitrators in the sample from the northwest: Idaho, Montana, North Dakota, Nebraska, Oregon, South Dakota, Washington, and Wyoming. The heaviest concentration of arbitrators understandably came from the heavily unionized northeast: Connecticut, Delaware, Iowa (1), Illinois (2), Indiana, Massachusetts, Maryland, Maine, Michigan (3), Minnesota (1), New Hampshire, New Jersey (1), New York (3), Ohio (4), Pennsylvania (4), Rhode Island, Vermont, and Wisconsin. Hence, as in prior studies, California, Michigan, Missouri, New York, Ohio, and Pennsylvania were the most popular areas for arbitrator residences.

With regard to professional affiliation, all arbitrators in the sample were associated with AAA and FMCS. Therefore, membership in the NAA became the criterion. Considering the minimum requirements for inclusion in the sample, it is not surprising that thirty-three (75%) of the arbitrators were NAA members. This is high relative to Sprehe and Small's (1984) results concerning NAA membership in the total arbitrator population, but understandable in light of the status associated with NAA membership.

Generally, the sample is not atypical of the profile of the arbitration profession discussed in the second chapter. The major discrepancies are the total lack of representation of female arbitrators and of arbitrators from the northwest. These

differences act as a further limitation of the potential generalization of the results to the entire discharge arena.

PRELIMINARY ANALYSIS

In the two-category model awards assigned a value of "1" have sustained the discharge. A value of "2" means the discharge was overturned and the grievant reinstated with either no, partial, or full backpay. In the three-category model a "1" is an award sustaining the discharge, a "2" is an award modifying the discharge penalty to reinstatement with either no or partial backpay, and a "3" is a decision revoking the discharge and reinstating the grievant with full backpay.

The coding of the independent variables is as follows:

AGE:
- 1 less than 41 years old
- 2 41 - 50 years old
- 3 51 - 60 years old
- 4 61 - 70 years old
- 5 over 70 years old

EDUCATION:
- 1 educator
- 2 attorney
- 3 HRM/IR/MGT
- 4 other

YEARS OF EXPERIENCE:
- 1 less than 10 years
- 2 10 - 15 years
- 3 more than 15 years

CASELOAD:
- 1 26 - 30 cases
- 2 31 - 35 cases
- 3 more than 35 cases

OCCUPATION:
1 full-time arbitrator
2 part-time arbitrator, other occupation is educator
3 part-time arbitrator, other occupation is attorney
5 part-time arbitrator, other occupation is other

RESIDENCE LOCATION:
1 southeast
2 southwest
3 northeast

PROFESSIONAL AFFILIATION:
1 not a member of the NAA
2 NAA member

One widely used method of ascertaining the degree of the relationship between the variables considered for introduction into regression equations and multivariate analysis is through scrutiny of the Pearson's correlation matrix (Nunnally, 1978). Therefore, the first step in this analysis is to examine the full model and determine whether or not the number of independent variables should be reduced. To accomplish this for the two- and three-category decision models, the results of the saturated, hierarchical log-linear model using backward elimination were considered in conjunction with the results of the Pearson's correlation matrices.

This log-linear model requires the sample size to be at least five times the number of cells within the table, dictating the collapsing of some of the categories within the independent variables. The "less than 41" and "41 - 50" categories were combined as were the "61 - 70" and "over 70" groups, and the age variable now had three levels. By combining the "HRM/IR/MGT" and "other" categories, the number of education levels was decreased. Occupation became two levels solely differentiating on the basis of whether the individual was a full- versus part-time arbitrator. Clearly, some precision is lost by the recoding, but it does retain the major significant relationships. The correlation matrix, with all variables in their original coding scheme,

is thus the principal means of examining the relationships with the log-linear model providing support for the decision involving the selection of the independent variables.

Two-Category Decision Model

Table 4.3 represents the two-category correlation matrix. It appears that the relationship between the award and the independent variables is extremely weak. One can infer that, based on the largest correlation coefficient of -.0744 (age), little of the variance is explained by this or any of the other independent variables. The sole independent variable to meet the .05 significance level or less criterion is age ($p = .002$). Age may be negatively related to the decision, that is, the older the arbitrator, the more likely he is to sustain the penalty.

