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## Job Satisfaction and Work Locus of Control Among Physicians

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JOB SATISFACTION AND  
WORK LOCUS OF CONTROL  
AMONG PHYSICIANS

Faye Schechter Fay, BA

An Abstract Presented to the Faculty of the  
Graduate School of Lindenwood University in  
Partial Fulfillment of the Requirements for the  
Degree of Master of Arts  
2000

## Abstract

This study examined the relationship between job satisfaction (JS) and perceived work locus of control (WLOC) among physicians. A stratified random sample of non-retired hospital-based physicians (i.e., pathologists, radiologists, and anesthesiologists) belonging to the St. Louis Area Medical Society received 2 brief Likert-type instruments: 6-item JS subset of the Job Descriptive Index, and the WLOC survey. The questionnaire packets were mailed to 108 doctors in each of the three specialties for a total of 324, and 138 usable responses were returned. Results indicated a positive association between job satisfaction and internal locus of control in the workplace. The findings support the vast amount of literature in this field.

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## Chapter I

### Introduction

Over the past two decades, economic issues have been the prevailing force affecting the delivery of health care in the United States (Cummings, 1995; Shulman, 1988). Managed care and cost containment have impacted quality of care as well as physicians' attitudes toward their practice of medicine (Bennett, 1994; Cummings, 1995). Historically, doctors have relied on their own experiences and best judgment for diagnosis and treatment of their patients (Balint, 1957). Currently, however, the term, managed care, not only refers to the *patients'* care being managed by a provider service (e.g., scope and breadth of insurance coverage); it implies that the quality and cost of the physicians' efforts on behalf of their patients is also determined by that same provider service (Cummings, 1986; 1995; Shulman, 1988).

Bearing in mind the variety of ways in which managed care changes can potentially impact medical practices, an examination of the relationship between perceived work locus of control and job satisfaction among physicians offers a pertinent piece of information. For the purpose of this study, locus of control can be defined as the concept that individuals attribute "cause or control of events either to themselves (internal) or to their environment (external)" (Blau, 1987, p. 22). In a work setting, it describes "peoples' assumptions about the sources of

reinforcement and events in their lives" (Spector & Michaels, 1986, p. 63).

As Judge, Locke, Durham, and Kluger (1998) note, "In recent years increasing attention has been given to the hypothesis that factors within the individual [e.g., locus of control], divorced from the attributes of the job, affect the degree of satisfaction experienced on the job" (p. 17). Job satisfaction can be thought of "...as a positive orientation toward work based upon a congruency between the workers' perception of the work situation... and his/her work values..." (Mottaz, 1985, p. 366).

Rationale for this study is based on several considerations. Despite the fact that locus of control and job satisfaction have each been researched extensively, the two have infrequently been studied together. The increasing degree of external control being imposed upon health care workers raises new questions about job satisfaction and work locus of control. For example, one might ask whether or not physicians who exhibit an internal work locus of control have greater difficulty performing their work and feeling satisfied with their jobs than those who exhibit an external work locus of control.

In addition, this study expands the scope of research on this topic by examining the correlation between job satisfaction (JS) and work locus of control (WLOC) using a new combination of instruments: The Work Satisfaction subset of the Modified Job Descriptive Index (Gregson, 1990), and Spector's Work Locus of Control Scale (Spector, 1988). Finally,

considering the previously mentioned changes which have occurred in the healthcare field, it would be helpful to study whether or not physicians' job satisfaction positively correlates with internal work locus of control. After all, doctors who have low job satisfaction and high internal work locus of control would be a significant target group for both vocational and psychological counseling; physicians who are unhappy with their jobs may compromise the care they give their patients.

Further examination of the correlation between locus of control and job satisfaction may lead to important conversations between managed care providers and physicians, ultimately improving both patient care and physicians' job satisfaction. These concerns, then, can impact overall quality of care issues in the healthcare industry.

The purpose of this study is to explore the relationship between locus of control and job satisfaction among physicians. It is hypothesized that there will be a positive correlation between internal locus of control and job satisfaction among physicians. The following questions will also be examined:

1. Do the correlational findings in this study of physicians support results of studies examining other occupations across similar variables (job satisfaction and locus of control)?

2. Do the instruments used in this study yield results supportive of other correlational studies that employed different instruments to examine job satisfaction and locus of control?

This study was limited to St. Louis, MO. area physicians, and was dependent upon the number of doctors who returned the questionnaires. Despite the fact that 324 sets of forms were mailed to doctors at various hospitals, this was, after all, a study based on volunteer participation. As a result, well-distributed demographics could not be guaranteed (e.g., doctors from city hospitals and suburban hospitals; research and private hospitals, and so forth). This, in turn, yielded results that were less readily generalizable, which means that findings were less significant than they would be in a more rigorous study. However, this research could certainly be viewed as a way to introduce a new component into an area of research which has a great deal of room for growth.

## Chapter II

### Literature Review

#### Theory of Locus of Control and Historical Perspective

Julian Rotter (1966) acknowledged strong influences of behavior theory (particularly B. F. Skinner's work with rewards and reinforcements) in the development of the concept of locus of control. Research findings with regard to learning theory contributed to Rotter's conceptualizations, since those findings demonstrated that when the learners perceived that a task was controlled by random occurrences (or by an experimenter), they did not learn as much as they did when they believed the outcomes were under their control (i.e., they could influence the results). In fact, "... they often learn[ed] the wrong things and develop[ed] ... behavior which Skinner ... referred to as 'superstitious' " (p. 8).

Rotter defined internal and external locus by noting that "when the event is interpreted ... as the result of luck, chance, [or] fate" (p. 7), the person's belief was labelled "*external control*" (p. 7). Conversely, one's perception "that the event is contingent upon his own behavior or... relatively permanent characteristics" (p. 7) was identified as "... a belief in *internal control*" (p. 7). Rotter's construct identifying internal locus and external locus as essentially stable belief systems or personality

characteristics has been referred to as the "theory of individual differences" (Bem, 1972 ; Berger, 1972, in Bush, 1988).

Hanna Levenson (1973) developed a new scale for measuring belief structures which was based on Rotter's Internal-External Scale. She noted that Rotter's two-dimensional scale defined "externals as those with expectancies that fate, chance, or *powerful others* [e.g., experimenters] control events" (p. 398). Since her research showed that there was a clear distinction between behaviors of those who viewed the world as "unordered (chance) [and those] who believe that the world is ordered but that powerful others are in control" (p. 398), she saw the need for making Rotter's measurement for external locus more specific. Levenson's scale therefore contained three dimensions: Internal, Powerful Others, and Chance (p. 401).

Spector's development of the Work Locus of Control Scale was in response to the large amount of research indicating that Rotter's personality construct (internal-external) "... affects behavior in many situations and is relevant to behavior in organizations (such as the workplace" (1986, p. 63). Spector (1988) also noted Phares's (1976) findings that Rotter's scale yielded very "modest" (p. 35) relationships between locus of control and variables related to work.

Both Phares (1970) and O'Brien (1983) called for dimension-specific scales to be developed and compared to Rotter's more general Internal-

External scale, in order to determine if locus of control appeared to be more situation-responsive than it was originally believed to be (cited in Spector, 1988). Spector's work, then, acknowledges Rotter's theoretical perspective (i.e., learning theory as it relates to internal-external locus), as well as personality theory (which views the internal-external orientation as a facet of personality), while also exploring the concept that personality allows various responses, based on the setting.

In summary, Julian Rotter's work (cited in Blau, 1987; Bush, 1988; Judge, Locke, et al, 1998; Rotter, 1966) is credited with identifying and quantifying the concept of locus of control in terms of internal locus and external locus. Hanna Levenson (1973) expanded Rotter's Internal-External scale to three dimensions including Internal, External, and Powerful Others. More recently, researchers have begun to explore locus of control as a fluid dimension, as opposed to a static personality construct. Spector (1988), for example, studied perceived locus of control in the work setting by developing the Work Locus of Control Scale.

Examination of locus of control as a fluid concept relative to specific conditions or environments such as work, parenting, and marital interactions, did not emerge until the 1980's (Campis, Lyman, & Prentice-Dunn, 1986, in Koeske & Kirk, 1995; Miller, Lefcourt, & Ware, 1983, in Koeske & Kirk, 1995; Orpen, 1992; Spector and Michaels, 1986; White and Spector, 1987). This idea of examining locus of control as a construct that

may shift as a result of various conditions has lent itself to a great deal of new research, perhaps in response to the rapid changes currently experienced in daily living (e.g., technological advances, shifting economies, and so forth).

Considering the vast changes in the healthcare industry along with the focus of this study, it is more appropriate to explore physicians' perceived work locus of control as opposed to studying their locus of control strictly as a personality construct. It might be assumed (especially with the lack of literature in this area) that the very nature of the field of medicine attracts those who measure high for internal work locus of control since physicians have been trained to make most of their treatment decisions unilaterally, and patients often unquestioningly rely on physicians' expertise (Balint, 1957).

#### Theory of Job Satisfaction and Historical Perspective

James Bush (1988) identified categories of theoretical approaches underlying job satisfaction studies. Causal models stem from process theories, and "... attempt to specify the types of variables (needs, values, expectancies...) considered causally relevant, as well as how [they] combine to determine overall job satisfaction" (p. 721). These models include concepts such as intrinsic values (e.g., sense of accomplishment; sense of contribution to society, etc.). Content theories, on the other hand, "... attempt to identify the specific needs or values [such as pay,



benefits, etc.] most conducive to job satisfaction" (p. 721).

