

1-1-2009

Perceptions Of Motivation And Job Satisfaction For Information Technology Professionals At Institutions Of Higher Learning In Mississippi

Leann Mills Markham

Follow this and additional works at: <https://scholarsjunction.msstate.edu/td>

Recommended Citation

Markham, Leann Mills, "Perceptions Of Motivation And Job Satisfaction For Information Technology Professionals At Institutions Of Higher Learning In Mississippi" (2009). *Theses and Dissertations*. 3484. <https://scholarsjunction.msstate.edu/td/3484>

This Dissertation - Open Access is brought to you for free and open access by the Theses and Dissertations at Scholars Junction. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of Scholars Junction. For more information, please contact scholcomm@msstate.libanswers.com.

PERCEPTIONS OF MOTIVATION AND JOB SATISFACTION FOR
INFORMATION TECHNOLOGY PROFESSIONALS
AT INSTITUTIONS OF HIGHER LEARNING
IN MISSISSIPPI

By

Leann Mills Markham

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in Community College Leadership
in the Department of Leadership and Foundations

Mississippi State, Mississippi

December 2009

PERCEPTIONS OF MOTIVATION AND JOB SATISFACTION FOR
INFORMATION TECHNOLOGY PROFESSIONALS
AT INSTITUTIONS OF HIGHER LEARNING
IN MISSISSIPPI

By

Leann Mills Markham

Approved:

James E. Davis
Associate Professor and
Program Coordinator
Department of Leadership
and Foundations
(Chair Dissertation Committee)

Wayne Stonecypher
Executive Director (Retired)
State Board of Community and
Junior Colleges
(Committee Member)

Marty Wiseman
Professor and Director
John C. Stennis Institute of Government
(Committee Member)

Charles Campbell
Professor
Department of Finance and Economics
(Committee Member)

Frankie Keels Williams
Graduate Coordinator
Department of Leadership
and Foundations

Richard Blackburn
Dean of the College of Education

Name: Leann Mills Markham

Date of Degree: December 11, 2009

Institution: Mississippi State University

Major Field: Community College Leadership

Dissertation Chair: Dr. James E. Davis

Title of Study: PERCEPTIONS OF MOTIVATION AND JOB SATISFACTION FOR
INFORMATION TECHNOLOGY PROFESSIONALS AT
INSTITUTIONS OF HIGHER LEARNING IN MISSISSIPPI

Pages in Study: 120

Candidate for Degree of Doctor of Philosophy

Information technology is an ever evolving field that has become a mainstay in today's society, especially in higher education. The employees who maintain the information technology (IT) infrastructure and systems at educational institutions are tasked with similar jobs as their equivalents in the private sector; however, these employees are faced with unique difficulties. A lower salary range, less benefits, and less technological variety are typical characteristics in a higher education setting for IT employees as compared to private industry. Faced with these circumstances, IT employees continue to perform their duties and ensure the institution is functioning on a daily basis. With these employees working in this environment, where education is the focus, what factors influence IT employees' job satisfaction? Specifically, this research focused on IT professionals employed at community and junior colleges in Mississippi and the facets that influence these employees' job satisfaction.

The abridged Job Descriptive Index and the abridged Job in General survey tools were utilized in this study to determine the level of satisfaction for pay, promotion, supervision, co-workers, the work itself, and the job in general. The results showed several interesting findings. IT employees were most satisfied with the work itself. Also, this same group was highly satisfied with their job in general. Lastly, the number of years of work experience did not make a significant difference in regards to overall job satisfaction.

Recommendations were also provided in this research. One was to determine ways to improve satisfaction with the job facets with lower levels of satisfaction, which included pay and promotion. Second, community colleges should evaluate their current practices to ensure continued satisfaction in the highly satisfied areas of co-workers, supervision, and the work itself. Further study should be done to compare IT employees at Mississippi community and junior colleges with other higher educational institutions and private industry. Additional job satisfaction research should also include other departments at each institution or the entire community college. Since this research was based on a small sample, revisiting this same study to increase the population was also recommended.

DEDICATION

This research is dedicated to my husband, Jeff, and my two children, Spencer and Emma Claire. You were my motivation and backbone in ensuring I completed this worthwhile journey.

ACKNOWLEDGEMENTS

I would like to thank Dr. Ed Davis for his continued help and support throughout this entire process. His dedication and faithfulness made this endeavor possible. My committee members, Dr. Wayne Stonecypher, Dr. Charles Campbell, and Dr. Marty Wiseman, were valuable experts and critics and enabled me to make this process a memorable one.

I would like to thank my parents for allowing me the opportunity to further my education and the drive and perseverance to complete it. Without your guidance and support, this educational journey would not have become a reality.

TABLE OF CONTENTS

DEDICATION	ii
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	vi
LIST OF FIGURES	vii
CHAPTER	
I. NATURE AND SCOPE OF THE STUDY	1
Introduction and Background	1
Purpose of the Study	3
Significance of the Study	3
Research Questions	5
Delimitations	6
Limitations	7
Definition of Terms	8
II. REVIEW OF THE LITERATURE	9
Part One: Perspectives on Work	9
Part Two: Job Satisfaction Theories	10
Maslow's Hierarchy of Needs	11
Herzberg's Motivation-Hygiene Theory	12
Locke's Range of Affect Theory	13
Core Self-Evaluations Model	14
Hackman and Oldham Job Characteristics Model	16
Part Three: Work Factors	17
Part Four: Job Satisfaction	20
Part Five: Information Technology	23
Part Six: Higher Education - Community Colleges	28
III. METHODOLOGY	31
Population / Sample	31
Sample Selection	32

Instrumentation	33
Survey	41
Reliability of Survey	43
Data Collection	44
Data Analysis	46
IV. FINDINGS	50
Results of Survey	50
Research Question One	53
Research Question Two	56
Research Question Three	56
Relationships Between aJDI Facets and aJIG	61
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	64
Summary of Findings	66
Discussion	70
Suggestions for Practice	71
Recommendations	72
REFERENCES	76
APPENDIX	
A. SURVEY PERMISSION REQUEST EMAIL	86
B. JOB SATISFACTION SURVEY	88
C. PARTICIPANT EMAIL SURVEY SCRIPT	95
D. PARTICIPANT EMAIL SURVEY REMINDER SCRIPT	97
E. REVERSE SCORING KEY CHART FOR aJDI AND aJIG	99
F. PILOT STUDY SURVEY	102
G. EXAMPLE OF SURVEY CONTACT INFORMATION REQUEST	113
H. aJDI AND aJIG PERMISSION REQUEST	115
I. INSTITUTION REVIEW BOARD (IRB) APPROVAL LETTER	119

LIST OF TABLES

1	Coefficient Alpha (α) Values for the JDI and JIG (approximately 1,600 cases) from 1997 JDI and JIG National Norm Data.....	37
2	Cronbach Alpha (α) Values for aJDI and aJIG Survey Results ($N=30$)	43
3	Alternate Format for the aJDI.....	47
4	Scoring Key for aJIG (1997 Revision)	48
5	Demographic Descriptions of Survey Sample ($N=30$)	51
6	Descriptive Statistics of aJDI and aJIG Survey Results ($N=30$).....	54
7	Descriptive Statistics of Survey Results Grouped by Total Work Experience in Years	57
8	Independent Samples t-Test Results for aJIG (IV=Total Years in Workforce)	60
9	Correlations for aJDI and aJIG Survey Results	61

LIST OF FIGURES

1	Maslow's Hierarchy of Needs	12
2	Herzberg's Motivation-Hygiene Theory.....	13
3	Four Core Self-Evaluations.....	15
4	Hackman & Oldham Job Characteristics Model (Rotter, n.d.).....	16
5	Profile of aJDI and aJIG for Survey Results (N=30).....	55
6	Histogram of Total Years in Workforce of IT Professionals (N=30)	59

CHAPTER I

NATURE AND SCOPE OF THE STUDY

Introduction and Background

Job satisfaction has been researched to determine differences between a single trait or combinations of traits such as occupation, gender, age, race, and a particular company or organization (Callens, 2008; Curry, 2007; Grenway, 2007). Research regarding employee motivation exists for a mixture of professions (Couger & Zawacki, 1978; Herzberg, 1968). In addition, research has provided findings related to job satisfaction and motivation for particular professions and industries (Findley, 2007; Ting, 1997). A particular industry of interest in this research is the information technology (IT) field. Research depicts the various perspectives of information technology professionals regarding job satisfaction and motivation. Studies range from scenarios such as how IT professionals work behavior is related to social capital to personality traits being prevalent in specific IT functions (Graverson, 2008; Zhang, 2006). These studies have used different theories and philosophies to help explain relationships between information technology employees and job satisfaction.

Existing research provides ample combinations of theories in a range of disciplines and their application to IT and work behavior. One area that this research covered is higher education. The education venue offers a different environment

compared to its private sector counterparts. College campuses are perceived to be a welcoming environment that does not encounter some of the high demands and profit laced expectations as private industry (EDUCAUSE, 2000). The focus is providing students with an education in a safe and enjoyable environment. Technology is utilized to help accommodate this need and to provide services to faculty and personnel in addition to enhancing learning environments.