Falling within the .30 and .40 significance levels for the practitioner model are caseload ($p = .202$), NAA membership ($p = .243$), and education ($p = .377$). Experience and residence location are the two variables initially excluded, while occupation is tentatively excluded. Caseload and age are correlated at the .003 level while caseload and education plus caseload and NAA membership are correlated at the .000 level. The direction of the sign suggests that the older an arbitrator is, the less likely he is to have a high caseload. Furthermore, arbitrators with higher caseloads are more likely to have legal training and be NAA members.

Table 4.3

Pearson Correlation Coefficients Using Two-Tailed Test
For Two-Category Decision Model

	DEC	AGE	EXP	CAS	ED	RL	NAA	OCC
DEC	----------							
AGE	- .0744 p= .002	----------						
EXP	- .0106 p= .669	.3720 p= .000	----------					
CAS	- .0314 p= .202	- .0717 p= .003	.3042 p= .000	----------				
ED	- .0217 p= .377	- .0357 p= .147	- .2908 p= .000	.1404 p= .000	----------			
RL	- .0012 p= .961	.1550 p= .000	.3413 p= .000	.1583 p= .000	.1466 p= .000	----------		
NAA	- .0287 p= .243	.1443 p= .000	.1725 p= .000	.2196 p= .000	- .2255 p= .000	- .0493 p= .045	----------	
OCC	.0206 p= .403	.0846 p= .001	.1662 p= .000	.1366 p= .000	- .4034 p= .000	- .0381 p= .121	- .0237 p= .336	----------

In the two-category log-linear model, five of the independent variables are correlated with the award at the .30 level or less. Age (p = .0245), experience (p = .2377), caseload (p = .0797), education (p = .0422), and occupation (p = .2449) initially qualify as candidates for the .30 level of significance for the practitioner model. NAA (p = .4304) is outside the stipulated boundaries but is included because of its significance in the correlation matrix.

Table 4.4 reveals the significant interactions among the independent variables. Caseload seems to have the least significant interaction effects among the independent variables, while with the exception of interactions between age and occupation and education and occupation, interactions with experience are the most highly correlated. Occupation appears to be significantly related to the other five independent variables and should not be considered further. Thus, as indicated by the significance levels in the correlation matrix, the decision to eliminate experience, residence location, and occupation also is supported by the log-linear results. Because the direction of the correlation signs do not conflict with expectations, age, caseload, education, and NAA membership are used as the independent variables testing the two-category decision model.

Three-Category Decision Model

Table 4.5 displays the correlation matrix for the three-category decision model. Age (p = .000) is again the sole independent variable to meet the .05 significance requirement, but caseload (p = .074) satisfies the .10 significance level requirement. Experience (p = .170), residence location (p = .115), and NAA affiliation (p = .252) meet the requirements of the .10, .20, or .30 levels of significance for the practitioner

model. As in the two-category matrix, the direction of the signs are the same; the largest correlation coefficient of -.0955 (age) again suggests the explanatory power of the equation is small.

Table 4.4

Significant Interactions Among Age, Education, Experience, Caseload, NAA Membership, And Occupation

Interaction	Partial Chi-square	p =
AGE * EXPERIENCE * CASELOAD	15.132	.0566
AGE * EXPERIENCE * NAA	13.826	.0079
AGE * EXPERIENCE	420.946	.0000
AGE * CASELOAD	363.971	.0000
EXPERIENCE * CASELOAD	379.271	.0000
AGE * EDUCATION	460.024	.0000
EXPERIENCE * EDUCATION	569.193	.0000
CASELOAD * EDUCATION	350.649	.0000
AGE * NAA	52.563	.0000
CASELOAD * NAA	48.922	.0000
EDUCATION * NAA	151.856	.0000
AGE * OCCUPATION	246.116	.0000
EXPERIENCE * OCCUPATION	222.890	.0000
CASELOAD * OCCUPATION	42.670	.0000
EDUCATION * OCCUPATION	1241.855	.0000
NAA * OCCUPATION	81.433	.0000