Consistent with the concept that internalized motivations correlate with job satisfaction, the theoretical perspective used here to explore the construct of job satisfaction is the "...social psychological, or interactionist, model of work satisfaction" (Mottaz, 1985, p. 366). Job satisfaction as conceptualized in this theory has been defined in terms of congruency between one's perceptions of the job and the values held about work. This theoretical definition by Mottaz very closely resembles the process theories discussed by Bush (1988) in which "... it is the perceived job situation in relation to the individual's values that is the most direct determinant of job satisfaction" (p. 722).

Clearly, theoretical underpinnings helped to develop the concept of job satisfaction. However, the task remained to develop methods for specifically identifying and measuring the concept. According to Brayfield and Rothe (1951), defining and quantifying job satisfaction has its roots in pre- and post-World War II in an effort to focus on employee morale. These authors developed their own measurement scale in response to what they considered to be a lack of easily obtainable "adequate indices of job satisfaction" (p. 307). The criteria they used in 1951 are still excellent standards for current JS scales:

1. It should give an index to "over-all" job satisfaction rather than to specific aspects of the job situation.

2. It should be applicable to a wide variety of jobs.
3. It should be sensitive to variations in attitude.
4. The items should be of such a nature (interesting, realistic, and varied) that the scale would evoke cooperation from both management and [other] employees.
5. It should yield a reliable index.
6. It should yield a valid index.
7. It should be brief and easily scored. (1951, p. 307)

Their 18-item study, scored in Likert-type format, did indeed meet the requirements they established. However, initial trials were very modest in sample size (e.g., groups of ten and eight female office workers), so the reliability and validity are necessarily questionable. However, this index has stood the test of time, and further research has demonstrated reasonable reliability and validity. As recently as 1998, Judge, Locke, Durham, and Kluger have used a five-item subset of the Brayfield-Rothe scale as one measurement in a complex study of the correlations between core self-evaluations and job satisfaction , among other variables, as well).

One result in this study yielded a highly significant relationship between JS (using the five-item subset under discussion) and total core self-evaluations among physicians (using meta analysis,  $r = .65$ ,  $p < .01$ ). Since one of the core evaluations included locus of control, this particular

study will be discussed in greater detail later in this review of literature. It should be noted that the primary reasons for not using this five-item subset in the current study of physicians include the fact that reliability and validity have not been shown to approach .85 with any larger sample, and the fact that Judge, Locke, et al (1998) neglected to identify the five specific questions they used from the Brayfield-Rothe index!

Mottaz, in his 1985 study, bemoans the absence of consensus on the definition and quantification of work satisfaction when he notes, "Despite years of study and the current popularity of the term, there is no single, agreed upon definition..." (p. 365). In this examination of the relationship between work satisfaction and intrinsic and extrinsic rewards, he employed a three-item scale using a Likert-type format. He noted that it "...was constructed from three commonly used global items which were slightly revised for the ... study." (p. 369). In essence, he used his judgment in deciding which items were pertinent to his particular needs. He justified this scale's usage with a reliability of .772 (Cronbach's alpha), and a factor analysis which "...revealed that the items formed a clearly distinct factor." (p. 369).

Mottaz (1985) used a large and diverse population, with 1385 employees distributed among six different types of sites. One of the locations was a hospital. He chose his sample from among all employees except physicians; so, once again, any potentially pertinent findings have

greatly reduced applicability to the current study. Therefore, the lack of a comparable sample combined with the weak reliability and validity of the three-item scale, caused it to be ruled out for the purposes of the current study, despite the appeal of such a brief measurement tool.

Even a less-than-comprehensive review of the literature addressing a variety of issues relating to job satisfaction would quickly provide evidence of lack of consensus among definitions or instruments. Those studies even peripherally pertinent to this paper's topic, from the 1950's through the 1990's, have employed a vast array of job satisfaction instruments, including the Brayfield-Rothe scale (Brayfield & Rothe, 1951; Judge, Locke, et al, 1998); an index developed by Andrews and Withey (Andrews & Withey, 1976); Job Descriptive Index (Kasperson, 1982); Job Diagnostic Survey (Frost & Wilson, 1983); Index of Organizational Reactions (Greenberger, Strasser, Cummings, & Dunham, 1989); and the Job Satisfaction Survey (Spector & Michaels, 1986). Steel & Rentsch (1997) used the index developed by Andrews and Withey (1976) in a longitudinal ten-year study that "...suggest(s) that job satisfaction is rooted in dispositional mechanisms" (p. 873), and is therefore stable over time.

More recent studies have employed the Occupational Survey Index (Rees & Cooper, 1992; Siu & Cooper; 1997) and the Index of Work Satisfaction (Jain, Lall, McLaughlin, & Johnson, 1996). Kasperson (1982) notes that prior to the 1970's there was "...an underlying assumption that

the forces which determine a worker's level of job satisfaction are primarily within the organization context, ... under the control of management" (p. 823). More recent work demonstrates that this concept is only part of the job satisfaction picture, which also includes "... the employee's values and beliefs..." (p. 823).

In addition, there has been a trend for researchers to devise their own instruments, particularly when examining job satisfaction as a construct that reflects more than a response to management and salary concerns (i.e., content theory approach). Frequently when job satisfaction has been examined in terms of values such as personally rewarding work (i.e., process theory approach), researchers have been developing their own instruments or using unpublished instruments due to the lack of availability of such scales. Examples of these studies include the work of Koeske and Kirk (1995); Judge, Thoresen, Pucik, & Welbourne (1999), and Spector (1988). Discussion of the work most pertinent to the current study will follow.

#### Relationships between Locus of Control and Job Satisfaction

As previously noted, locus of control has been viewed as a construct that addresses one's beliefs and values about control of outcomes (i.e., internal or external locus). Work locus of control refers to one's perceived locus of control in the job setting. Job satisfaction has been identified as a construct in which the job is assessed in relation to one's

values about work. Examining these concepts as they relate to each other is a logical one, since it explores the potential connection between one's values about outcomes in the workplace and one's values about work satisfaction. This relationship has been explored in the literature, but in only one case have the two variables been studied among physicians. The literature will be discussed in pertinent order.

#### Earlier Studies - Foundational Research

Collins (1974) and Duffy, Downey, and Shiflett (1977) began examining Rotter's Internal-External scale in relation to dimensions such as job satisfaction. Although these studies examined the relationship between locus of control and job satisfaction, the samples consisted of undergraduate students and U.S. Army soldiers, respectively. Duffy, et al (p. 217) had very moderate correlations between JS and Total Internal-External (.14,  $p < .05$ , using part-remainder correlation excluding items from the subscale being correlated), and certainly the sample is not comparable to the sample of physicians currently being studied. The works of Collins (1974) and Duffy, et al (1977) appear to be the forerunners of the concept that LOC is a relative term:

The data present evidence of a common theme of internal versus external locus of behavioral control that runs throughout the 46 items. Yet underlying this common theme is evidence that people can and do distinguish among several relatively distinct

sources of control. (Duffy, et al, 1977, p. 218)

Andrisani and Nestel (1976) were also beginning to touch on the potential relationship between LOC and JS in their longitudinal study of middle aged men, but their instruments consisted of a modified version of Rotter's and a single dichotomous forced-choice response to measure JS. Although this particular relationship was one of several examined, and the particular job issues were not at all pertinent to those being currently studied, the fact that these researchers were raising questions about internal and external LOC as it relates to job satisfaction is a significant foundation.

In more recent years the relationship between job satisfaction and locus of control has been studied more frequently (either as a direct relationship, or with one factor as a modifier for a broader relationship addressing other factors). Positive moderate correlations were found using Rotter's scale and a variety of job satisfaction instruments (Bein, Anderson, & Maes, 1990; Bush, 1988; Jain, Lall, McLaughlin, and Johnson, 1996; Kasperson, 1982). However, physicians were not among the populations studied, and these studies did not yield results that were particularly relevant in any way to the study at hand.

In addition to Rotter's scale, some studies have examined locus of control by using Levenson's version of a locus of control scale (Cummins, 1989; Levenson, 1973, 1974). These modified Rotter's scale by expanding

the construct to include three elements: internal, chance, and powerful others (Levenson, 1973). However, only Cummins's study (1989) examined the relationship between locus of control using Levenson's complete instrument and a job satisfaction instrument, and again, no physicians were sampled. In addition, this particular study viewed LOC as a modifier for the correlation between job stress and job satisfaction, thus yielding results that are not readily comparable to those that examine the direct relationship between LOC and JS.

Orpen (1992) conducted a study for the purpose of establishing construct validity for Spector's WLOC scale. The sample consisted of 52 employees in a British manufacturing firm who were administered the WLOC, the general scale of Internal-External Control (considered an acceptable substitute for Rotter's) (p. 35), along with measurements for eight other variables which were hypothesized to relate to personal control in the workplace. Six of the eight factors correlated significantly with the WLOC scale, including a highly significant correlation with JS (.38,  $p < .01$ ). Only two factors were significantly correlated with the Internal-External scale, "...suggest[ing] that the [WLOC] possesses more construct validity as a measure of personal control [at] work..." (p. 36).