College and universities historically thrive when there are economic struggles in society; however, this increase of students and needs are typically met with reduced finances (Basken, 2008; Mangan, 2008). Higher education institutions are normally challenged with reduced budgets and fewer financing sources and avenues than other IT fueled businesses in the private sector. Providing an education to students is the main goal and can cause other campus entities needed to achieve this goal to receive less attention and funding (Guess, 2008). This situation is also applicable to private and public institutes of higher education (Goldstein & Caruso, 2004). According to the 2008 Campus Computing Project survey of IT in American higher education, 45.4% of public universities reported IT budget cuts during the fall of 2008, up from 16.3% from 2007 (Guess). Private institutions reported a decrease of approximately 23% in their budgets, and community colleges had a 24.6% decrease (Guess).

With the shortcomings of the economy and bleak future forecast, education is on the forefront of being the solution to many situations. This is especially evident in community colleges. Specifically, community colleges in Mississippi increased their enrollment by 16% in the fall of 2009 compared to enrollments in fall 2008. Mississippi

four-year institutions had an increase of 3.5% during the same time frame (“Enrollments,” 2009). These predominantly rural institutes of higher learning yield an obvious need to their communities as a place of instruction, economic development, and community involvement. Regardless of geographic location, IT is becoming even more prominent in these educational institutions with the growth of distance learning, student enrollments, and dependence on technological advances and use (Stout, 2007). The importance of IT at community colleges, along with job satisfaction, was the basis for this research study.

Purpose of the Study

The purpose of this study was to determine the factors that influence job satisfaction with IT professionals employed at institutions of higher education in the state of Mississippi, specifically community and junior colleges. The factors employed to determine job satisfaction for this population comprised the abridged Job Descriptive Index (aJDI) and the abridged Job in General Index (aJIG) (Balzer et al., 2000; Russell et al., 2004). In addition, comparisons were made to see if any relationships existed between job satisfaction and certain demographic conditions. Specifically, this research investigated length of time in the workforce and job satisfaction to determine if there was significance between these two facets.

Significance of the Study

Besides typically having less funding and resources, higher education facilities usually lag behind in new technology adoption and career development opportunities.

With less operating funds compared to the private sector, employees may not receive the opportunity to complete necessary training or courses to improve their IT skills in order to perform their duties or to implement new technology. Additionally, higher education facilities offer fewer incentives, less pay, and reduced benefits as compared to private industry (EDUCAUSE, 2000). Since this employment environment typically has a lower salary range, less benefits, and less technological variety than those IT professionals working in private industry, what motivates these IT employees to do their jobs? What factors influence these employees to remain at a higher education institution instead of working in a private sector job? This research study investigated job satisfaction of information technology professionals employed at community and junior colleges in the state of Mississippi. This study attempted to provide information in an effort to create a profile of job satisfaction facets that can aide organizations when faced with negative organizational issues such as turnover or budget cuts. This research applied to information technology employees at the fifteen Mississippi community and junior colleges. The junior and community colleges consist of Coahoma Community College, Copiah-Lincoln Community College, East Central Community College, East Mississippi Community College, Hinds Community College, Holmes Community College, Itawamba Community College, Jones County Junior College, Meridian Community College, Mississippi Delta Community College, Mississippi Gulf Coast Community College, Northeast Mississippi Community College, Northwest Mississippi Community College, Pearl River Community College, and Southwest Mississippi Community College. The results of this study can help provide IT administration at public higher education

institutions with ideas to offer positive working atmospheres and opportunities within their realm of capability. This study also provided results that will help the administration determine programs and discover ways to provide motivation and to continually gauge current morale with IT professionals. The job satisfaction facets most important to IT employees can be used to investigate new work arrangements, improve working conditions, improve communication, and promote the profession and services provided through innovative means.

Research Questions

This research study is designed to determine job satisfaction facets using the abridged Job Descriptive Index (aJDI) as it relates to IT professionals employed at institutions of higher learning in Mississippi . Specifically, this research involved the community and junior colleges in Mississippi. The aJDI is commonly administered in conjunction with the aJIG (Ironson, Smith, Brannick, & Gibson, 1989; “Measures,” n.d, para. 5). The research questions posed in this research study are as follows.

1. What is the most important job satisfaction factor for information technology (IT) employees employed at community and junior colleges in the state of Mississippi?
2. Are IT employees at Mississippi community and junior colleges satisfied with their jobs in general?

3. Is there a significance with overall job satisfaction for employees with less than twenty years work experience compared to those with more than twenty years of work experience?

Delimitations

The following are delimitations of the study.

1. This study focused on educational institutions, specifically community and junior colleges, in the state of Mississippi and did not seek to find any correlation with other institutions outside of the ones used in this research.
2. The population of this study consisted of IT professionals employed during the summer semester of 2009 at the chosen institutions of higher education in Mississippi. These included all public Mississippi junior and community colleges. The junior and community colleges in the state of Mississippi consist of Coahoma Community College, Copiah-Lincoln Community College, East Central Community College, East Mississippi Community College, Hinds Community College, Holmes Community College, Itawamba Community College, Jones County Junior College, Meridian Community College, Mississippi Delta Community College, Mississippi Gulf Coast Community College, Northeast Mississippi Community College, Northwest Mississippi Community College, Pearl River Community College, and Southwest Mississippi Community College.

Limitations

This study included the following limitations.

1. This study was limited to information technology employees at community and junior colleges in the state of Mississippi. Results of the study's survey were dependent on these individuals' knowledge of the involved material.
2. Results of this study were limited to the participants' perceptions at the time the study was conducted (Summer 2009).
3. Generalizations from this study were limited to the aforementioned population.
4. This study was limited to the possibility of crossover responses. In other words, the study's participants had the potential to discuss the questionnaire with one another during the process, which has the potential to influence the responses.
5. This study's findings were limited by the validity of the survey instrument.
6. The survey developed for this study contained areas that received a sufficient amount of responses. Data analyses were limited to the areas with a sufficient response rate.
7. This study did not take into account the organizational and institutional structure of each community or junior college.

Definition of Terms

1. Morale refers to the state of the spirits of an individual or group as shown in the willingness to perform assigned tasks (Morris, 1981).
2. Motivation describes the psychological processes that cause the arousal, direction, and persistence of voluntary actions that are goal directed (Mitchell, 1982).
3. Information technology professional is an employee at a public community or junior college in the state of Mississippi or other public or private entities whose job title or job description involves information technology services. These employees can be full-time or part-time, but they are not considered faculty.
4. Job satisfaction refers to a positive and enjoyable attitude felt by an employee toward his or her job based on the employee's feelings, beliefs and behaviors (Weiss, 2002). The pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values (Locke, 1968).
5. Work experience refers to the number of years participating in the workforce.
6. Rural describes an area that is incorporated, Census-designated place or nonplace territory defined as rural by the Census Bureau and not within a metro area with a large or midsize city with less than 2,500 residents (National Center for Educational Statistics [NCES], 2008; U. S. Census Bureau, 1994).

CHAPTER II

REVIEW OF THE LITERATURE

This research study focuses on the arenas of IT, job satisfaction, and higher education with an emphasis on community colleges. Varying research exists on these topics individually as well as in a combination of research interests. This chapter depicts research literature that provides recent insight into these three areas. Part one focuses on the significance of work. The second topic covered is popular job satisfaction theories while specific job factors that influence workers is discussed next. The fourth area of discussion is various research related to job satisfaction. The last two areas contained in this chapter were the topics of information technology and community colleges. The following paragraphs provide insight into these subject areas.

Part One: Perspectives on Work

According to the U.S. Department of Labor's Bureau of Labor Statistics, the civilian workforce in the U.S. is 154.4 million out of a total of 235 million potential workers, based on ages 16 and over, as of December 2008 (U. S. Department of Labor, 2008a). This statistic indicates that more than 65% of working aged people in the U.S. participates in the workforce (U. S. Department of Labor). People are normally duty-bound to work for various reasons or motivations. The majority of society works to ensure their existence and their dependents. As Heron (1948) described, beyond the

needs of food, clothing, and shelter, men historically worked so they may not be obligated to work in later years. In other words, people work in their youth to save and prosper in order to refrain from work in their older age (Heron; Levenstein, 1962). Joanne Ciulla (2000) wrote that workers are led to believe that they can gain identity, meaning, self-esteem, fulfillment, and self-development from their occupation (Magid, 2001). Work and its benefits are both positive and negative. This dual attitude toward work, degrading yet ennobling, is another paradox that characterizes man (Levenstein).

Part Two: Job Satisfaction Theories

Since people work because of some necessity, another avenue to explore is why employees continue to work in a particular occupation or place of employment. In other words, the factors that affect, whether negatively or positively, an employee's outlook and satisfaction toward his job. People typically have choices about their careers. They can stay at their present job, change positions within the same company, change career paths, leave the workforce entirely, or change employers. Research has been conducted to establish the determinants in realizing the essence of maintaining satisfied employees. Five popular theories that establish the mechanisms needed to provide workers with job satisfaction include Herzberg's Motivation-Hygiene Theory; Edwin Locke's Range of Affect; Judge, Locke and Durham's Core Self-evaluations model; Hackman and Oldham's Job Characteristic model; and Maslow's Hierarchy of Needs. The following paragraphs describe each theory's concepts, viewpoints and ideals.