Table 4.5

Pearson Correlation Coefficients Using Two-Tailed Test
For Three Category Decision Model

	DEC	AGE	EXP	CAS	ED	RL	NAA	OCC
DEC	----------							
AGE	- .0955 p= .000	----------						
EXP	- .0375 p= .170	.3720 p= .000	----------					
CAS	- .0440 p= .074	- .0717 p= .003	.3042 p= .000	----------				
ED	- .0200 p= .417	- .0357 p= .147	- .2908 p= .000	.1404 p= .000	----------			
RL	- .0388 p= .115	.1550 p= .000	.3413 p= .000	.1583 p= .000	.1466 p= .000	----------		
NAA	- .0282 p= .252	.1443 p= .000	.1725 p= .000	.2196 p= .000	- .2255 p= .000	- .0493 p= .045	----------	
OCC	.0016 p= .947	.0846 p= .001	.1662 p= .000	.1366 p= .000	- .4034 p= .000	- .0381 p= .121	- .0237 p= .336	----------

There is a much greater degree of correlation between the independent variables within the three-category than within the two-category decision model. All five of the significant independent variables are correlated with each other at the .045, .003, or .000 levels.

The log-linear model indicates five of the seven independent variables are directly related to the decision. These results differ from the correlation matrix findings in that education is significant, but NAA membership ($p = .417$) is not significant. Although outside the stipulated minimum level of significance, NAA membership is close enough to the .40 level to merit examination. Within the .30 level of significance for the practitioner model are age ($p = .0563$), education ($p = .0818$), residence location ($p = .1885$), caseload ($p = .2087$), and experience ($p = .2336$).

Table 4.6 shows the significant interactions among these independent variables. Caseload and NAA affiliation appear to have the least interaction effects with the other variables. With the exception of the interaction between education and residence location, experience is consistently the most highly correlated variable. Since experience and NAA affiliation have the two lowest correlations with the dependent variable, they will be eliminated. Age, caseload, and residence location thus are selected to examine the three-category model.

Table 4.6

Significant Interactions Among Age, Education, Experience, Caseload, NAA Membership, And Residence Location

Interaction	Partial Chi-square	p =
NAA * AGE * EXPERIENCE	14.471	.0059
AGE * EXPERIENCE * CASELOAD	14.513	.0693
EXPERIENCE * CASELOAD * RESIDENCE LOCATION	23.615	.0027
NAA * AGE	52.461	.0000
AGE * EXPERIENCE	418.102	.0000
NAA * CASELOAD	49.404	.0000
AGE * CASELOAD	363.913	.0000
EXPERIENCE * CASELOAD	380.435	.0000
NAA * EDUCATION	152.168	.0000
AGE * EDUCATION	458.900	.0000
EXPERIENCE * EDUCATION	570.350	.0000
CASELOAD * EDUCATION	353.554	.0000
NAA * RESIDENCE LOCATION	22.345	.0000
AGE * RESIDENCE LOCATION	104.088	.0000
EXPERIENCE * RESIDENCE LOCATION	486.396	.0000
CASELOAD * RESIDENCE LOCATION	27.010	.0000
EDUCATION * RESIDENCE LOCATION	507.506	.0000

ANALYSIS

Logit parameters are interpreted similarly to additive ordinary least squares regression coefficients. Positive beta values suggest the independent variable or interaction increases the odds on the dependent variable, and negative coefficients indicate a reduction in the odds (Knoke and Burke, 1980). The significant logit estimates for the two- and three-category models shown in Tables 4.7 and 4.8 indicate neither main effects nor interactions were significant in the two-category decision model. Interaction and main effects involving age were the strongest, but none approached the

.40 level of significance. Therefore, age, education, caseload, and NAA membership were not predictive of the decision to sustain or modify/revoke the discharge penalty.

From Table 4.7 it can be seen that in the three-category model the only main effect reaching significance was between age and the decision to sustain the penalty. The youngest arbitrator group, less than 41 years old, had a lesser likelihood of sustaining the penalty ($p < .30$). A relatively stronger relationship ($p < .20$) existed for arbitrators between the ages of 51 and 60 who were the most likely group to sustain the penalty.