### Response to Change

As previously noted, an extensive literature search yields no results that could be considered truly comparable to the research in this study. This fact was one of the justifications for the questions being explored in the current study. However, examination of the related literature does provide sufficient information to justify creating some themes for reviewing peripherally related findings. Several studies examined work with regard to structural changes in the workplace. In the following three articles, awareness of workplace restructuring deserves mention, since this paper's research was generated in response to a variety of changes in the healthcare field.

Erbin-Rosemann and Simms (1997) examined empowerment and work excitement with regard to work locus of control among a sample of nurses. Although it was not the focus of their work, they emphasized the importance of actively involving employees in the changes occurring in their workplace, since this was an unanticipated recurrent issue in their the self-report responses. The study pertained to nurses, and the changes addressed referred to organizational changes in the healthcare field. Although specific details of this research are not pertinent, it could be logically concluded that findings which generally emphasize the need for input of those affected by these changes could apply to physicians as well.

Judge, Thoresen, Pucik, and Welbourne (1999) conducted a large and complex study focusing on managers' responses to organizational change. They collected usable data from 514 managerial level employees in six companies, including British and Australian banks, businesses in Korea and Scandinavia, as well as an American university; each of these organizations had recently experienced extensive structural changes, including, for example, downsizing, mergers, and changes in management personnel. The authors note that across all organizations, 73% of the managers agreed with the statement, "The changes that are being made will impact all parts of our work" (p. 111). Some of the findings concerning responses to organizational change are pertinent to this study, since physicians, as well, have been forced to confront major changes in the healthcare industry.

The authors hypothesized that the responses to change by those in managerial positions would be determined by "... 7 dispositional traits (locus of control, generalized self-efficacy, self-esteem, positive affectivity, openness to experience, tolerance for ambiguity, and risk aversion)" (p. 107). They converted this list to two factors, which became "Positive Self-Concept and Risk Tolerance" (p. 107). Not surprisingly, findings showed that coping responses were determined by a combination of intrinsic factors (including job satisfaction) and extrinsic factors (such as salary).

Although many of the issues explored by Judge, Thoresen, et al (1999) are not relevant to the questions being posed in this paper, their findings of correlations between LOC and JS are pertinent, since a fair argument could be made that physicians experiencing organizational change are likely to measure similarly to the managers for LOC and JS. It is a reasonable assumption that physicians, like managers, have high internality, are in positions of authority, and are relatively well-paid within their respective organizational structures. It should be noted that the distinctions between LOC and self-efficacy for the purposes of relevant research appear to be minimal, and are frequently found to measure most of the same traits (Jex & Bliese, 1999; Judge, Locke, Durham, & Kluger, 1998; Phillips & Gully, 1997).

Judge, Thoresen, Pucik, and Welbourne (1999) found significant positive correlations between JS and LOC ( $r = .43$ ,  $p = .01$ ), showing that those managers with high internal locus of control experienced a higher level of job satisfaction. The authors concluded that the major changes in the various organizations did not directly impact the relationship between JS and LOC. All correlations were meta-analyzed and corrected for error. However, these apparently sound findings must be tempered with consideration for the reliability of the scales used. LOC was measured with Levenson's scale (reliability = .66); generalized self-efficacy was measured by a 10-item scale devised by the authors as a combination of

two different measures (reliability = .75); and JS was measured by a three-item scale, also combined from others (reliability = .78). None of these measures approaches the level of .85 reliability, which was the established standard for this paper. In addition, procedures for data gathering were questionable in several areas, including the fact that each company was asked to identify their *own* upper management personnel who would receive the questionnaires, rather than applying a uniform standard for identifying upper management. In addition, the respondents in the Korean company used a questionnaire that was translated from English to Korean by a Korean employee, and then translated again into English for processing purposes. There is no way to reasonably account for subtleties in language differences, specific judgments in translation, and so forth.

Nelson and Cooper (1995), in their longitudinal study entitled, "Uncertainty Amidst Change: The Impact of Privatization on Employee Job Satisfaction and Well-being," examined employees' responses to extensive reorganization of a [British] regional water authority from a public, to private, to reorganized private company over a period of 21 months. Despite the fact that their final sample included employees such as manual workers as well as managers, this research bears discussion because it examined the correlation between LOC and JS among employees who experienced great upheaval in the workplace, and

measurements were taken both pre- and post- changes, using a JS with very high internal consistency (Cronbach's alpha, .93).

Although variables in addition to JS and LOC were studied, the pertinent items for the purposes of this work are the correlations between JS and LOC for the three points in time in which assessments were made, i.e., pre- and post-privatization, and post reorganization. All measurements used were taken from the Occupational Stress Indicator, but unfortunately were not identified specifically. JS was measured with a 22-item questionnaire, and LOC was a 12-item measurement with Cronbach's alpha of .73.

The inter-correlations between the two variables over all three points in time were all highly significant ( $p = .001$  in all cases), ranging from  $-0.474$  (pre-privatization phase), to  $-0.590$  (post-privatization phase), to  $-0.656$  (post reorganization phase). This finding supports the perspective that despite upheaval in the workplace, a strong relationship between JS and high internal LOC prevailed. However, the increasing strength of the relationship across the three time periods can also be seen to support the view that with each workplace challenge, and with each upheaval occurring, job satisfaction became more dependent on the degree of locus of control employees felt they had, with those experiencing higher locus of control reporting a higher degree of satisfaction. Hence, those in positions who felt a higher degree of work locus of control reported a higher degree

of satisfaction, relative to those who experienced a lower degree of control over their work.

Generalizability of these findings to the current study is limited due to cultural differences, the fact that a wide range of employees participated (including office staff, manual laborers, as well as upper management), and the fact that the site itself (a water treatment plant) is not really comparable to the site in this study (a hospital environment). However, since the findings supported a strong relationship and the procedures were so well-executed, along with the fact that such a wide range of employees participated, the findings themselves appear to be very valid, and therefore worthy of consideration.

#### Nurses and Related Health Professions

There is an abundance of literature exploring the relationship between some form of locus of control (usually in combination with another variable such as stress or empowerment) and job satisfaction among nurses in particular, and members of the helping professions in general. The findings consistently indicated a positive correlation between internal LOC (or WLOC) and JS.

Bush (1988) makes an excellent case for examining nurses' responses to JS and LOC as a legitimately comparable group to physicians when he states,

...unlike other complex organizations, a hospital has a unique organizational feature: The work force comprises predominantly two types of health care professionals - physicians and nurses (Scott, 1977). Both groups have a strong need for personal independence, prefer maximum freedom and autonomy in their work, and are inclined to be averse to the regimentation to which organizational prescriptions tend to lead. (p. 720)

Those studies included in this section, then, have been chosen both to illustrate specific points (which will become obvious), as well as to contribute to a general understanding of pertinent research with respect to health professions other than physicians.

Kasperson (1982) was one of the early researchers to explore the connection between LOC and JS, and one of the few to raise these questions with regard to hospital employees. Unfortunately, this study (N = 274) had no physicians! In addition, it was not a rigorous study, but simply a comparison of JS measures of those employees who scored as high internals, moderates, and high. Instrumentation consisted of a 47-item questionnaire developed for the purpose of the study; it borrowed from Rotter's and the Job Description Index. The questionnaire's reliability yielded an alpha of .84, determined by split-half computations.

Although none of the findings in differences in JS attitudes between internals and externals were dramatic, job satisfaction factors were

consistently higher for the internals. As Kasperson notes, "while the actual differences in scores are not great, it is the consistency in direction that is interesting - high scoring external people are *generally* less positive in their attitudes about their [work]" (p. 825).

Bearing in mind the relatively early date of Kasperson's research (1982), it comes as no surprise that he states:

There is no conclusive evidence that changes in an individual's locus of control can be effected by the organization (Lefcourt, 1976). Therefore, it is concluded that locus of control is a personality construct that mediates job satisfaction and is directly related to extent of projection. There [are people], very simply, who [are] less satisfied than others in the organization with the same job and environment. (p. 825)

Clearly, Kasperson (1982) has taken the position that LOC is a personality construct, yet his concluding comment is also consistent with many of Spector's work-specific LOC issues (1988). This study was reviewed in an effort to offer perspective with regard to evolving conceptualizations about JS and LOC, and to provide a specific foundation for the findings of this paper, particularly since the subjects were hospital employees.

Frost and Wilson (1983) studied 95 nurses in an effort to determine if LOC and A-B personality type moderated JS. They performed a



comparison of means using Rotter's scale to measure LOC, and the Job Diagnostic Survey to assess JS. Consistent with the large body of research, they found that internals were more satisfied with their jobs, and had greater work motivation . An interesting note is that no relationship was found between personality type and locus of control or job satisfaction .

Spector and Michaels (1986) studied the relationship between locus of control and employee turnover in two mental health centers in the Southeastern U.S. The two samples (total N = 174) included social workers, technicians, clerical workers, psychologists, and psychiatric nurses, but no physicians. The authors assessed intention to quit one's job (and actual turnover rates) by using the total score of the Job Satisfaction Survey, and locus of control was measured using Rotter's I-E scale.