Maslow's Hierarchy of Needs

Maslow's Hierarchy of Needs is a psychological theory depicted via a pyramid with the more primitive needs on bottom. The bottom level is described as the physiological needs, which includes breathing, food, water, sleep, sex, excretion, and homeostasis (Maslow, 1987). The next level is the safety level. These actions include security of body, employment, resources, morality, health, family, and property. The third layer is known as the social needs layer. These items include friendship, intimacy, and a communicative and supportive family (Maslow). The fourth level is esteem. These actions are self-esteem, confidence, achievement, respect of others, and respect by others. The top most level is the self-actualization level. Morality, creativity, spontaneity, problem solving, acceptance of facts, and lack of prejudice are the needs in this category. Maslow believed that humans start at the bottom level, physiological, and once these needs are met move on to the next level of needs. The need for self-actualization is the final need that manifests when lower level needs are satisfied (Maslow). The figure below depicts Maslow's description of needs.

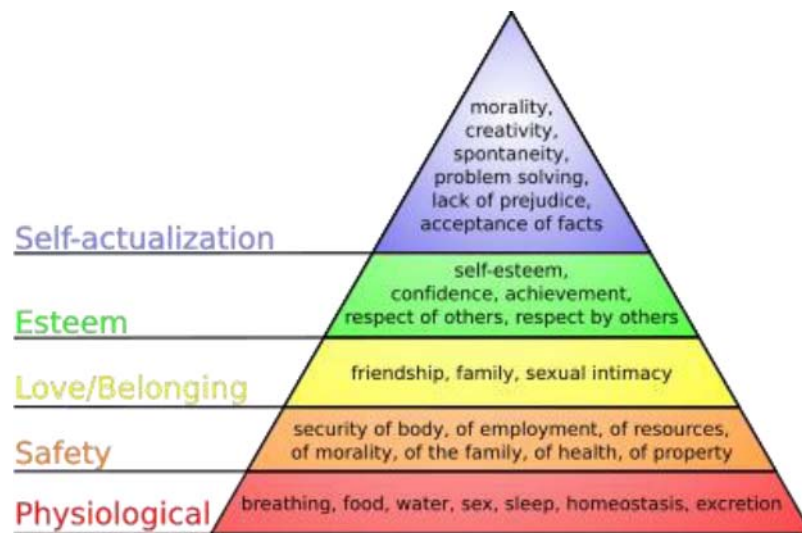


Figure 1 Maslow's Hierarchy of Needs

Herzberg's Motivation-Hygiene Theory

Herzberg's Motivation-Hygiene Theory states that satisfaction and dissatisfaction are driven by different factors (Herzberg, 1968). These two types of factors are labeled motivation factors and hygiene factors. Motivating factors are factors that make people want to work and provide satisfaction (Herzberg). These intrinsic, motivation factors include achievement, recognition, promotion, growth, responsibility, and the work itself (Herzberg). Motivation factors help increase satisfaction but they have little effect on dissatisfaction. On the other hand, dissatisfaction is driven by hygiene factors. Extrinsic, hygiene factors include salary, job security, benefits, supervision, status, relationships with co-workers, physical environment, and company policy/administration (Herzberg). These factors, if absent or inadequate, cause dissatisfaction. Their presence has little

effect on long-term satisfaction (Herzberg, 1968). The diagram below (Figure 2) helps depict Herzberg's theory.

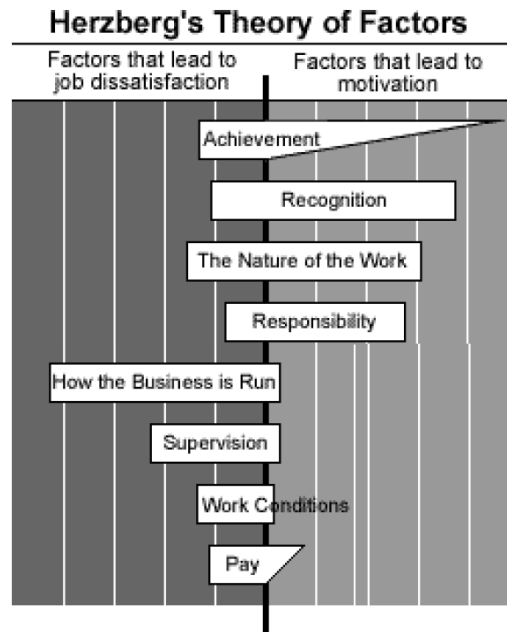


Figure 2 Herzberg's Motivation-Hygiene Theory

Locke's Range of Affect Theory

Edwin A. Locke's Range of Affect Theory proposes that satisfaction with any job facet is determined by two factors: the have-want discrepancy for the facet and the importance of the facet (1976). Further, the theory depicts how much a person values a given facet of work determines their level of satisfaction for a job facet. Simply stated, the have-want discrepancy is determined by a difference between what one wants in a job and what one has in a job. The second part of the theory describes the position of the job facet within a person's hierarchy of values (Locke; McFarlin, Coster, Rice, & Cooper, 1995). This theory allows for the possibility to predict when employees will experience

satisfaction or dissatisfaction in a particular job aspect. Facet satisfaction will be highest when the amount of satisfaction received is the same as the amount wanted by an individual for facets with high importance. On the other hand, facet dissatisfaction will be highest when the amount received is less than the amount expected for facets with high importance (Locke; McFarlin et al., 1995). Job facets that are deemed unimportant or low on the hierarchy for an individual will yield neutral reactions. Workers cannot have strong satisfaction reactions to items with little or no importance to them (Locke; McFarlin et al.).

Core Self-Evaluations Model

The Core Self-Evaluations Model (CSE), proposed by Judge, Locke and Durham in 1997, indicates there are four core self-evaluations that determine one's disposition towards job satisfaction: self-esteem, locus of control, general self-efficacy, and neuroticism. These are displayed in figure 3 below. Self-esteem is the basic appraisal people make of themselves (Judge, Locke, & Durham). General self-efficacy is one's estimates of one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to exercise general control over events in one's life (Judge et al., 1997). General self-efficacy is normally considered to be a core component of self-esteem. Therefore, generalized self-efficacy and self-esteem would load on the same factor (Judge, Locke, Durham, & Kluger, 1998). Locus of control concerns the degree to which people believe they control events in their lives (internal) or believe that the environment or fate controls (external) events (Rotter, 1966). The main difference

between self-efficacy and locus of control is that locus of control refers to controlling outcomes while self-efficacy refers to controlling actions or behaviors (Judge et al., 1998). Finally, neuroticism refers to individuals who are prone to anxiety, insecurity, guilt, and nervousness (Costa & McCrae, 1988). This theory suggests that CSE explains much of the overlap among these four traits and predicts many work outcomes better than individual traits (Judge, 2009). Higher levels of self-esteem, general self-efficacy, internal locus of control and lower levels of neuroticism lead to higher work satisfaction (Judge et al., 1997).

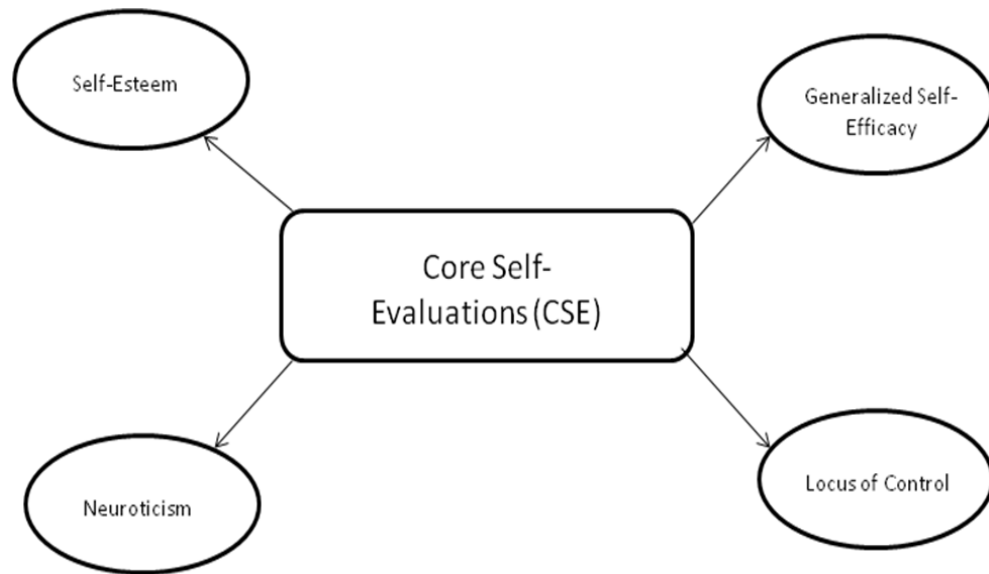


Figure 3 Four Core Self-Evaluations

Hackman and Oldham Job Characteristics Model

Another theory is the Hackman and Oldham Job Characteristics Model. This model states there are five core job characteristics (Hackman & Oldham, 1980). These five core areas are skill variety, task identity, task significance, autonomy, and feedback (Hackman & Oldham). These five core areas impact three critical psychological states. These include experienced meaningfulness, experienced responsibility for outcomes, and knowledge of the actual results. The result is the three critical psychological states impact the work outcomes such as job satisfaction, absenteeism, and work motivation (Hackman & Oldham). The five core job characteristics can be combined to form a motivating potential score (MPS) for a job and can then be used as an index of how likely a job is to affect an employee's attitude and behaviors (Hackman & Oldham). Figure 4 depicts this model.