Table 4.8 represents the interaction effects. Three-way interactions can be interpreted several ways. For the PENALTY-MODIFIED x SOUTHEAST x 51 - 60 YEARS OLD interaction ($p < .40$), the results suggest that an arbitrator who is between 51 and 60 years old is less likely to modify the penalty if he is living in the southeast versus outside the southeast. Alternatively, the likelihood of an arbitrator living in the southeast modifying the penalty is decreased if he is between 51 and 60 years rather than younger or older.

Table 4.7

Significant Logit Estimates For Main Effects Of Discharge Awards For Two- And Three-Category Models (z-values in parentheses)

Independent Variable	Two-Category Model	Three-Category Model
PENALTY-SUSTAINED x LESS THAN 41 YEARS OLD		- .3077** (1.066)
PENALTY-SUSTAINED x 51 - 60 YEARS OLD		.2530*** (1.604)

* Significant at the .40 level ($z\alpha_{/2} = 0.84$).
** Significant at the .30 level ($z\alpha_{/2} = 1.035$).
*** Significant at the .20 level ($z\alpha_{/2} = 1.28$).

The two four-way interactions, PENALTY-SUSTAINED x 26 - 30 CASES x SOUTHEAST x LESS THAN 41 YEARS OLD ($p < .40$) and PENALTY-SUSTAINED x 26 - 30 CASES x SOUTHEAST x 51 - 60 YEARS OLD ($p < .30$), are extremely difficult to interpret. There are at least six different alternatives for each of these interactions. For PENALTY-SUSTAINED x 26 - 30 CASES x SOUTHEAST x LESS THAN 41 YEARS OLD, they might be:

(1) Arbitrators with the lowest caseloads in the southeast are more likely to sustain the discharge if they are less than 41 years old than are older arbiters.

(2) Arbitrators with the lowest caseloads who are less than 41 years old are more likely to sustain the penalty if they live in the southeast rather than outside the southeast.

(3) Arbitrators less than 41 years old in the southeast are more likely to sustain the penalty if they have issued 26 - 30 awards than arbitrators with more than 30 decisions.

(4) Arbitrators with the lowest caseloads are more likely to sustain the penalty if they live in the southeast and are less than 41 years old than arbitrators who live outside the southeast or are older.

(5) Arbitrators living in the southeast are more likely to sustain the discharge if they are less than 41 years old and have rendered 26 - 30 awards than arbitrators who are older or have recorded more than 30 decisions.

(6) Arbitrators less than 41 years old are more likely to sustain the penalty if they live in the southeast and have decided between 26 and 30 cases

than arbitrators living outside the southeast or having more than 30 awards.

A further examination of the sample data reveals that the significance of this comparison may result from the small number of arbitrators less than 41 years old. There are only two individuals in this age group, both residing in the northeast; one has decided 26 - 30 cases while the other has rendered 31 - 35 awards. The arbitrator with the greater caseload also is more likely to sustain the penalty. Consequently, as a result of the nature of the fitted marginals, the most likely interpretation is that arbitrators who are less than 41 years old and have decided fewer than 31 cases are more likely to sustain the discharge if they live in the southeast rather than outside the southeast.

Table 4.8

Significant Logit Estimates For Interaction Effects Of Discharge Awards For Two- And Three-Category Models (z-values in parentheses)

Independent Variable	Two-Category Model	Three-Category Model
PENALTY-MODIFIED x SOUTHEAST x 51 - 60 YEARS OLD		- .2196* (1.031)
PENALTY-SUSTAINED x 26 - 30 CASES x SOUTHEAST x LESS THAN 41 YEARS OLD		.3766* (0.982)
PENALTY-SUSTAINED x 26 - 30 CASES x SOUTHEAST x 51 - 60 YEARS OLD		- .3177** (1.188)

* Significant at the .40 level ($z\,\alpha_{/2} = 0.84$).
** Significant at the .30 level ($z\,\alpha_{/2} = 1.035$).
*** Significant at the .20 level ($z\,\alpha_{/2} = 1.28$).