A significant concern with regard to the questionnaire distribution is worth mentioning. The packets contained a cover letter that included a request for respondents to provide "... the last four digits of their social security numbers so they could be matched to a list of quitters at the end of six months" (p. 64). Anyone involved at these facilities could examine records and identify the employees by these social security numbers, should they be determined to do so. Confidentiality and anonymity were surely compromised by this method. In fact, the authors noted that a total of 22 employees did not provide their numbers and had to be excluded

from the sample. For those who did fully participate, there is the concern that their responses were less than candid.

The authors hypothesized that those who scored as high externals would be more likely both to intend to quit, as well as to follow through and actually quit their jobs. They also hypothesized a relationship between LOC and JS, and that the higher the internal LOC, the lower the turnover rate (quitting) would be. It was found that JS and LOC were significantly correlated ( $r = -.23, p < .05$ ). In addition, a significant relationship existed between LOC and turnover rate ( $r = -.20, p < .05$ ). Implications of findings include both direct and indirect support for the current research. Not only is there a direct relationship between the same variables being currently studied, but logic dictates that job turnover rate is one facet of job satisfaction.

Spector and Michaels (1986) suggested "that internal subjects respond to frustrating situations more constructively than [externals]. Where internal employees would be expected to do something constructive about a dissatisfying job, [externals] would be expected to quit" (p. 63). Hence this research at a mental health facility that included nurses and psychologists as subjects led to its inclusion of this study in the review of literature. Moreover, the findings, which supported the hypotheses, were consistent with the topics being explored in this paper.

Blau (1987) reported similar findings in a correlational study with larger groups of nurses at one Midwestern hospital. Although collection methods raise questions about confidentiality and true volunteerism (administrative nurses helped to administer and collect questionnaires), this does not appear to have affected outcomes since the results are so consistent with other findings. Questionnaires were administered twice in a seven-month period; 221 subjects for the first administration; and 228 subjects for the second one (119 repeats and 109 new respondents). Instruments used for LOC and JS were Levenson's scale and Job Descriptive Index, respectively.

Blau examined subsets of JS (such as pay satisfaction, promotion satisfaction, etc.), with overall results demonstrating a significant negative correlation between LOC and JS ( $r = -.23, p < .05$ ). In this case the JS instrument measured specific factors associated with JS (i.e., content approach) versus values associated with JS (i.e., process approach). It is interesting to note that although most of the studies addressed in this paper employed instruments associated with process theory, Blau's findings are consistent with others being reviewed. It is helpful to know that the specific instrument (and its underlying philosophy) did not appear to impact the trend in the findings, since this provides a better opportunity to relate these results to the current study.

The findings of Bush (1988) are the rare exception to the vast

majority of literature which finds a significant correlation between internality and job satisfaction. Bush studied job-related powerlessness and LOC in relation to JS. In addition to several demographic differences, the author examined "how much of the variation in JS can be predicted from LOC and powerlessness" (p. 718). The sample consisted of 145 nurses from six hospitals within one county. Instruments used were Rotter's scale (LOC) and Job Descriptive Index (JS), as well as the revised Health Care Work Powerlessness Scale (p. 722). Multiple regression analysis regressed JS on powerlessness and LOC, with the simple correlation of JS and powerlessness yielding  $r = -.47$ , as anticipated. In essence, it should come as no surprise that there is a significant relationship between job satisfaction and the perception of powerlessness in the workplace.

Although the absence of significant relationship between JS and LOC among nurses is initially startling, an important point must be made. The LOC measure (Rotter's) was two-dimensional, and not related to the work environment, whereas powerlessness was. In addition, Rotter's scale does not draw a distinction between generalized control and personal control.

Jain, Lall, McLaughlin, and Johnson (1996) studied 34 hospital nurses in Hawaii with regard to LOC, occupational stress, and JS. LOC was measured with the Nowicki-Strickland I - E control scale, and JS was

measured by the Index of Work Satisfaction (p. 1256). The authors viewed this research as exploratory, which is very reasonable considering the small sample size. They note that "while LOC was not significantly correlated with JS, results were in the expected direction, with external control negatively related to JS ( $r = -.26$ ,  $r^2 = .07$ )". These findings support the large body of research that finds a positive relationship between JS and high internality, which supports the focus of the current research.

#### Other Related Professions

Bein, Anderson, and Maes (1990) conducted a study of 83 high school teachers in the Southwestern U.S. which explored the relationship between teacher locus of control and job satisfaction. The authors justified their research by noting the absence of literature in the field, and they used a job-specific instrument versus a generalized measure (such as Rotter's) to measure teacher locus of control, which parallels the philosophy in choosing WLOC for this paper's focus. Specifically, the instruments included the Teacher Role Survey (TRS) to measure teacher locus of control, and the general job satisfaction section of the Job Diagnostic Survey (JDS) was used to assess job satisfaction. It was hypothesized that teachers who feel more internal control in the workplace will also experience greater job satisfaction.

The results yielded a significant Pearson Product Moment

correlation between TRS and JDS of  $-.37$  ( $p < .001$ ), with this outcome clearly supporting the hypothesis. Weaknesses of this study pertain to the failure to find significant differences in TRS scores for demographic variables compared with previous studies that did find some differences. This may or may not be as a result of the use of the TRS versus more generalized instruments such as Rotter's. In addition, the small sample number greatly reduces the generalizability of the findings.

Daniels and Guppy (1994) conducted a correlational study of 244 accountants in Britain in order to explore the relationships among numerous factors, including WLOC, job autonomy, and social support, with particular interest in how these factors may or may not predict psychological well-being. Although this topic does not at first appear to be particularly relevant to the current study, it should be noted that despite the cultural differences, accountants share many job qualities with physicians, the most important one being autonomous decision-making by post-graduate, well-educated, and well-trained professionals.

In addition, the concept, psychological well-being, was measured by Warr's scales of "job-related pleasure, job-related anxiety-contentment and job related depression-enthusiasm" (p. 1530). Clearly, the authors were viewing psychological well-being in the workplace in terms quite similar to overall job satisfaction, particularly from a process theory perspective (e.g., values). If this study is seen as a correlational

exploration of job satisfaction and WLOC, it becomes particularly pertinent, since the WLOC measure used was Spector's WLOC scale.

Both Warr's scales and Spector's WLOC were chosen by the authors because they demonstrated high validity and reliability. All results were significant, with  $p < .001$  in all cases. Correlations between WLOC and job-related pleasure, anxiety-contentment, and depression-enthusiasm ranged from  $-.28$  to  $-.42$ . Assuming that these variables represented factors associated with JS as noted, these findings are relevant to the current study, as well as being supportive of the existing literature.

Koeske and Kirk (1995) conducted a study of 107 randomly selected social workers and counselors with regard to locus of control and several work-related variables, including job satisfaction and emotional exhaustion. The authors used unpublished instruments to measure LOC and JS, with alpha reliabilities of  $.64$  and  $.87$ , respectively. High internality was significantly correlated ( $-.28$ ,  $p < .01$ ) with JS, and the authors note that "the findings showed that internal LOC consistently related to favorable work attitudes, perceptions, and affect..." (p. 9).

This study has been included in the review of literature for several reasons. First of all, the findings demonstrated that "...the advantages of internality were consistent and pervasive" (p. 1), with no apparent advantages for externality. In addition, Koeske and Kirk (1995) advocate the use of "situation-specific control measures [to] better estimate the size

of relationships between locus of control and other variables" (p. 4).

Finally, their findings are pertinent to physicians from the perspective of being in the same class of helping professions, and the findings are particularly significant with regard to implications for counseling, since their subjects were counselors and clinical social workers.

Gupchup and Wolfgang (1997) modified Spector's WLOC scale and tested it for reliability and validity with pharmacists from Indiana. The research was part of a larger study, which allowed for consideration of other factors such as job satisfaction and conscientiousness. This effort was in response to their belief that Spector's original scale "... only measures the extent to which individuals perceive that 'people in general' have control over what happens on their jobs" (p. 640).

The researchers attempted to modify Spector's items "... to reflect the control the respondent feels he *might* [emphasis added] have on a job as opposed to what [he] feels people in general have" (p. 640). For example, the authors changed item one on Spector's scale from "A job is what you make of it" to "My job is what I make of it" (p. 641). They also included five items from Levenson's scale in order to establish internal consistency.

The sample was obtained by mailing questionnaire packets and cover letter to 600 licensed pharmacists in Indiana, with a follow-up packet sent one month later to those who did not return the initial forms.



The resulting sample of pharmacists ( $N = 284$ ) came from franchise, independent, and hospital settings. Their mean age was 42.5, and the sample was 58.5% male. Since there were additional subscales measuring factors including extraversion, job dissatisfaction, and so forth, Cronbach alphas were computed and ranged from .77 to .87, showing relatively high internal consistency. The Cronbach alpha coefficient for the Modified Work Locus of Control Scale was .88.

The author's WLOC scale had 20 items, with possible scores ranging from 20 to 100. Scoring values were modified so that a higher score indicated higher *internal* WLOC. The mean score for this sample was 74.9 ( $SD = 9.3$ ), suggesting that the sample of pharmacists had a relatively high LOC in the work setting.

This research is significant for two reasons. First, it provides a relatively recent (1997) study employing a very similar instrument to the one used in the current study, exploring the same relationship of variables, with subject sample drawn from a tangentially related profession. Results can legitimately be considered in comparison to the data in the current research outcomes.