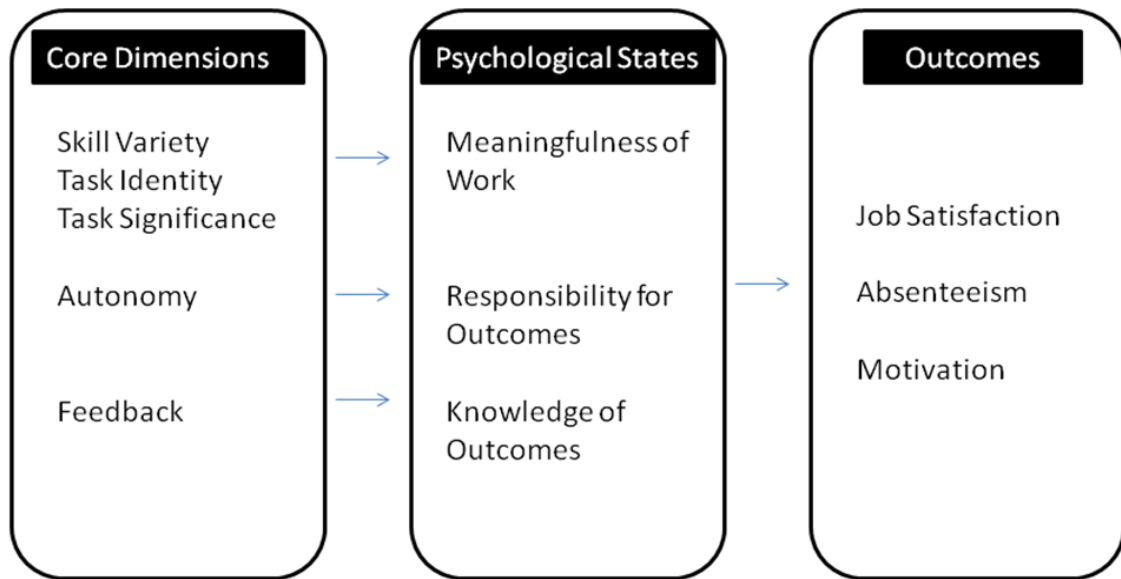


Figure 4 Hackman & Oldham Job Characteristics Model (Rotter, n.d.)

As described previously, there are various models and research to depict what makes employees enjoy their jobs. A combination of these models and others is available for employers to incorporate what they deem satisfiers into their policies and work environments. Specific factors or traits within these models that can be included in places of employment to attain job satisfaction are discussed next.

Part Three: Work Factors

The factors that cause employees to maintain a good relationship and attitude toward their occupation vary. As Frederick Herzberg found in his 1968 article the basic necessity employees yearn for is intrinsic in nature (Herzberg). Employees want to feel responsible and grow in their work tasks as well as engaging in a vocation they feel is

interesting and challenging (Herzberg). CSE methodology and its research is primarily based on the idea that individual self-regard is related to a person's level of job satisfaction (Judge, Erez, Bono, & Locke, 2005). The Range of Affect model also shows support that individual perceptions are directly related to job satisfaction outcome (Locke, 1976). Maslow believes that people should satisfy internal needs, more specifically self-esteem, before they can yield the ultimate goal of self-actualization (Maslow, 1987). Finally, Hackman and Oldham provide more information regarding the dimensions of work in order to yield intrinsic results (Hackman & Oldham, 1980). These models all touch on particular areas that are deemed internal to individuals.

External facets can also influence work satisfaction. Many people believe the most popular extrinsic aspect for employees is salary. However, there are other external factors that help create job satisfaction beyond salary and pay raises. Stephen Bevan, managing director at The Work Foundation, stated that staff normally state pay as the main reason for leaving, but other factors often play a significant role in job satisfaction ("Loyalty cannot be bought," 2008). These other aspects include management, colleagues, location, and career development ("Loyalty cannot be bought"). In addition, Herzberg's (1968) theory features extrinsic factors such as job security, benefits, status, co-worker relationships, and company policy/administration. Company culture and flexible schedules are other external features that are important to employees (All, 2007). Also, Maslow's (1987) hierarchy mentions external items such as friendship, family, and respecting others.

There is conflicting research that depicts external factors as positive and negative influences on job satisfaction. As Herzberg described, hygiene factors can offer short lived satisfaction or even negatively impact internal satisfaction (Herzberg, 1968). An increase in salary is great for an employee until the initial affect wears off and the employee is again disgruntled. Research has shown that extrinsic rewards can have a detrimental effect on employee's intrinsic motivation (James, 2005; King, Hautaluoma, & Shikiar, 1982). Nonetheless, external factors are influential when determining job satisfaction.

Various external and internal aspects can help companies and businesses retain or lose staff. Another facet of job satisfaction is situations and circumstances that cause negative feelings toward one's workplace. Bevan continued that unfair pay structures can lead to satisfaction issues ("Loyalty cannot be bought," 2008). Leadership IQ, a Washington, D.C. leadership training company, found that all working generations expressed some level of dissatisfaction with their jobs (Laff, 2008). The research also found that age was inversely related to the likelihood of dissatisfaction (Laff). The main point divulged from the Leadership IQ survey was that employees are dissatisfied when managers do not provide attention or praise for their work (Laff). Ting (1997) found that job traits, organizational traits, and individual traits were the determinants for the level of satisfaction for federal government employees. The source of conflict or turmoil within workplaces and among employees and their effects on employee satisfaction can be endless. No generation is completely happy with its employer (Laff).

Regardless of the mechanisms that help reward or recognize employees' success, most employees want to perform well and be effective in their positions. On the other hand, employers want to focus on the positive aspects that motivate their employees to be more productive while enjoying their jobs. Managers depend on their employees to be reliable and to complete tasks effectively and efficiently. Employers want to provide environments so their employees can satisfy their own internal interests and needs in addition to completing their task at hand. Conversely, employees have determined a list of certain features to influence their level of job satisfaction. Employees often stay at a particular job because of attachments and their sense of fit (Mitchell, Holtom, & Lee, 2001). The sense of fit not only relates to the employee and his or her job, but to the community as well (Mitchell et al.). These potential reasons for leaving or continuing a job help form an employee's perception of his or her self worth and determination. This is normal behavior in the greater part of the working world. Managers and employees alike have a perception of what is required to ensure satisfaction in the workplace. They both want these factors to be present or made available to help encourage good working relationships.

Part Four: Job Satisfaction

Job satisfaction can be applied to any worker group or classification or to workers in general; however, what does the meaning of job satisfaction encompass? Locke (1968) described job satisfaction as the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values.

He continues that on the other spectrum is job dissatisfaction. This is the unpleasurable emotional state resulting from the appraisal of one's job as frustrating or blocking the attainment of one's job values or as entailing disvalues (Locke). Both of these terms are a function of the perceived relationship between what one wants from one's job and what one perceives it as involving (Locke). Further, Weiss (2002) states that job satisfaction is the attitude felt toward one's job based on one's feelings, beliefs, and behaviors.

Research exists that depict how job satisfaction applies to general populations of workers. Job satisfaction among workers in the U.S. during the 1970s found that job satisfaction and education, age, occupation, and income were positively linked (Weaver, 1980). In addition, other research has determined that age and job satisfaction typically has a positive relationship (Laff, 2008; Lee & Wilbur, 1985; Reiner & Zhao, 1999). A survey by The Conference Board found that Americans in general are growing increasingly dissatisfied with their jobs (The Conference Board, 2007). This research also found that the unhappiest workers are found in the 25 and under age group with the 45-54 age range coming in second. Almost half of the 55 and over employees were satisfied with their current jobs (The Conference Board). Also workers earning \$15,000 or less and located in the Middle Atlantic area were the least satisfied in the wages and location categories. These respondents were satisfied with their co-workers and their interest in their work (The Conference Board).

Researchers have investigated a specific occupation or profession to determine similarities and distinctions with job satisfaction. Some examples of professions where research has been performed to determine job satisfaction is counselor educators, rural

nurses, business employees, lawyers, and municipal employees (Byers & Others, 1996; Hill, 2009; Hunsberger et al., 2009; Jurkiewicz & Massey, 1997; Kuchinke, Ardichvili, Borchert, & Rozanski, 2009). The job satisfaction literature contains almost endless combinations involving professions, measures of satisfaction, and its affects. This wealth of research provides commonalities and differences that researchers and administrators can use to compare and contrast potential differences between varying occupations to help achieve job satisfaction in their own situations.

The literature also identified various factors that keep employees satisfied in certain occupations. For example, retention rates were directly related to the corporate/organizational culture for accounting graduates, thus indicating employees and the workplace's values impact employee satisfaction and ultimately retention (Sheridan, 1992). For IT professionals, communication and worker-supervisor relationships are important in retaining employees (Luftman, 2008). In addition, Luftman suggested that a work/life balance, challenging work environment, flexibility, and autonomy help job motivation specifically for IT employees. Compton (2002) investigated job satisfaction for members of the Association of Information Technology Professionals (AITP) using the Job Descriptive Index (JDI) and Job In General (JIG). The results showed that AITP members showed a high degree of job satisfaction within the categories of work, promotion, pay, co-workers, and supervision in the JDI and a high degree of satisfaction as measured by the JIG (Compton). Career progress is an important indicator of job satisfaction for IT professionals (Cheney & Scarpello, 1986). The potential for career progress for IT professionals is a concern as well as an indication of remaining in a

current employment position (Cheney & Scarpello). IT employees remain in their current job if they are satisfied with its features (Cherlin, 1981).