For the PENALTY-SUSTAINED x 26 - 30 CASES x SOUTHEAST x 51 - 60 YEARS OLD interaction, similar interpretations might be made:

(1) Arbitrators with the lowest caseloads in the southeast are less likely to sustain the discharge if they are between 51 and 60 years old than are younger or older arbiters.

(2) Arbitrators with the lowest caseloads who are between 51 and 60 years old are less likely to sustain the penalty if they live in the southeast than outside the southeast.

(3) Arbitrators between the ages 51 and 60 in the southeast are less likely to sustain the penalty if they have issued 26 - 30 awards than arbitrators with more than 30 decisions.

(4) Arbitrators with the lowest caseloads are less likely to sustain the penalty if they live in the southeast and are between 51 and 60 years old than arbitrators who live outside the southeast or are younger or older.

(5) Arbitrators living in the southeast are less likely to sustain the discharge if they are between 51 and 60 years old and have rendered 26 - 30 awards than arbitrators outside this age category or with more than 30 decisions.

(6) Arbitrators within the 51 - 60 age group are less likely to sustain the penalty if they live in the southeast and have decided 26 - 30 cases than arbitrators living outside the southeast or with more than 30 awards.

In this instance, further examination of the sample set is futile. The interactions are too complex and involve most, if not all, of the arbitrators. Hence, it is virtually impossible to surmise which of the interpretations is more likely.

From the above it is clear that, from a statistical interpretation based on the .10 level, arbitrators' biographical characteristics are predictive of neither the two- nor three-category decision model. Between the .20 and .40 levels of significance of the practitioner's model, however, there is some indication that (1) an arbitrator's age may increase or decrease the possibility the penalty will be sustained, (2) residence location and age interact to reduce the likelihood the penalty will be modified, and (3) caseload, residence location, and age also interact to enhance or reduce the likelihood the penalty will be sustained. In terms of the hypotheses stated in the previous chapter, the conclusions are:

H (1): There is no significant relationship between age and the discharge decision.

For all significance levels of the two-category decision model and for the .10 level of significance of the three-category decision model, the hypothesis is not rejected.

At the .20, .30, and .40 levels of significance in the three-category decision model, the hypothesis is rejected.

H (2): There is no significant relationship between experience and the discharge decision.

For all significance levels of the two- and three-category decision models, the years of experience hypothesis is not rejected.

For all significance levels of the two-category decision model and for the .10 level of significance of the three-category decision model, the caseload experience hypothesis is not rejected.

At the .30 and .40 levels of significance in the three-category decision model, the caseload experience hypothesis is rejected.

H (3): There is no significant relationship between education and the discharge decision.

For all significance levels of the two- and three-category decision models, the hypothesis is not rejected.

H (4): There is no significant relationship between residence location and the discharge decision.

For all significance levels of the two-category decision model and for the .10 level of significance of the three-category decision model, the hypothesis is not rejected.

At the .30 and .40 levels of significance in the three-category decision model, the hypothesis is rejected.

H (5): There is no significant relationship between professional affiliation and the discharge decision.

For all significance levels of the two- and three-category decision models, the hypothesis is not rejected.

H (6): There is no significant relationship between occupation and the discharge decision.

For all significance levels of the two- and three-category decision models, the hypothesis is not rejected.

H (7): There is no significant relationship between gender and the discharge decision.

This hypothesis could not be tested.

In the next chapter the theoretical and applied implications of the research findings reported above and possible directions of future research will be discussed.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

The purpose of this research was to investigate the predictive capabilities of arbitrator biographical characteristics in discharge cases. The specific objectives of this study were (1) to analyze empirically the effects and interactions of age, years of arbitral experience, caseload, education, occupation, residence location, NAA affiliation, and gender with respect to the two- and three-category decision models, and (2) to examine these effects and interactions from both a researcher's and a practitioner's viewpoints. Chapter II summarized prior studies of biographical characteristics and arbitrator behavior. Chapter III described the data and methodology used in the analysis. Chapter IV provided an analysis and interpretation of the findings. In the next section the more important results of the analysis will be reviewed.