Secondly, it is imperative to address the idea of modifying Spector's scale for the authors' stated purposes. Their argument that Spector's instrument assessed a general perspective about control at work versus the new goal of assessing the actual control the respondent "might have

on the job" (p. 640) defies logic. If the subjects follow directions by using the first answer that comes to them, it can be assumed that the responses unavoidably reflect one's personal experiences and perspective. It would seem apparent that changing pronouns from third to first person seems silly at worst, and unnecessary at best, particularly since the authors acknowledged that their results were consistent with Spector's findings in similar studies.

### Physicians

Judge, Locke, Durham, and Kluger (1998) conducted ambitious and extensive research examining the effects of core evaluations on job and life satisfaction. Their premise, based on earlier research (Judge, Locke, & Durham, 1997), assumed "that core self-evaluations [self-esteem, self-efficacy, LOC, and neuroticism] are the base on which situationally specific appraisals occur" (1998, p. 31). They clarify this statement by noting:

It is not that the situation is irrelevant to situational appraisals; rather, it is that individuals with positive self-concepts see their jobs and lives more positively because they possess the dispositional makeup to do so. ...[They] are more satisfied not only because they feel happier and in more control, but because they see more ... challenge and intrinsic worth in their work.

(p. 31)

Although samples were drawn from three distinct populations, in an effort to efficiently and appropriately review the work of Judge, Locke, et al (1998), only one population, that of physicians, will be reviewed. This is easily done since the data from the physician sample was sufficiently different from the other two groups that the authors treated the physician data separately anyway. It should be understood that the discussion to follow pertains solely to the findings from the physician sample.

The physician sample (N = 183) was obtained by stratified random sample drawn from the American Medical Association's directories for general practitioners and psychiatrists. One thousand three hundred questionnaire packets were sent (650 to each of the two groups), with a final yield of 183 (49% were general practitioners, 51% psychiatrists). The low response rate prompted examination of archival data to assure that there was absence of significant differences between respondents and non-respondents. The average age of the physician sample was 52; the average length of time in their current job was 15 years, and 84% of the population was male.

The authors hypothesized that core evaluations would have a direct and indirect effect on life and job satisfactions. The focus here (for relevancy purposes) will be on the job satisfaction components. The instrument used to measure overall job satisfaction was a five-item subset of the Brayfield-Rothe scale. Locus of control was measured with

Levenson's scale, and self-efficacy was measured using an eight-item scale developed by the authors. The decision has been made here to consider self-efficacy in combination with LOC because they are so closely related:

Although LOC is theoretically related to ... self-efficacy, the two concepts differ in one important respect. Self-efficacy pertains to confidence with respect to actions, whereas locus is more concerned with confidence in being able to control outcomes. ... Because both ... self-efficacy and locus of control represent a belief in oneself relative to one's environment, it is appropriate to construe them as manifestations of one's core self-evaluation.

(p. 19)

The authors employed a variety of analyses, including the use of self-report and reports from significant others (i.e., respondents were asked to have a significant other respond to the same questions with their own assessment of the subject's level of job satisfaction, locus of control, etc.) The purpose of this was to correlate the results and theoretically yield greater accuracy. Criticism of this method stems from the idea that core *self-evaluations* inherently imply one's personal assessment rather than an observer's assessment.

Overall, however, the complex statistical analyses were well-conceived. The most pertinent findings (LISREL results) indicated a strongly significant relationship between the group of core self-

evaluations and job satisfaction (p. 29), and the fact that self-efficacy was strongly correlated to locus of control. In addition, the authors found support for their hypothesis by proving that "core evaluations of the self have consistent effects on job satisfaction" (p. 30). Bearing in mind that LOC was one of the core evaluations, this had strong relevance to the current study.

### Review Comments

It has become apparent in this literature review that there is an absence of research which explores the correlation between JS and WLOC among physicians. Logic dictates that the numerous changes in healthcare delivery systems must have impact on physicians' attitudes toward work and their perceived locus of control in the work setting

For the past two decades, various aspects of managed care have been frequently and consistently discussed in the literature. A recurring theme concerns the effects of changing managed care policies on the abilities of health care providers to deliver high quality services to patients. As early as 1988, Shulman discussed ways in which cost containment in the industry was impacting ethical medical practice, including the concept of "pressing patients back on their own resources" (p. 302) when their insurance coverage was insufficient. He raised questions about providers' responsibilities toward their patients in such situations.

Cummings (1988) also spoke of the need for health care providers to adapt to the swift changes in the industry. Although he was optimistic about the possibilities for making the delivery of services more efficient, he, too, was concerned about some of the ethical compromises that seemed impossible to avoid. He cautioned therapists and physicians about taking obvious short-cuts without taking responsibility for improving and streamlining their care.

Stern (1993) noted that when treatment "... is mandated by a third party it violates the fundamental integrity..." (p. 162) of the relationship between provider and patient, and that the efforts of a third party to manage the costs of services meant limiting those services. Carr and Bitter (1997) also stated that "... primary care physicians in HMOs [are] required to make instant decisions about treatment and referral" (p. 125).

The fact that patient care has changed in the past twenty years is obvious. However, the effects of these changes on the providers of these services has barely been examined. At a time when quality of patient care is coming under angry scrutiny, it would make sense to explore these issues from the physicians' perspective. Asking questions about the relationship between job satisfaction and perceived locus of control in the work setting is a fundamental starting point. Although the current study is flawed, some of the findings do help to identify future research.

## Chapter III

### Method

#### Subjects , Data Collection, and Design

The population for this study (N = 138) is drawn from non-retired physicians in hospital-based specialties, practicing in the St. Louis, Missouri metropolitan area. Hospital-based specialties refers to anesthesiology, radiology, and pathology - those practices that "reside" in hospitals rather than in office settings. These physicians serve at the pleasure of their respective hospitals, rather than depend on patients' demand for their care (such as plastic surgeons or internists, for example). There was no attempt to distribute the population between male/female, because it is still a predominantly male profession. Since questionnaires were sent out to only specialty-trained physicians, a specific minimum age was built in, because specialization demands a specific minimum length of time for achievement after medical school. Thus the sample was not younger than 31 years old.

There are numerous sources of sampling bias. First of all, this is essentially a sample of convenience based on judgment and accessibility: The three specialties housed in a hospital setting were chosen as a matter of practicality, as well as a way of honing down the physician population into a meaningful category. Private practice physicians and hospital-based physicians are likely to have some differing job satisfaction issues,

as well as some commonly held job satisfaction issues. In addition, not all pathologists, radiologists, and anesthesiologists belong to their respective St. Louis Medical Societies, and have therefore been omitted from sampling consideration. In other words, the sample necessarily excluded a portion of the population of St. Louis area hospital-based physicians. Finally, as mentioned earlier, this was ultimately a sample of volunteers, which of course breeds bias. The very nature of volunteerism in research mandates an awareness of attitudinal, values, and personality differences between those who volunteer and those who do not. On this volunteer basis, there was also no way to assure a fair distribution of physicians among the three specialties; across factors of age and gender; and from rural and city hospitals. In fact, the vast majority reported association with city hospitals ( $N = 122$ ), with only 16 physicians from rural hospitals, thus making distinctions between geographical locations statistically meaningless.

The stratified random sample of pathologists, radiologists, and anesthesiologists was obtained from their respective professional directories; 108 from each specialty (total = 324) were randomly selected to receive a packet containing a cover letter, demographic sheet, and two brief questionnaires. A total of 166 questionnaires were returned (51% response rate), with a usable yield of 43% ( $N = 138$ ). There were 108 males



(78%) and 30 females (22%). The demographic information is found in Table 1.

Table 1. Population Demographics

Variable	Mean	SD	Min.	Max.
Age	51.24	10.08	31.0	78.0
Yrs in practice	21.78	11.29	3.0	53.0
Yrs at this job	13.70	10.15	0.3	50.0
Hospital Size (#of beds)	497.63	335.51	0 (clinic)	2000

### Instruments

#### Work Satisfaction subscale of the modified Job Descriptive Index

This subscale of the Job Descriptive Index is designed to separately measure the dimension of work satisfaction within the larger realm of job satisfaction (including other dimensions such as pay, co-workers, and supervision). The six-item instrument uses a Likert-type five-point scale and takes less than three minutes to complete. The norming sample for the subscale was composed of 311 Certified Public Accountants (CPA's), 79% men and 21% women, varying in age from 25 to over 55, with 54% between 25 and 35, and 34% between 36 and 55 (Gregson, 1990). This sample was a specific group of certified post-graduate professionals with approximately the same male/female ratio as the sample of practicing physicians for this study, who also represent specialty-trained post-

graduate professionals. Use of this subscale to examine work satisfaction among physicians is justified by the relative similarities to the norming sample, as well as its high validity and reliability.

The items in the subscale were normally distributed using the Kolmogorov *D* statistic, with a Cronbach alpha of .84 ( $p < .01$ ). The means on the six items ranged from 3.15 to 4.26 (out of maximum possible of 5), with a total mean of 24.00. Standard deviation ranged from .64 to 1.10 per item, with total SD of 3.55 (Gregson, 1990).

Scoring procedures are simple and require no special training other than basic understanding of a Likert-type format. The five-point format ranging from Strongly Disagree to Strongly Agree is assigned numerical value from 1 to 5, with negatively worded questions reverse scored. Higher scores indicate higher degree of work satisfaction (Gregson, 1990).