As expressed earlier, various research has been performed to depict job satisfaction within information technology. The results have shown that IT professionals in general have different job satisfaction requirements than non-IT professional (Fitz-enz, 1978; Myers, 1989; Sutherland, 1992). Specifically, research by Computer Weekly indicated that IT professionals' main source of motivation is not salary (Goodwin, 2007). This survey research, which sampled Computer Weekly readers, found that IT professionals thought challenging work was the main point of work satisfaction (Goodwin). Employees in small and mid-sized information technology companies located in Taiwan showed non-significant relationships between job satisfaction and age, gender, tenure, and marital status (Chiang & Wang, 2008).

Part Five: Information Technology

Information technology (IT) plays an integral role in almost all parts of society and people's daily lives. From interacting with the internet to checking appointments on a personal digital assistant (PDA), information technology touches an array of facets in everyday happenings. IT services are available and accessible through a variety of venues and provides infinite resources to people to achieve their work, communication, education, and entertainment needs (Knowles, 2006; Larrivee, 2008; McManus, 2007). According to research performed by the Pew Internet & American Life Project, 85% of American adults use cell phones or the Internet (Horrigan, 2007). Additionally, most of

American adults use both of these technological trends according to Horrigan. The Internet has affected our way of life through the means we use to determine information, goods, and services (Rainie & Horrigan, 2005). Information technology ensures the existence and possibility of certain day to day activities with which today's culture has become dependent.

The vast number of information technology services offered to the public as well as other areas of industry requires the proper workforce to maintain and build upon existing equipment, services, and applications. IT professionals can ensure effective and efficient use of their knowledge and expertise to carry out daily functions. The necessity of IT professionals is a requirement in most areas of the economy (U. S. Department Labor, 2008c). These employees provide an array of services ranging from computer hardware to software to analysis oriented tasks (U. S. Department of Labor, 2008c). A variety of specialized areas exists within the IT realm. Byrd, Lewis, and Turner (2004) determined a need for specialization and variety for people in the IT field. This field has grown from simply being thought of as only programmers to include areas such as network administration, computer systems analyst, and software engineers (U. S. Department of Labor, 2008b; U. S. Department of Labor, 2008c). According to the Bureau of Labor Statistics' most recent occupational statistics, information technology jobs are expected to be among the largest and fastest growing job sectors between 2006 and 2016 (Dohm & Shniper, 2007). This increase of jobs for the IT field is currently growing more than twice as fast as the average for other occupations (Gregorie, 2008; U. S. Department of Labor, 2008c). Three of the top thirty growing jobs are in the

information technology realm (Dohm & Shniper). Network systems and data communications analysts had the largest percentage increase out of the 30 largest growing jobs from 2006-2016 with 53.4% (Dohm & Shniper). The Department of Labor's research predicted that America will add 1.5 million information technology jobs between 2006 and 2016 (Bond, 2008; Dohm & Shniper). Information technology is continuing to be a highly sought after profession by businesses and industries.

The IT field of expertise can be found in the majority of today's industries. Healthcare, government, legal, agriculture, and finance are a few examples that use IT in their daily operations or in providing services to their clients (Dohm & Shniper, 2007). One specific arena that has seen a vast increase in IT use is education. Technology use has increased in educational learning and is widely utilized in the various education disciplines (Byers, Byers, Hoadley, & Pike, 2000). The use of technology in education is not limited to secondary education but also includes higher education (Mooney, 2008). The Educause Center for Applied Research (ECAR) found that 82.3% of its undergraduate student respondents [over 27,000 students at four-year and two-year institutions] utilized course management systems (CMS) several times a week (Caruso & Salaway, 2008). This same study revealed that the majority of students (59.3%) preferred moderate amounts of IT in their courses in addition to face time with their instructors (Caruso & Salaway). Other examples of IT use in higher education can include classroom teaching tools such as computer and video games, distance education courses, and podcasts (Kolowich 2009; Marten & Samels, 2007; Mooney 2008).

With the increase in technology use, specifically in education, education systems and institutions are hiring new employees and utilizing current employees to provide the support and qualified knowledge to maintain and implement appropriate technology to provide resources to faculty, staff, and students. The IT personnel employed at these educational institutions are even more utilized than before to provide around the clock support for the vast array of services provided to their constituents. They attempt to stay abreast of new technologies and are responsible for similar computer environments and tasks, including hardware, software, training, and user support, as their private industry counterparts (Carnevale, 2007).

One concern for employers is ensuring proper employees are in place to maintain necessary business processes and services. The Bureau of Labor Statistics stated that approximately 40 percent of all US employees will leave their jobs within the next 12 months (Gregorie, 2008). Turnover can be a concern for all sectors, but it is a continuing concern for IT. Information technology is specifically affected because of the current and expected future market demand for their staff and expertise. Attracting, developing, and keeping staff intact is the most important agenda item to IT administration and management per the Society for Information Management 2007 survey (Luftman, 2008).

Employers are interested, more than ever, in retaining IT staff. The same concept is also noted as a top point of concern with information technology administrators in higher education. For several years, EDUCAUSE (a nonprofit association whose mission is to advance higher education by promoting the intelligent use of information technology) members have noted IT employee attraction and retention as top issues of

concern (Guess, 2008; Latimer, 2002). The range of higher educational institutions that have identified these IT concerns regarding EDUCAUSE's research include two year and four year institutions (EDUCAUSE, 2000). The issue of maintaining a competent IT staff is an obvious concern for all variations of higher education institutions. This concern is especially a top priority with public universities as well (Guess).

Companies hire new employees in order to handle workloads and fill vacancies. Regardless of industry, hiring new staff can encounter several negative aspects. Hiring new employees incurs not only employment expenses, but a learning curve and a transition phase compared to an existing employee (Mitchell et al., 2001). These concerns are true in postsecondary institutions and state government as well (Latimer, 2002; National Association of State Chief Information Officers [NASCIO], 2008). Newcombe (2002) discovered that almost 87% of state governments lack the IT personnel they need. Therefore, non-profit and for-profit employers are faced with finding the optimal solution between retaining current staff or hiring new staff to replace leaving employees or to increase their workforce.

Employers, in general, are interested in retaining current, knowledgeable employees. Losing employees can have negative connotations. Organizational culture and organizational knowledge are two potentially invaluable items that can be lost to employees leaving an institution (Mitchell et al., 2001). However, employers are faced with how to maintain efficient and satisfied staff with the resources at hand. Research has provided varying opinions as to what employers can do to retain employees by meeting their job satisfaction factors or motivation needs.

The research literature discusses various philosophies and models related to determining job satisfaction. Examples of the theories found in today's literature and this research study that relate to this aspect of employment include those from Herzberg, Locke, Judge, Maslow, Hackman and Oldham. Key to these approaches is that they all believe employee fulfillment is needed to motivate employees, and factors that improve job satisfaction are central to achieve this goal (Mak & Sockel, 2001). Thus, job satisfaction is an important feature for employee motivation and retention (Mak & Sockel).

IT professionals encompass various interests related to job satisfaction. Information technology professionals employed in higher education may offer unique factors that contribute to their job satisfaction. The following section further divulges how higher education, specifically community colleges, are interacting and intertwined with information technology and the people that provide this vital assistance.

Part Six: Higher Education - Community Colleges

Higher education offers society a means to enhance one's future. These institutions of higher learning provide educational experiences to meet the demands of their constituents. This statement is especially applicable to community colleges. Community colleges have an open door policy, which provides educational opportunities and service to anyone (Vaughan, 2006). These higher education institutions range in size, location, and offerings. According to the National Center for Education Statistics

(NCES), community colleges in the U.S. enrolled 6.2 million students (Provasnik & Planty, 2008).

One area that is receiving more attention at community colleges is the role of IT. As the focus of student services, IT is providing more technological avenues to support the needs of the community college (Stout, 2007). One example of technology that is being utilized heavily by community college students is email. Email is the preferred method of college communication for community college students according to research conducted by Caruso (2007). In addition to their current responsibilities, which typically includes the enterprise resource planning system (ERP) and infrastructure, IT departments are implementing and maintaining additional systems and data requests to better serve and judge the progress of programs and initiatives at their respective college (Stout). Community college students also requested a stronger preference for either extensive or exclusive use of IT in their courses, which was a higher response than their four-year university counterparts (Caruso). In addition, 63.8% of community college students agreed or strongly agreed that the use of IT in their classes improved learning (Caruso). IT professionals are also tasked with learning new methods and technology in order to provide support for departments and students (Stout). Even though some community colleges are equal to four year institutions in regards to budget, campus size, and student enrollment, the majority of community colleges are normally running smaller operations as well as a smaller operational budget, especially in Mississippi.

Past research has answered various types of questions regarding motivation and work. Research has been done to determine motivators for IT professionals in general

along with different aspects of higher education, but very little research exists in specific IT arenas in higher education. This is especially true with community colleges. Bennett (2006) provided results of job satisfaction and training for IT professionals in higher education. Additionally, research has been conducted in higher education or government settings. Job satisfaction research has been determined for state agencies, non-faculty personnel in higher education, online faculty, and federal government employees (Findley, 2007; Satterlee, 2008; Thatcher, Liu, Stepina, Goodman, & Treadway, 2006; Ting, 1997). The area this body of research involved is IT professionals, specifically, IT employees working at a community or junior college in Mississippi. The combination of IT and higher education are not unique, but these areas were the basis of determining job satisfaction factors for IT professionals employed at Mississippi community colleges. The remainder of this document presents the methods of how job satisfaction was measured, interpreted, and applied. This research study provided insight as to how higher education administration can better utilize and grow their IT talent.