Summary

From the standpoint of predicting the award direction based on arbitrator biographical characteristics at an .10 or less level of significance, neither the two- nor the three-category decision model was effective. Main and interaction effects were negligible, and no independent variable approached the required significance level. Furthermore, the practitioner models, testing the .20, .30, and .40 levels of significance,

failed to yield significant results in the two-category decision model. Age approached the .40 level as a main effect but did not achieve it.

Different results were observed for the practitioner approach in the three-category decision model. With regard to age, an arbitrator less than 41 years old was less likely ($p < .30$) to sustain the discharge penalty than one 41 years or older. Also, an arbitrator in the less than 41 age category was involved in an interaction effect with residence location (southeast) and caseload level (26 - 30 cases) resulting in an increased likelihood ($p < .40$) of sustaining the penalty. Thus, in general, arbitrators less than 41 years old had a decreased likelihood of sustaining the discharge unless they also fell within the interaction relationship with the southeast and the lowest caseload category.

A second age group, the 51 - 60 year old arbitrators, also was significant and had the greatest likelihood ($p < .20$) of sustaining the penalty. This age category, however, was involved in an interaction effect with residence location (southeast) leading to a decreased likelihood that they would reinstate the grievant with no or partial backpay. Finally, the 51 - 60 year old arbitrator entered into one further interaction effect with the caseload (26 - 30 cases) and residence location (southeast) categories that concluded with a reduced likelihood ($p < .30$) that the arbiter would sustain the penalty. Hence, an arbitrator between the ages of 51 and 60 years had a greater chance of sustaining the discharge unless he was within the interaction effects of residence location and caseload, at which point he became less likely to sustain the penalty. In terms of the odds that this age group would modify the penalty, this was less likely when the residence location interaction was present.

CONCLUSIONS AND IMPLICATIONS

Suggestions for the Traditional, Statistical Researcher

In the two-category decision model, there were no significant independent variables at any of the acceptable levels. This suggests Ashenfelter's (1987) and Cain and Stahl's (1983) assertions that the parties eliminate arbitrators with historical records unfavorable to one's position is true in terms of "win-loss" tallies. It further supports Dworkin's (1974) belief that arbitrators are able to ignore personal values which conflict with the agreement between the parties.

The outstanding feature of this research, however, was that the practitioner model approach had some validity if the party wished only to gain an advantage, however small. It suggests that, if the parties are willing to accept a less stringent level of significance, several biographical characteristics may be important in the three-category decision model. Age, caseload, and residence location were significant at the .40 or less level, corroborating Bazerman and Farber's (1985) findings that the fashioning of an award differs even among a homogeneous group of arbiters presented with identical facts. Thus, one of this study's conclusions is that, among a heterogeneous sample of arbitrators, differentiation between awards occurs in the fashioning of the remedy of reinstatement for the three-category decision model.

As observed by Block and Stieber (1987), differences in awards appear when a four-category award index is used rather than when a sustained or revoked/modified approach is taken. A major conclusion of this study is that a three- or four-category decision model can be developed to assist practitioners in selection. At the .05 significance level, the results possibly might be significant, but it is doubtful. At the .10 to .40 levels, the interactions of a three- or a four-category approach should be

significant. A saturated, hierarchical model is inappropriate. Interactions, representing "blends" of biographical characteristics, are more important than main effects. Age, residence location, and caseload displayed significant interaction effects in the three-category model and should be studied further; a four-category model may reveal more significant relationships among other biographical characteristics.

In Table 5.1 the distribution of awards among decision categories for individual arbitrators provides further support for research into at least a three-category decision model. It shows that several arbitrators appear to be very different from the aggregate. For example, arbitrators 1, 2, 6, 7, 9, 13, 19, 22, and 27 are well below the 51.7% penalty-sustained rate of the sample set. Arbitrators 25, 26, 29, 31, 33, 34, 38, 40, and 42 are well above the average penalty-sustained rate. The rate of revoking the penalty is much lower for arbitrators 8, 15, 29, 32, 33, 36, and 38 than the 17.3% norm; for arbitrators 2, 3, 13, 22, 35, and 39, the opposite is true. Looking at the likelihood for modifying the penalty, arbitrators 2, 3, 11, 18, 26, 33, 34, 38, 40, and 42 are well below the group norm, while arbitrators 1, 7, 9, 13, 16, 23, 27, 28, and 36 are above the mean.