This subscale was chosen from among several well-researched job satisfaction instruments not only because of its wide acceptance, high internal reliability (Cronbach's alpha = .84), and its past use with a comparable sample, but because of its brevity as well. This is one of two instruments being included in the research, and physicians are likely to discard the questionnaire packet if they resent what appears to be a disregard for their time. A clearly short, easily-answered list of questions with face validity combined with a reasonable track record and simple scoring procedures justify its use.

### Work Locus of Control scale.

The Work Locus of Control Scale (WLCS) was developed by Paul Spector (1988) to measure generalized control beliefs in work settings. He notes that correlations between Rotter's I-E Locus of Control Scale "...and work-related variables have been rather modest" (p. 335), and worked to develop a scale that is more specific to the work domain. The WLCS is a 16-item questionnaire in a 6-point Likert-type format with an equal number of internally- and externally-worded questions. Prior to its publication, it was used with six independent samples, including populations of management personnel, mental healthcare workers' college undergraduates, and retail industry personnel. There was very good consistency among findings for the various populations, so it would seem to be a very appropriate instrument to use with a population of physicians as well.

The six norming samples ranged in size from 41 to 496, with median sample size of 156, and a mean sample size of 207. As previously noted, the populations covered a variety of occupations, including professional and retail domains. Coefficient alphas generated included four samples of .85, one of .80, and one of .75, reflecting adequate internal consistency. Means scored from 36.8 to 41.7 (with maximum possible of 96), while standard deviations ranged from 9.0 to 11.9 with a mean SD of 9.7. Criterion-related validity was offered by showing a significant

correlation (-.68,  $p < .05$ ) with job satisfaction (the other variable in this thesis).

Scoring procedures are straightforward and require simply an understanding of a Likert-type format. The 6-point format ranges from Disagree Very Much (1) to Agree Very Much (6), with higher scores indicating higher degree of externality, consistent with Rotter's I-E. The items associated with high internality (item #'s 1, 2, 3, 4, 7, 11, 14, and 15) are reverse scored prior to computing a total score.

This instrument held great appeal for the purpose of this study since it was brief, had face validity for the physicians, was easy to score, and has demonstrated acceptable levels of reliability and validity. In addition, there had been a demonstrated correlation between the WLCS and job satisfaction, which is precisely what this research explored.

#### Procedures

The stratified random sample of pathologists, radiologists, and anesthesiologists was obtained from the directories of the St. Louis area Missouri Society of Pathologists, Radiologists, and Anesthesiologists; 108 from each specialty (total = 324) were randomly selected to receive a packet containing a cover letter, demographic sheet, two brief questionnaires designed in Likert-type format (6-item Job Satisfaction subset of Job Descriptive Index and 16-item Work Locus of Control Scale), along with stamped return envelope and separate stamped post card to be

used for acknowledgement, and to reduce the need for researcher's follow-up request for participation. The cover letter highlighted the short amount of time required to complete the forms and return them (less than 12 minutes, total) in an effort to demonstrate an awareness of physicians' valuable time. In addition, it emphasized the purpose of the study and the ways in which the findings could be potentially helpful. Respondents were asked to reply within three weeks of receiving the materials.

## Chapter IV

### Results

#### Data Analysis

In order to examine the potential relationship between job satisfaction (JS) and work locus of control (WLOC) among physicians, correlational analysis was employed. Based on a review of the literature it was hypothesized that there will be a correlation between JS and WLOC among physicians. Therefore, the null hypothesis can be stated as follows: There is no correlation between JS and WLOC among physicians, or

$$H_0: r = 0$$

The alternative hypothesis can be stated as follows:

There is a significant correlation between JS and WLOC among physicians, or

$$H_a: r \neq 0$$

Since this study examines a relationship between two variables, correlation was the test of significance used. This significance was established at a level of  $p \leq .05$  (two-tailed). Data was analyzed using the SPSS program to perform the operations. Because both variables are at the interval level of measurement, the Pearson  $r$  formula was employed in the computations .

## Overview

### Descriptive Statistics

Table 2 provides descriptive data for the entire sample ( $N = 138$ ), for both JS and WLOC. Given that scores could range from a possible low of 6 to high of 30, the JS scores are quite high, with  $M = 25.05$ ,  $SD = 2.97$ . The WLOC scores appear to indicate the sample had strong internal locus ( $M = 38.38$ ,  $SD = 10.03$ ), given that the lowest possible score is 16, and the highest possible is 96. Lower scores indicate higher internality. It is interesting to note that as early as 196 Rotter stated "that lower socioeconomic level groups are more external..." (p. 24). The current findings support his statement, considering the fact that physicians belong on the higher end of the socioeconomic continuum.

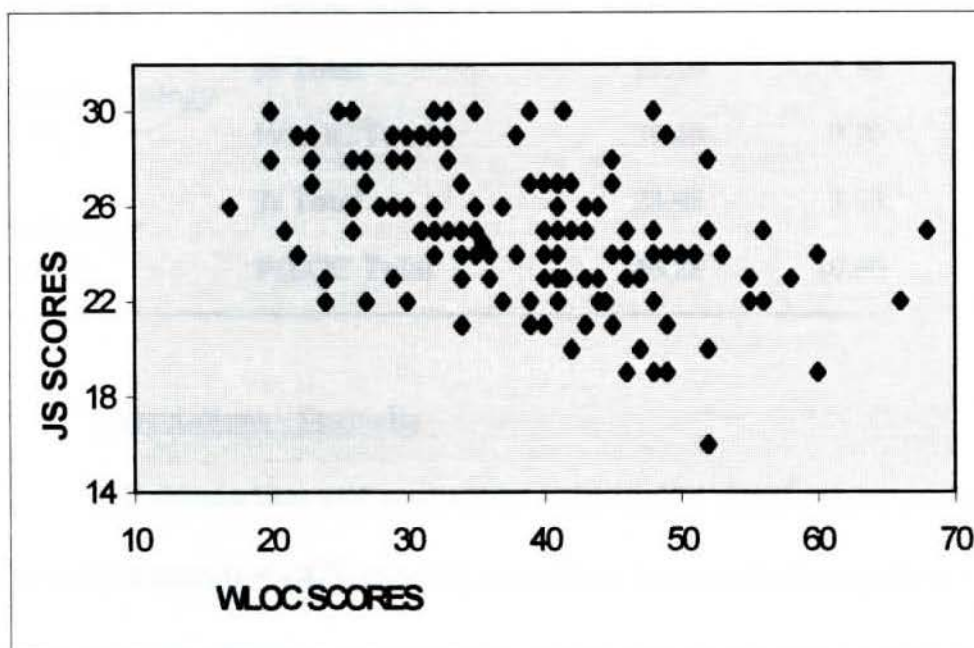
Table 2. Descriptive Statistics for Total Sample

	<b>JS Total</b>	<b>WLOC Total</b>
<b>N - Total</b>	138	138
<b>Mean</b>	25.05	38.38
<b>SD</b>	2.97	10.03
<b>Min. Score</b>	16.0	17.0
<b>Max. Score</b>	30.0	68.0

### Correlations

A highly significant negative correlation was found between JS and WLOC ( $r = -.445$ ,  $p = .01$ ), indicating a strong positive relationship between job satisfaction and high internal locus of control. Figure 1. illustrates this distribution, with one outlier sample removed from original working sample of  $N = 139$ .

Figure 1. Total Sample Distribution (N = 138)



### Specialty-Related Results

#### Descriptive Statistics

Distribution of responses was not equally distributed among respondents. Radiologists represented the largest group ( $N = 71$ ), followed by anesthesiologists ( $N = 47$ ), with the smallest group being pathologists ( $N = 20$ ). Radiologists reported the highest mean score on JS,



$M = 25.34$ ,  $SD = 2.78$ , while pathologists showed the lowest JS,  $M = 23.95$ ,  $SD = 3.55$ . However, pathologists reported the highest externality with their WLOC scores,  $M = 40.28$ ,  $SD = 10.69$ . Table 3 provides pertinent descriptive statistics.

Table 3. Descriptive Statistics for Specialty

Specialty	Variable	Mean	SD
Radiology (n=71)	JS Total	25.34	2.78
	WLOC Total	37.16	9.90
Anesthesiology (n=47)	JS Total	25.10	2.94
	WLOC Total	39.40	9.90
Pathology (n=20)	JS Total	23.95	3.55
	WLOC Total	40.28	10.69

#### Correlations - Specialty

Job satisfaction and internality were highly significantly correlated for radiologists ( $r = -.477$ ,  $p = .01$ ), as well as for anesthesiologists ( $r = -.414$ ,  $p = .01$ ). There was, however, no significant relationship between JS and WLOC for pathologists ( $r = -.386$ ,  $p = .093$ ). It is reasonable to assume that the lack of significant correlation between the variables with regard to pathologists could be partly attributable to the low number of respondents relative to the other sample groups.

#### Gender-Related Results

##### Descriptive Statistics

Table 4 illustrates the JS and WLOC scores of male and female respondents. Although the females were slightly higher on both scores, there appears to be minimal difference between genders across raw scores, with female mean scores at 25.58 and 38.50 for JS and WLOC, respectively, and male mean scores at 24.91 and 38.34 for JS and WLOC, respectively.