CHAPTER III

METHODOLOGY

This research study examined job satisfaction of information technology employees in Mississippi who are employed at institutions of higher learning, specifically community colleges. Survey research was utilized to collect data for analysis for this particular research study. In addition, statistical methods were used to determine the relationships between the factors of job satisfaction of IT employees. This research received Institutional Research Board (IRB) approval from Mississippi State University. The approval letter can be found in Appendix I.

Population / Sample

The population consisted of all IT professionals employed at ten community colleges in Mississippi. These institutions were surveyed via the Internet. These institutions included Coahoma Community College, Copiah-Lincoln Community College, East Central Community College, East Mississippi Community College, Hinds Community College, Holmes Community College, Itawamba Community College, Meridian Community College, Northwest Mississippi Community College, and Southwest Mississippi Community College. The population consisted of 90 professionals.

Sample Selection

Upon receiving IRB approval from the Office of Regulatory Compliance at Mississippi State University, the researcher began contacting Mississippi community and junior colleges regarding this body of research. The population initially included contacting the presidents of the 15 community and junior colleges in Mississippi. Each president was emailed requesting his or her permission to conduct this research at his or her respective institution. The email script is available in Appendix A. The researcher received permission from 12 of the 15 community college presidents; however, only 10 of the 15 community colleges provided the necessary survey contact information for their IT employees during the allotted time period. The time period, where the researcher contacted the presidents and awaited a response, lasted approximately two weeks during May of 2009. If the president did not respond, another email request was sent a week after the initial request. The reminder email consisted of the exact same contents as the initial email message. Again, this can be viewed in Appendix A.

After receiving approval from the community college president, the researcher began the process of obtaining the necessary email addresses for that institution's IT staff. This procedure was accomplished in various ways. The majority of the presidents had their IT directors or equivalents email the researcher the list of email addresses. Other scenarios included the researcher using the community college's online staff directory to retrieve the email addresses, the researcher emailing the appointed designee from the president (typically the IT director or a vice president) requesting the information, and the president actually providing the email addresses. If the person contacted requesting the

IT employee email addresses did not respond within a week of the initial request, the researcher emailed the contact person again. The initial and reminder email were the same message, and an example email can be found in Appendix G. The time frame allotted for requesting and receiving the email addresses lasted approximately two weeks once the president provided his or her approval to conduct this research and provided the necessary contact information to retrieve the email addresses. This process occurred during the months of May and June 2009, and the information retrieval procedure lasted for approximately four weeks.

Once approval was granted and the necessary email addresses were received from the community colleges, an email was sent to the IT employees at the approved institutions to complete the survey. The initial email is included in Appendix C. The population consisted of 90 IT professionals that were employed at one of the following community colleges during June of 2009: Coahoma Community College, Copiah-Lincoln Community College, East Central Community College, East Mississippi Community College, Hinds Community College, Holmes Community College, Itawamba Community College, Meridian Community College, Northwest Mississippi Community College, and Southwest Mississippi Community College.

Instrumentation

Three instruments were used to collect the data for this research study. These included a pilot survey, the abridged Job Descriptive Index (aJDI), and the abridged Job in General (aJIG) tool. The researcher obtained the permission of the JDI Research

Group to use the aJDI and aJIG instruments for this research study. These two tools are available in an abridged format to help reduce survey completion time and survey space (Stanton et al., 2001). The abridged versions, which are simply shorten versions of the original forms, were chosen for this research because of their popularity and continued exploration to ensure validity and reliability in addition to furthering the job satisfaction research arena. Appendix H provides the correspondence and details regarding this request and permission. The following paragraphs provide descriptive information and instrument reliability.

Initially, a pilot study was conducted to determine the content validity of the web-based survey that was created via Survey Monkey. The pilot study included eleven IT professionals employed at an IT consulting firm. Additionally, four research experts in academia were also included in this group to check the survey tool for content validity. The notification and delivery of the survey were also tested with this group to ensure these processes were efficient, appropriate, and effective. The pilot study group provided feedback and time estimates of utilizing the survey tool which consisted of the aJDI, aJIG, and demographic questions. The pilot survey tool also provided an open ended question for the respondent to provide suggestions, corrections, or ideas regarding the survey format and questions. The feedback consisted of typographical and wording concerns. The pilot data was not included in the survey results. The pilot survey instrument is available in Appendix F. The pilot study time frame lasted for approximately two weeks during June 2009.

The Job Descriptive Index (JDI) was first described by Smith, Kendall, and Hulin's (1969) publication, *Measurement of Satisfaction in Work and Retirement*. The JDI measures five aspects of job satisfaction. These include work on present job, present pay, opportunities for promotion, supervision, and co-workers. The JDI measures job satisfaction based on these specific facets. It still remains one of the most widely used and most popular job satisfaction measures (Buckley, Carragher, & Cote, 1992; DeMeuse, 1985; Zedeck, 1987).

A considerable body of research on the instrument since its publication has provided support for its reliability, popularity, and validity (Balzer et al., 2000). The validation of the JDI was to follow a sequential research strategy, which used evidence for discriminant and convergent validity within and across samples. A strategy was devised to collect and analyze data from a variety of jobs and samples (Balzer et al.). This process began in 1959 and covered a five year period. During this time four studies were conducted that used four different samples. The results from these studies found that, based on cluster and factor analyses, the JDI measures possessed high levels of discriminant and convergent validity. Other findings included item loadings on its relevant factor were typically higher than their loadings on the other specific factors. Thus, the JDI appears to provide discriminable facets of the job in a reliable and valid format (Balzer et al.).

Another item of interest that was divulged from this research was the format of the scoring of the JDI. The direct scoring procedure was the best response format since people appeared to describe their current jobs relative to alternatives and more

computations of differences between current job and best or worst job had a negative effect (Balzer et al., 2000). Additionally, the negative statements used reversed scoring which were found to encompass similar loadings as the positive statements. This suggested that both types of items could be utilized and that the number of each category of item within a scale did not have to be balanced (Balzer et al.).

The last finding of this initial research of the JDI determined that subsequent studies deemed that the JDI scales correlated with behavioral measures such as termination decisions (Balzer et al., 2000). Also, differences in organizations were found. Personal traits were another aspect of the variable determined to be represented with JDI use. The combination of the individual, behavioral, and situational parameters within the JDI provide support for the usefulness as an organizational diagnosis and evaluation tool (Balzer et al.).

As time passes, changes occur in the workforce and workplace. With this in mind, the JDI tool has also been revised to accommodate change since its inception. The 1985 revision of the JDI included changes to incorporate items that showed increased internal consistency with other item scales, showed greater discrimination between high and low scorers and improved accuracy in some portion of the scale (Balzer et al., 2000). These new items replaced items that showed uneven effectiveness and were less relevant in the current workplace.

In 1997, the JDI was once again revised to incorporate changes into the JDI work subscale section. Low factor loadings and low item total correlations of the tiring, healthful, too much to do, and frustrating items were removed from the work scale

(Balzer et al., 2000). These were replaced with the dull, uninteresting, can see results, and uses my abilities items, which improved the coefficient alpha of the work scale observed in the national sample included in this particular research. These items also represent a stress component (Balzer et al.). Stress and work satisfaction have been viewed as well-defined ideals, thus causing the work scale to be revised. Data analyses suggested that the revised work scale is more internally consistent and offers a measure of work satisfaction more distinct from the construct of stress (Balzer et al.).

Coefficient alpha estimates of reliability for the JDI and JIG from the 1997 revision are presented in the table (Table 1) below (Cronbach, 1951; Balzer et al., 2000).

Table 1 Coefficient Alpha (α) Values for the JDI and JIG (approximately 1,600 cases) from 1997 JDI and JIG National Norm Data

Facets	α	n
Job Descriptive Index		
Work	.90	1623
Pay	.86	1603
Opportunities for Promotion	.87	1611
Supervision	.91	1613
Co-workers	.91	1615
Job in General	.92	1629

However, this research utilized the recently developed abridged version. The abridged version of the JDI was created because of trends in the organizational research

realm. One is that job satisfaction is infrequently measured in isolation but is calculated alongside numerous other constructs (Ganzach, 1998; Stanton et al., 2001). Therefore, increasing the number of constructs used to measure job satisfaction ultimately means a longer survey tool for participants to complete. Another trend is that many organizational members feel they are surveyed too much thus increasing the possibility of nonresponse (Rogelberg, 1998; Rogelberg & Luong, 1998). The two factors indicated that a shortened, psychometrically sound job satisfaction survey tool would be beneficial (Stanton et al.).

These developments encompassed in a shortened tool also help continue the popularity of the JDI. The JDI full version consists of a total of 72 items with each question using short and descriptive words or phrases (Balzer et al., 2000; “Purpose,” n.d., para. 4; Stanton et al., 2001). The abridged Job Descriptive Index (aJDI) contains a total of 25 questions with five questions coming from each of the five JDI facets (“Purpose”, n.d., para. 5; Russell et al., 2004). The abridged version of the JDI (aJDI) is simply a shortened version of the JDI. The aJDI was abbreviated using a combination of the psychometric/rational strategy for scale reduction. This was completed in 2000 (Balzer et al.; Stanton et al.). The aJDI was chosen for this study because it would reduce the survey time for participants compared to the original, full version JDI (Balzer et al.).