Table 5.1

Distribution Of Awards Among Individual Arbitrators For Three-Category Awards
(Percentage in parentheses)

Arbitrator	Penalty-Sustained	Penalty-Modified	Penalty-Revoked	Total
1	12 (38.7%)	13 (41.9%)	6 (19.4%)	31
2	13 (36.1)	5 (13.9)	18 (50.0)	36
3	11 (42.3)	3 (11.5)	12 (46.2)	26
4	32 (59.3)	13 (24.1)	9 (16.7)	54
5	16 (59.3)	7 (25.9)	4 (14.8)	27
6	10 (37.0)	10 (37.0)	7 (25.9)	27
7	7 (25.9)	12 (44.4)	8 (29.6)	27
8	21 (56.8)	14 (37.8)	2 (5.4)	37
9	29 (36.7)	34 (43.0)	16 (20.3)	79
10	19 (55.9)	10 (29.4)	5 (14.7)	34
11	15 (60.0)	4 (16.0)	6 (24.0)	25
12	29 (43.9)	24 (36.4)	13 (19.7)	66
13	8 (22.9)	17 (48.6)	10 (28.6)	35
14	18 (52.9)	8 (23.5)	8 (23.5)	34
15	67 (56.8)	45 (38.1)	6 (5.1)	118
16	21 (48.8)	18 (41.9)	4 (9.3)	43
17	16 (50.0)	10 (31.3)	6 (18.8)	32
18	19 (55.9)	6 (17.6)	9 (26.5)	34
19	10 (35.7)	11 (39.3)	7 (25.0)	28
20	17 (54.8)	9 (29.0)	5 (16.1)	31
21	14 (42.4)	11 (33.3)	8 (24.2)	33
22	15 (40.5)	9 (24.3)	13 (35.1)	37
23	16 (47.1)	16 (47.1)	2 (5.9)	34
24	31 (50.0)	23 (37.1)	8 (12.9)	62
25	25 (62.5)	10 (25.0)	5 (12.5)	40
26	24 (66.7)	7 (19.4)	5 (13.9)	36
27	8 (30.8)	12 (46.2)	6 (23.1)	26
28	14 (45.2)	14 (45.2)	3 (9.7)	31
29	18 (62.1)	10 (34.5)	1 (3.4)	29
30	16 (57.1)	7 (25.0)	5 (17.9)	28
31	19 (65.5)	7 (24.1)	3 (10.3)	29
32	15 (55.6)	10 (37.0)	2 (7.4)	27
33	44 (80.0)	9 (16.4)	2 (3.6)	55
34	19 (67.9)	5 (17.9)	4 (14.3)	28
35	13 (46.4)	7 (25.0)	8 (28.6)	28
36	16 (48.5)	15 (45.5)	2 (6.1)	33
37	28 (50.0)	14 (25.0)	14 (25.0)	56
38	31 (79.5)	6 (15.4)	2 (5.1)	39
39	14 (43.8)	9 (28.1)	9 (28.1)	32
40	22 (62.9)	7 (20.0)	6 (17.1)	35
41	14 (51.9)	10 (37.0)	3 (11.1)	27
42	19 (73.1)	3 (11.5)	4 (15.4)	26
43	11 (42.3)	10 (38.5)	5 (19.2)	26
44	19 (59.4)	8 (25.0)	5 (15.6)	32
Total[a]	855 (51.7%)	512 (31.0%)	286 (17.3%)	1653

[a] Four decisions were missing.

From Table 5.1, it appears individual differences between arbitrators do exist and may be lost in the general analysis. Perhaps the research design and methodology need to be altered. Stratified random sampling would seem more appropriate in order to evenly distribute the arbitrators within the various biographical characteristics to be studied. Also, the region of the country and gender variables need to be more fairly represented. Age, education, and NAA affiliation would also benefit from stratified random sampling. Finally, such an approach would generate a sample of arbitrators who would more accurately fit normal perceptions of experience in terms of years of arbitral experience and caseload.