**Table 4. Descriptive Statistics for Gender**

<b>Gender</b>	<b>Variable</b>	<b>Mean</b>	<b>SD</b>
<b>Female</b> (n=30)	JS Total	25.58	2.76
	WLOC Total	38.50	10.07
<b>Male</b> (n=108)	JS Total	24.91	3.02
	WLOC Total	38.34	10.06

#### Correlations - Gender

Female physician respondents (N = 30) reported a significant negative correlation between JS and WLOC ( $r = -.363$ ,  $p = .05$ ), indicating a significant positive association between job satisfaction and internality. Male physicians (N = 108) also demonstrated a significant negative correlation between JS and WLOC ( $r = -.469$ ,  $p = .01$ ). It is unclear whether the difference in the strength of the correlation between females and males is actually a gender-related phenomenon, or whether this is a result of such a small female sample.

### Results Relating to Type of Practice

Respondents in this study were asked to identify the nature of their medical practice among three categories: private practice, academic practice, or hospital staff employee. Private practice refers to the concept that physicians charge their patients directly for services rendered; in essence, this means that these physicians run their medical practices as a business. Academic practice refers to those physicians who are associated primarily with teaching hospitals (i.e., medical school), and whose work is focused on research and training, rather than direct patient care; their salaries would be generated by the institutions that employed them. The category, hospital staff employee, refers to those physicians who work in their chosen specialty for a set salary established by the hospital that employs them, rather than billing patients directly for work performed.

These categories were established because it seemed as if there might be significant differences in relationships between JS and WLOC among physicians whose medical practices followed different philosophies. For example, private practice physicians might be motivated to work very efficiently because the more they work, the more bills they send out. On the other hand, staff employees might be very satisfied at work because they do not have to concern themselves with accounting expenses, and because their salaries are set regardless of their production. In short, without examining this category, there would have

been no way to determine whether or not this concept impacted JS and WLOC.

### Descriptive Statistics

Physicians in private practice represented the majority of the sample ( $N = 97$ ), but their JS and WLOC scores were between those of academic physicians and those directly employed by hospitals. JS and WLOC scores for private practice respondents were  $M = 24.88$ ,  $SD = 2.94$ ; and  $M = 38.47$ ,  $SD = 9.65$ , respectively. Although there were only four (4) respondents who identified themselves as direct employees of a hospital, their JS and WLOC scores are worth noting. This group scored lowest on JS,  $M = 21.25$ ,  $SD = 2.63$ , and highest on WLOC,  $M = 47.00$ ,  $SD = 11.52$ , indicating the highest level of externality among the three groups. This result, although based on a very small sample, supports logical reasoning, as well as previous findings. Mean scores of academic physicians ( $N = 37$ ) indicated the highest level of JS,  $M = 25.92$ ,  $SD = 2.73$ , and the highest level of internality on the WLOC scale,  $M = 37.19$ ;  $SD = 10.64$ . Table 5 Provides descriptive statistics about the three practice types.

Table 5. Descriptive Statistics for Practice Types

Practice	Variable	Mean	SD.
Private Prac. (n=97)	JS Total	24.88	2.94
	WLOC Total	38.47	9.65
Employed (n=4)	JS Total	21.25	2.63
	WLOC Total	47.00	11.52
Academic (n=37)	JS Total	25.92	2.73
	WLOC Total	37.19	10.64

Correlations - Practice Types

The scores of physicians in private practice (N = 97) yielded a significant negative correlation between JS and WLOC ( $r = -.360$ ,  $p = .01$ ), with academic physicians (N = 37) reporting a higher negative correlation between JS and WLOC scores ( $r = -.563$ ,  $p = .01$ ). Only four (4) physicians reported being employed by their hospitals. Since no analysis can be done on four subjects, it was pointless to run correlations in this category.

Results Related to AgeDescriptive Statistics for Age

All physicians were grouped into age categories as follows: 60 and over; 50 to 59; 40 to 49; and 30 to 39. Mean scores for JS ranged from 24.66,  $SD = 3.01$ , to 26.04,  $SD = 3.08$ . Mean scores for WLOC ranged from 36.12,  $SD = 8.03$ , to 39.78,  $SD = 10.63$ . It is interesting to note that the highest

mean score on both JS,  $M = 26.04$ ,  $SD = 3.08$ , as well as on internality,  $M = 36.13$ ,  $SD = 8.03$ , was reported by physicians in the 60 and over category ( $N = 27$ ). Table 6 offers descriptive statistics and correlational coefficients for age categories.

**Table 6. Descriptive Statistics and Correlational Coefficients for JS Total and WLOC Total by Age**

Age	Variable	Mean	SD	$r =$
≥ 60 (n=27)	JS Total	26.04	3.08	-.582**
	WLOC Total	36.13	8.03	
50 - 59 (n=56)	JS Total	24.66	3.01	-.293*
	WLOC Total	39.78	10.64	
40 - 49 (n=34)	JS Total	24.78	2.87	-.537**
	WLOC Total	37.19	8.87	
30 - 39 (n=21)	JS Total	25.29	2.74	-.596**
	WLOC Total	39.45	12.15	

\*\*  $p < 0.01$ , \*  $p < 0.05$

#### Correlations for Age

The correlations between JS and WLOC for all age categories were statistically significant, indicating a direct positive relationship between job satisfaction and perceived internal locus of control in the work setting. The highest correlations were reported by the oldest group ( $r = -.582$ ,  $N = 27$ ) and the youngest group ( $r = -.596$ ,  $N = 21$ ), indicating that for these

two age groups, their job satisfaction was much more impacted by their sense of internal control in their work environment. However, with the exception of the 50 to 59 age group, the range of correlations was not that dramatically different among the groups. This finding would seem to indicate that all three of these groups experienced a strong positive relationship between job satisfaction and their perceived sense of internal control at work.

Certainly the most noticeable result in this category is the substantially weaker (yet still significant) correlation reported by the 50 to 59 age group ( $N = 56$ ;  $r = -.293$ ,  $p = .05$ ). As previously noted, they also scored lowest on job satisfaction and highest on externality. Clearly, for this age group, the level of job satisfaction is not as strongly related to perceived locus of control on the job.

## Chapter V

### Discussion

#### Summary of Results

The results of this research support a rejection of the null hypothesis that there is no correlation between JS and WLOC among physicians. Instead, the results support the alternative hypothesis that there is a significant correlation between JS and WLOC among physicians.

Significant relationships were found between JS and WLOC in virtually all facets of the data examined in this study. Of particular note was the overall correlation between JS and WLOC among physicians ( $N = 138$ ,  $r = -.445$ ,  $p = .01$ , 2-tailed), implying a strong correlation between job satisfaction and perceived internal locus in the work setting. Although the physicians in private practice represented a large majority of the sample ( $N = 97$ ) and they demonstrated a significant correlation between JS and WLOC ( $r = -.360$ ,  $p = .01$ ), academic physicians ( $N = 37$ ) yielded the highest correlation of all, despite their small sample size ( $r = -.563$ ,  $p = .01$ ). This may suggest that academicians, those whose work lives are focused primarily on research (and perhaps whose work lifestyle relies on independent, creative thinking), hold the strongest beliefs that job satisfaction is greatly impacted by a perceived internal locus at work.

Both male and female physicians demonstrated a significant correlation between JS and WLOC ( $N = 108$ ,  $r = -.469$ ,  $p = .01$ ;  $N = 30$ ,



$r = .363$ ,  $p = .05$ , respectively). Male physicians ( $N = 108$ ) greatly outnumbered the female physicians ( $N = 30$ ), yet this difference tends to reflect the overall distribution of males and females in these specialties. Although the correlation between JS and WLOC among males was stronger than that among females, it certainly is not possible to assume that the strength of the correlation relates to the sample size; in fact, it is impossible to attribute any causality. For example, these findings could also support the idea that female physicians do not experience their perceived work locus of control as impacting job satisfaction; perhaps their careers are not as important to them as it is to their male counterparts.

Significant relationships existed between JS and WLOC across two of the three practice types (radiology, anesthesiology), but only 20 pathologists were in the sample, thereby yielding insignificant results for that specialty. Radiologists showed the highest correlation between JS and WLOC ( $r = -.477$ ,  $p = .01$ ). Anesthesiologists ( $N = 47$ ,  $r = -.414$ ,  $p = .01$ ) demonstrated weaker correlations when compared to the radiologists, and pathologists ( $N = 20$ ) did not yield a sufficient sample to perform correlations. It is impossible to identify any causality for the differences in correlations between the two specialties.

Of particular interest was the fact that the highest correlation in the age category was demonstrated in the youngest group, ages 30 to 39 ( $r =$

-.596,  $p = .01$ ), followed closely by the oldest group, ages 60 and over ( $r = -.582$ ,  $p = .01$ ), supporting the concept that their job satisfaction is very much affected by their sense of internal work locus of control.

Perhaps the youngest group reflects this strong correlation because they are recently trained, and still maintain idealized thoughts and expectations about their experiences and the job description itself. Although their JS scores are mid-range compared to the others, with  $M = 25.28$ ,  $SD = 2.74$ , they clearly hold the belief that internal locus of control at work impacts their satisfaction with the job. Perhaps the older group reflects the strong correlation because they were classically trained to make unilateral decisions, and to see physicians as primarily self-reliant (a good example of high work internal locus). They could understandably attach this belief and expectation to a satisfying job.