Reliability and validity are still strong with the abridged JDI (“Measures”, n.d., para. 4; Stanton et al., 2001). The goal in creating the aJDI was to preserve the desirable traits of the well-known and popular JDI (Stanton et al.). This was accomplished by Stanton and his team (2001) obtaining a set of measures that displayed similar patterns of

correlations with external criteria, such as the JIG. The abridged version of the JDI reduces the item count, survey space and administration time (Balzer et al., 2000; Stanton et al.) as compared to the full version of the JDI. It also is very good at discriminating among individuals and groups with low satisfaction (Balzer et al.). One note is that even with this ability, because of the reduced number of scale points; the aJDI is less optimal than the complete version at discriminating very high satisfaction (Balzer et al.).

Each question on the aJDI consists of scales where respondents are asked to think of their current job and decide how well each of the words or phrases describes a certain aspect of their job. If one chooses “Yes”, the words or phrase depicts the current work environment. The choice of “No” does not describe the current work environment. The other choice of “Undecided” is available if neither “Yes” or “No” is applicable for the current work environment. Answers will be coded as positive, negative, or neutral (Balzer et al., 2000). The coding will be determined by the nature of the question. For example, one question asks if the respondent’s supervisor praises good work. For this question, if the answer is “Yes”, the item response would be coded positive and assigned a value of 3. If a respondent answers “No” to this question, the question is coded negative and assigned a value of 0. On the other hand, respondents will be asked if their current supervisor is annoying. If “Yes” is chosen, the response will be coded negative and assigned a value of 0. If a respondent provides the answer of “No”, then the question is coded positive and assigned a value of 3. Regardless of the nature of the question as described in these examples, answers of “Undecided” will be coded with a value of 1. Once the results of the survey are coded and assigned values, each scale is totaled to

obtain a satisfaction score for each of the five job facets. The total score for each aspect can range from 0 to 15. High scores reveal satisfaction with the specific job facet, and lower scores indicate a state of lesser satisfaction. Generally, the middle range of possible scale scores tends to be the neutral point of job satisfaction using the JDI and JIG (Balzer et al.). Therefore, 7.5 would typically be the approximate neutral range for the aJDI.

The Job In General (JIG) is normally coupled with the JDI, and the JIG scale evaluates overall job satisfaction (Ironson et al., 1989; “Purpose”, n.d., para. 3). This instrument has been proven to predict intentions above and beyond the JDI. This is because of the fact that employees could be satisfied with some job aspects while being dissatisfied with other job facets, thus the end results of JDI could not accurately depict how a respondent feels in general with their overall job satisfaction (Ironson et al.; Smith et al., 1969; Spector, 1997). The original JIG contained 18 items (Ironson et al.). Since an abridged version of the JDI was created, an abridged version of the JIG was also created (“Measures”, n.d., para. 5). Again, these two instruments are both normally administered in conjunction with each other. The abridged JIG (aJIG) contains a total of 8 items with a total possible score of 24. The scoring scales for the aJIG are the same as the aJDI scores, which were described earlier. Either a value of 0, 1, or 3 are assigned to responses depending on the positive or negative connotation of the question as described for the JDI. With a total score of 24 on the aJIG, the approximate neutral range would be 12 for this tool.

The abridged Job Descriptive Index (aJDI), abridged Job In General (aJIG) scale, and demographic questions comprised the survey instrument utilized in this research (Balzer et al., 2000; Curry, 2007; Graverson, 2008; “Job Descriptions,” n.d). The complete survey was reviewed ahead of time by varying levels of IT employees at a regional IT consulting business as well as four research professionals. This was performed in order to check the survey instrument for relevance, appropriateness, and clarity. The researcher designed questions related to demographic, geographic, and job satisfaction information. These additional job satisfaction questions were required to provide insight to further the research at hand. The survey was administered online via Survey Monkey.

In the demographic section of the survey, information including gender, age, income, education, race, employer, work experience, location, and job title were requested (Curry, 2007; Graverson, 2008; “Job Descriptions,” n.d). Some of these additional demographic questions were included in order to use the aJDI and aJIG for research purposes. Specifically, these included questions related to age, time in job, gender, job title, person’s zip code and employer’s zip code. There was no identifying information collected from respondents to encourage thorough and accurate responses.

Survey

The online survey was created and administered by the researcher via Survey Monkey. It consisted of 20 questions, which also included demographic questions. The survey included preliminary questions to ensure the respondents were part of the

contacted population. The survey tool utilized was the aJDI and the aJIG, which are continuously maintained by the JDI Research Group at Bowling Green State University. In addition, the survey also incorporated demographic questions such as age, income, gender, work experience, IT work experience, employment status, location, and education level. Appendix C provides the initial emailed request sent to the IT professionals about this research survey. The survey request was sent during June 2009.

The researcher assumed each participant would complete the survey one time only. In an attempt to address this limitation, the online survey was administered to only allow one survey attempt per computer instead of potentially allowing for multiple attempts per respondent. In other words, once the survey had been completed on a particular computer, no one else could complete the survey on the same computer. This was done to provide a safeguard to allow only one attempt per participant. The survey was available to the population for approximately two weeks. Out of these 90 initial survey requests, 30 surveys were attempted. The complete survey instrument is in Appendix B.

A reminder email was sent to potential survey participants a week after the initial email request was sent, which is also available in Appendix D. A reminder email has been shown to improve response rates (Dingfelder, 2006; Evans & Mathur, 2005). Since no identifying information was collected, the reminder email was sent to the entire population. The reminder email included a statement at the beginning of the message to disregard the email if the recipient had already completed the survey. Again, the

safeguard of not allowing multiple attempts would also help keep respondents that had already completed the survey from doing so again.

Reliability of Survey

Cronbach's alpha was computed for the subscales of the aJDI and the aJIG to test reliability of the survey tool. The Cronbach's alpha showed high reliability for each facet of the aJDI. Interpreting Cronbach's alpha, the closer to 1.00 the higher the reliability. Out of the five aJDI facets, the pay facet had the lowest result of .70, and the work subscale had the highest reliability mark with .94. The Cronbach's alpha for the aJIG was high as well with a score of .83. Table 2 depicts the results.

Table 2 Cronbach Alpha (α) Values for aJDI and aJIG Survey Results ($N=30$)

Job Facet Category	α	Number of Items
aJDI Facets		
Work	.94	5
Pay	.70	5
Opportunities for Promotion	.90	5
Supervision	.89	5
Co-workers	.90	5
aJIG	.83	8

Data Collection

Each organization in the population was contacted by the researcher to determine the best way to identify all IT personnel. In general, the first point of contact was the president's office at the higher education institutions. The researcher requested permission to conduct this research at the particular two year institution. Twelve of the fifteen community and junior colleges gave their consent to conduct this research; however, only ten provided the necessary IT personnel information. Appendix A contains the email requesting permission to conduct this research at community and junior colleges in Mississippi.

Depending on the president's response, the course of action requested to obtain the contact information varied. The majority of the survey emails were provided to the researcher by the appropriate vice president or director of information technology at the particular community college. In other instances the information was provided by the president himself or the researcher was directed to online directories to retrieve the information. Once the personnel were determined, these employees were sent a link to the survey through email. The emailed survey request is located in Appendix C. The survey included questions detailing their job satisfaction perceptions along with demographic and work related questions. The survey is contained in Appendix B.

The instrumentation also provided preliminary questions developed by the researcher to ensure the person completing the survey was an IT professional at one of the approved educational institutions. This helped with any potential issues related to pinpointing IT staff for this research and to ensure the survey was completed by the

appropriate personnel. A week after the initial email, a reminder email was sent to participants. The reminder email script can be found in Appendix D.

Thirty completed surveys were returned in their entirety; thus, there were no voided surveys from the population (response rate = approximately 30%). With the sample size being relatively small, there are limitations because of small sample bias in the research results. The findings of this research are based on the completed surveys by IT employees at Mississippi community colleges. The survey results were uploaded into the Statistics Package for Social Sciences (SPSS) version 16 from Survey Monkey via a download of the raw data. The data were coded to coordinate with the normal coding standards for demographic information within Survey Monkey. For example, males were coded 1, and females were coded 2. The data coordinating to the aJDI and aJIG questions was also coded to adhere to the aJDI and aJIG alternate standards as mentioned previously in this document (Balzer et al., 2000). Answers were coded as 1=Yes, 2=No, and 3=Undecided. After this alternative coding, the data were converted into the appropriate values determined by the context of the question. The values consisted of either 0 or 3 for a Yes or No response based on the context of the question while Undetermined was coded as 1. Once this was completed, the reverse-coding and computing scores were conducted. SPSS was utilized to accomplish these tasks as well. Since there were no missing survey responses, SPSS did not have to be programmed to adjust for this situation. In order to provide insight into the research questions posed at the beginning of this document, a *t*-test was performed to determine any significance between years of work experience and feelings towards job satisfaction in general. More

specifically, the research question was concerned with determining any significant relationship between IT employees with 21 years or more work experience and IT employees with 20 years or less experience. A *t*-test was utilized since this robust statistical measure can control for small sample sizes.