Logit analysis should be reconsidered as the analysis technique. The use of more than two independent variables renders their interactions with the dependent variable virtually impossible to interpret with any confidence. One alternative would be to classify arbitrators into one of the award categories using some acceptable strategy. Cluster classification is a possibility. Or, classification could be based on how the individual arbitrator's awards fall within specific hypotheses. For example, one hypothesis could be that an arbitrator who sustains the discharge penalty in more than 33.3% of his/her awards be classified in the Penalty-sustained category of the three-category model. Using the same philosophy, one could argue that, regardless of whether a two-, three-, or four-category model is being tested, this percentage should be 50% instead of 33.3% because an arbitrator makes one of two choices in a discharge case -- to sustain the penalty or to revoke and/or modify the penalty. Once all arbitrators are classified, discriminant analysis could then be used to examine the differences between the groups and to test the characteristics of the groups comprising the extremes (Penalty-sustained and Penalty-revoked as one group) versus the middle

group(s) (either Penalty-modified or a four-category model breaking Penalty-modified into Penalty-modified-no backpay and Penalty-modified-partial backpay).

In general this study confirms that, from a strict statistical perspective, biographical characteristics are not predictive of awards in discharge cases. The type of sample chosen consisted of relatively experienced to very experienced arbitrators which limits the application of these conclusions to the arbitrator population as a whole. Also, the sample selected greatly underrepresented females and northwestern arbitrators. The age distribution further contributed a limiting factor to any generalization. The number of arbitrators should be greatly increased and their characteristics more indicative of the general arbitrator population. Finally, the practitioner model does suggest that the relationship between biographical characteristics and the three- or four-category decision models should be investigated in more depth.

Suggestions for the Practitioner

There are several biographical characteristics the parties have indicated were important in selection and acceptability, but were not supported by the findings of this study. Education, occupation, years of arbitral experience, and membership in the NAA were never important factors in whether the arbitrator upheld the discharge or reinstated the grievant with no, partial, or full backpay. Age, residence location, and caseload do appear to have some impact on the direction of the award, and, if employers and unions wish to maximize their potential to "win" the case, they should reconsider their selection strategies to reflect the following:

EMPLOYERS: Employers should prefer arbitrators who are 51 - 60 years old since this age group is the most likely to sustain the penalty. Within this age group, an arbitrator who resides in the southeast rather than in the northeast or southwest is more likely to uphold the discharge. It also is believed, based on this researcher's interpretation of the significant interaction effects, that an arbitrator meeting the above requirements and having decided more than 30 cases will be more receptive to the employer stance. Arbitrators within this age group, but who live outside the southeast and have rendered 26 - 30 decisions are believed to be less likely to sustain the discharge.

There are little data upon which to base conclusions concerning younger arbitrators (less than 41 years old), and thus little confidence should be placed upon the following interpretation. Younger arbitrators should be avoided because they are the least likely age group to sustain the penalty. Within this age group, arbitrators living in the southeast and deciding 26 - 30 cases are preferred to arbitrators in this age group who live in the northeast and have decided 26 - 30 cases.

UNIONS: Unions have fewer positive prospects than employers since the strategy indicated is primarily an avoidance rather than a positively-oriented selection tactic. They should eliminate arbitrators who are in the 51 - 60 years old age group unless the arbitrator also lives outside the southeast. If the arbitrator meets an additional third requirement of having decided fewer than 31 cases, the union will have maximized its chance of having the discharge modified or revoked.

The union also may attempt to select a younger arbitrator, although the data concerning this age group are limited and conclusions are mainly speculative best guesses. Arbitrators who are less than 41 years old seem to be more conducive to reinstatement decisions than arbitrators 41 years or older. Also, within this age group, arbitrators living outside the southeast (probably the northeast) who have rendered fewer than 31 decisions are more favorably disposed to reinstate the grievant than arbitrators with at least 31 decisions.

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