The most striking result in the statistics concerning age categories is the substantially weaker correlation between JS and WLOC in the 50 to 59 group ( $r = -.29$ ,  $p = .05$ ). Their mean JS scores were also lower than the others, and their WLOC scores indicated less internality in the workplace than the others.

Further research is warranted in order to offer valid explanations, but it is difficult not to wonder if this age group reflected unique experiences with regard to the various changes in managed care. After all, the oldest group was closest to retirement and its members were more

likely to be working as a choice than as a necessity. The younger groups were educated and trained with an awareness of the managed care issues. It was the 50 to 59 age group that trained under one set of circumstances, and was working under other circumstances. In addition, members of this group were financially less likely to be able to retire at that point in their lives.

### Limitations of Study

The limitations to this research primarily concern the sample itself. Although the questionnaires were evenly distributed among all three specialties, the responses were far from evenly distributed. This was, after all, a study based on volunteer participation. In fact, more than half of the usable packets returned were from radiologists ( $N = 71$ ). Despite the respectable total of respondents ( $N = 138$ ), the results should not be generalized to all three specialties in this study. The additional component of a sample drawn from professional directories (thus eliminating those not belonging to their respective organizations) increases the concerns about limitations. However, this research could certainly be viewed as a way to introduce a new component into an area of research which has a great deal of room for growth.

Overall, the findings suggest that this sample of physicians is very satisfied with work ( $M = 25.05$  out of possible 30 for JS). Results also show physicians as having high internality ( $M = 38.38$  out of possible 96, with

low scores indicating high internality). Virtually all facets of the results support the alternative hypothesis. The highly significant correlation between JS and WLOC among physicians supports the literature across a variety of occupations and across studies that used different instruments to measure the correlation (Bein, Anderson, & Maes, 1990; Bush, 1988; Jain, Lall, McLaughlin, & Johnson, 1996; Judge, Locke, Durham, & Kluger, 1998; Nelson & Cooper, 1995; Spector & Michaels, 1986).

On one hand, it is reassuring to see that the results with this physician population so strongly support the findings in the literature. These results also demonstrate that despite the upheaval in the healthcare industry, this population of physicians has remained highly satisfied with work, and still report a generally high internal locus of control in the work environment. This fact can certainly imply that perceived locus of control in the work setting supercedes changes in the healthcare delivery system.

#### Recommendations for Future Study

It should come as no surprise that this sample of physicians measured high for internal locus of control in the work setting. In addition to Balint's (1957) acknowledgement that physicians are trained to be self-confident and self-reliant in their patient treatment decisions, the expectation that the profession attracts high internals is a logical one. Doctors would generally not be effective practitioners if they found it necessary to regularly rely on external feedback. Therefore, further

research of physicians' job satisfaction could be designed to assume internality. This is not to suggest omitting confirmation of internality; the recommendation is, however, to plan on it when designing a meaningful study.

In addition, there is a great deal of room for exploring the particular elements that contribute to physicians' work satisfaction - far beyond the six-item subscale used in the current study. Perhaps the development of a job satisfaction index specifically for physicians that includes specialty-specific subsets is in order. Although results in this study indicate universally high correlations among variables, there were varied sample numbers among categories. For example, a large number of radiologists responded ( $N = 71$ ), and a large number of private practice physicians responded ( $N = 97$ ). It would be interesting to pursue research that seeks to identify whether or not specific issues consistently relate to these high numbers.

Finally, although there is agreement (Judge, Thoresen, et al, 1999; Nelson & Cooper, 1995, for example) that "internals tend to be more satisfied with their jobs and careers than do externals" (Macan, Trusty, & Trimble, 1996, p. 350), there is concern that Spector's WLOC scale (1988) may actually be composed of two different factors: internal and external locus (Macan, Trusty, et al, 1996). The authors note that evidence in this area is conflicting, particularly because Spector's samples tended to be

restricted (virtually no subjects with high external locus). Macan, Trusty, et al suggest that further research on Spector's scale be conducted to address additional study of factor analysis as well as convergent and discriminant validity (if the WLOC scale is found to be two-dimensional). However, bearing in mind that physicians tend to score consistently high for internal WLOC, it is unclear whether or not the concerns of Macan, Trusty, et al (1996) are pertinent when using Spector's scale for a physician population.

### Implications for Counseling

It has been acknowledged that physicians tend to score very high on internality. Bearing this in mind, it might be assumed that they would also tend to avoid seeking help from others in the form of counseling. This is not meant to imply that physicians do not ever seek counseling. Yet suggestions for further research could begin to address their attitudes towards counseling, such as whether or not physicians take advantage of counseling services with great anxiety, resentment or fear. Exploring whether or not - or to what degree - physicians are comfortable in the role of needing and asking for help is a logical topic for future research.

This research has demonstrated that the current physician population is very satisfied at work. Therefore, counselors would be well-advised to avoid assuming that work-related issues contribute to a physician-client's problems (despite the unavoidable identity of the client

as physician), and to bear in mind the likelihood of a high level of resistance to the counseling process and the personal vulnerability that must precede progress.

However, despite the fact that this study did not focus on stress in the workplace *per se*, the stress factor was repeatedly acknowledged in the literature with regard to job satisfaction (Jex & Bliese, 1999; Judge, Thoresen, et al, 1999; Long & Schutz, 1995; Siu & Cooper, 1998). Counselors could cautiously assume that physicians generally experience work-related stress, whether or not they are able to acknowledge this. The very nature of the work (i.e., making decisions that directly affect the health and welfare of others), combined with ongoing uncertainties about managed care issues, are unavoidable work-related stress producing factors. Stress management may be a helpful piece of the counseling experience, despite the belief "... that an internal locus of control personality can help employees to cope with stress and strain in the workplace" (Siu & Cooper, 1998, p. 61).

In summary, counselors must not assume the physician seeking counseling can be categorized with regard to internality, job satisfaction, resistance, job stress, and so forth. Although it is important to be aware of these concepts as potential areas of concern, the client's attitudes regarding help-seeking behaviors (e.g., counseling) as well as the presenting concerns themselves, must be carefully and respectfully

addressed.

It should also be noted that physicians whose time is so valuable and who were trained to identify problems and administer "cures" might also be more receptive to solution-focused, brief therapy - at least at the outset. This is not to suggest more extensive work if/when a productive, therapeutic relationship has been established. Again, the exploration of physicians' expectations about counseling would be an important area for future research. Yet under all circumstances, the counselor would benefit immensely from listening very carefully to the physician's agenda at the outset and tailoring the approach in such a way that the client feels understood.



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## Appendix A

## Demographic Sheet

1. Age \_\_\_\_
2. Gender \_\_\_\_ (F) \_\_\_\_ (M)
3. What is your medical specialty? \_\_\_\_\_
4. How many years have you been a practicing physician? \_\_\_\_

NOTE: For the remainder of the questions, please respond based on your primary site of practice.

5. How many years have you been practicing at your current hospital or medical facility? \_\_\_\_
6. Would you classify your primary site as a city hospital or medical facility (within city limits of a major metropolitan area)?  
\_\_\_\_ (Y/N)
7. What is the approximate number of beds in your hospital?  
\_\_\_\_\_
8. Are you in private practice \_\_\_\_ (Y/N) or  
employed by your hospital or medical facility? \_\_\_\_ (Y/N)



## Appendix B

## Work Satisfaction Scale

1. **My work is satisfying.**  

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
disagree strongly	disagree	neutral	agree	agree strongly
  
2. **My work is boring.**  

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
disagree strongly	disagree	neutral	agree	agree strongly
  
3. **My work is good.**  

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
disagree strongly	disagree	neutral	agree	agree strongly
  
4. **My work is tiresome.**  

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
disagree strongly	disagree	neutral	agree	agree strongly
  
5. **My work is challenging.**  

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
disagree strongly	disagree	neutral	agree	agree strongly
  
6. **My work gives me a sense of accomplishment.**  

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
disagree strongly	disagree	neutral	agree	agree strongly

## Appendix C

## Work Locus of Control Scale

1. **A job is what you make of it.**
- disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly
2. **On most jobs, people can pretty much accomplish whatever they set out to accomplish.**
- disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly
3. **If you know what you want out of a job, you can find a job that gives it to you.**
- disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly
4. **If employees are unhappy with a decision made by their boss, they should do something about it.**
- disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly
5. **Getting the job you want is mostly a matter of luck.**
- disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly
6. **Making money is primarily a matter of good fortune.**
- disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly
7. **Most people are capable of doing their jobs well if they make the effort.**
- disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly

8. In order to get a really good job you need to have family members or friends in high places.

disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly

9. Promotions are usually a matter of good fortune.

disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly

10. When it comes to landing a really good job, who you know is more important than what you know.

disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly

11. Promotions are given to employees who perform well on the job.

disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly

12. To make a lot of money you have to know the right people.

disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly

13. It takes a lot of luck to be an outstanding employee on most jobs.

disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly

14. People who perform their jobs well generally get rewarded for it.

disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly

15. Most employees have more influence on their supervisors than they think they do.

disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly

16. The main difference between people who make a lot of money and people who make a little money is luck.

disagree strongly     disagree somewhat     disagree slightly     agree slightly     agree somewhat     agree strongly