Data Analysis

Once collected, the data were analyzed to determine the most critical factors for job satisfaction for IT employees at Mississippi community colleges. Analysis of the data was conducted through the use of the Statistical Package for Social Sciences (SPSS) version 16. Data were coded to provide analysis of the findings based on the requirements provided with administering the aJDI and the aJIG survey tools. This involved coding the data according to aJDI and aJIG standards in order for accurate interpretations. The syntax used 1=Y, 2=N and 3=? as described in the JDI User's manual to make converting the data easier when using a computerized data file (Balzer et al., 2000). Table 3 provides an example of how the present pay facet questions of the aJDI were coded using the alternative format.

Table 3 Alternate Format for aJDI

Question	Present Pay Facet – aJDI		
	Yes	No	Undecided (?)
Income adequate for normal expenses	1	2	3
Fair	1	2	3
Insecure	1	2	3
Well paid	1	2	3
Underpaid	1	2	3

Using this alternative format, the coding syntax then converted the 1, 2, 3 entries into the appropriate scales of 3, 0, or 1. After this step, reverse scoring was performed to correctly score negative responses to the surveys. Thus in these situations a “Yes” response would be worth 0 points and a “No” response would be worth 3 points. The code created a scale total only if there are 0 or 1 missing responses for the subscales on the aJDI. The aJIG can have up to 2 missing responses in order for the completed survey to be calculated. Table 4 depicts an example of how the recoding of the Present Pay facet questions was performed. Appendix E provides the scoring key for all the aJDI and aJIG questions.

Table 4 Scoring Key for aJIG (1997 Revision)

Present Pay Facet – aJDI			
Question	Yes	No	Undecided (?)
Income adequate for normal expenses	3	0	1
Fair	3	0	1
Insecure	0	3	1
Well paid	3	0	1
Underpaid	0	3	1

Additionally, SPSS was utilized to determine any statistical significances and provide descriptive statistics found in this data set ($N=30$). Pearson correlations were performed to determine any significance between the different categories within the aJDI and aJIG survey tools. These facets included work, co-workers, pay, promotion, supervision, and the job in general. Statistical analysis was also performed to determine if there were any significant relationships based on the number of years spent in the workforce. More specifically, the work experience variable was coded in SPSS to determine if the respondents had worked for 20 years or less or 21 years or more in the workforce. Additionally, a *t*-test was the chosen statistical process to determine any significant relationship between work experience and satisfaction with the job in general.

Chapter four provides further information regarding the results of the data analysis yielded from the survey responses. The statistical findings of this study are also

included in the following section of this body of research. This chapter also focused on the answers to the three research questions posed earlier in this study.

CHAPTER IV

FINDINGS

The purpose of this research was to determine the areas of job satisfaction for IT employees at Mississippi community colleges. This research determined the job satisfaction factors as described and measured via the abridged Job Descriptive Index (aJDI) and the abridged Job in General (aJIG) survey instrument (Balzer et al., 2000). This chapter includes an analysis of the findings.

Results of Survey

The following table (Table 5) provides a display of the demographic information. Details are presented from the 30 completed surveys.

Table 5 Demographic Descriptions of Survey Sample (N=30)

Demographic Item	<i>n</i>	%
Gender		
Male	22	73.3
Female	8	26.7
Age		
40 years old or younger	15	50.0
41 years old or older	15	50.0
Income		
\$15,000-24,999	1	3.3
\$25,000-34,999	5	16.7
\$35,000-49,999	8	26.7
\$50,000-74,999	14	46.7
\$75,000-99,999	2	6.7
Highest Education Level		
Associate's Degree	12	40.0
Bachelor's Degree	11	36.7
Master's Degree	6	20.0
Doctorate Degree or higher	1	3.3

Table 5 (continued)

Demographic Item	<i>n</i>	%
Race		
White	29	96.7
Other	1	3.3
IT Work Experience		
10 Years or Less	13	43.3
11 Years or More	17	56.7
Total Work Experience		
20 Years or Less	15	50.0
21 Years or More	15	50.0
Employment Status		
Full-time	29	96.7
Part-time	1	3.3
Job Title		
Application Developer/ Programmer	29	96.7
Database Administrator (DBA)	1	3.3

The demographic makeup of the survey sample was comprised of 73.3% males and 26.7% females from the 30 survey respondents. Almost half of the respondents (46.7%) fell into the \$50,000-74,999 income range with the next highest range being the \$35,000-49,999 at 26.7%. All respondents had achieved a degree higher than a high school diploma with the most respondents having an associate's degree as their highest obtained degree. Forty percent of respondents held an associate's degree, 36.7% had completed a bachelor's degree, 20.0% held a master's degree, and 3.3% had a doctorate degree or higher respectively. Survey respondents were primarily Caucasian with 96.7% comprising the survey population. The sample was evenly distributed for total work experience with employees working 20 years or less compared to employees working 21 years or more with both ranges having 50.0% of the respondents. Similarly, comparing respondents with 10 or less years in IT comprised 43.3% of the sample while 56.7% had 11 or more years experience in IT. The majority of the survey respondents worked full-time and had the job title of application developer/programmer. Both of these demographic areas were comprised of 96.7% of the respondents.

Research Question One

The first research question for this research study focused on which job facet of the aJDI did IT workers at Mississippi community colleges deem as the most satisfying. These statistics are shown in Table 6.

Table 6 Descriptive Statistics of aJDI and aJIG Survey Results ($N=30$)

Job Facet Category	Score Range	M	SD
aJDI Facets			
Work	0-15	13.90	3.57
Pay	0-15	8.60	3.93
Opportunities for Promotion	0-15	8.30	5.73
Supervision	0-15	12.23	4.74
Co-workers	0-15	12.67	4.38
aJIG	0-24	21.70	4.50

IT employees at Mississippi community colleges were generally satisfied with all facets of the aJDI, however, the facet with the highest satisfaction rating was the work facet ($M=13.90$, $SD=3.57$). Therefore, the work itself was the most satisfying facet for IT employees at Mississippi community colleges. Co-workers ($M=12.67$, $SD=4.38$) and supervision ($M=12.23$, $SD=4.74$) were also high levels of job satisfaction for these employees. The lowest facet was opportunities for promotion ($M=8.30$, $SD=5.73$). Additionally, pay was also at a lower satisfaction level compared to other facets with an $M=8.60$ and $SD=3.93$.

Figure 5 below depicts the minimum, maximum, and median scores of the survey results from both tools garnered from IT employees at community colleges in Mississippi. As shown, the work, supervision, and co-worker facet responses ranged from a low of zero to the highest possible score of 15.

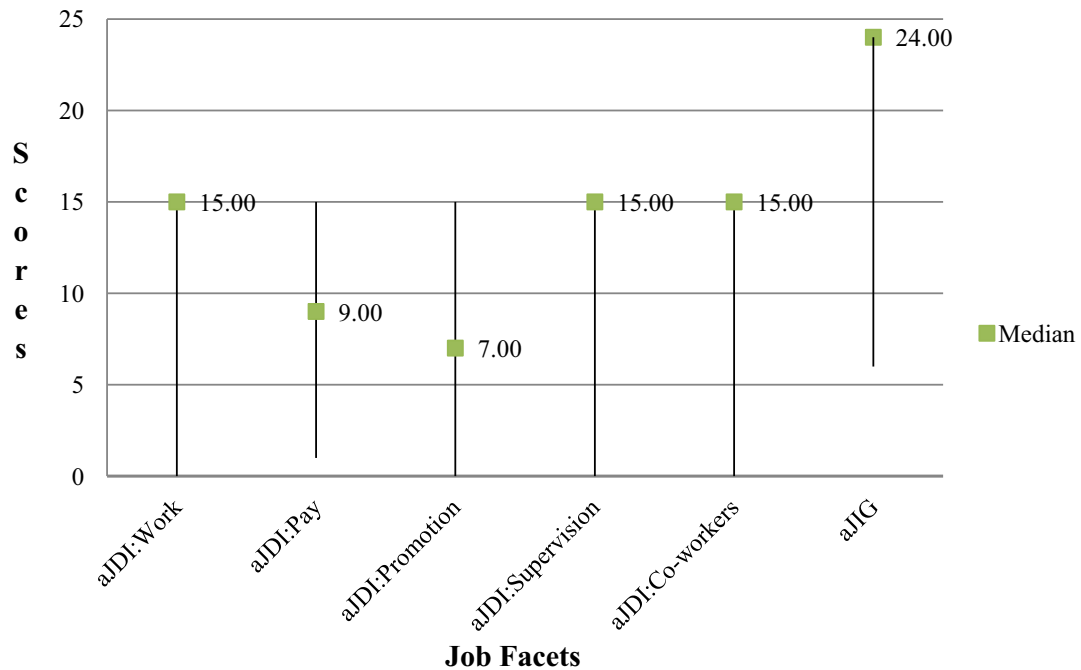


Figure 5 Profile of aJDI and aJIG for Survey Results ($N=30$)

These same three areas also had a median score of 15 though their mean was below 15 (Work, $M=13.90$; Supervision, $M=12.23$; Co-workers, $M=12.67$). Work, co-workers, and supervision also held the top three job areas with the most satisfaction. The remaining facets, pay and promotion, showed the two lowest medians and means of the

five aJDI job areas. However, the mean was higher than the neutral point of 7.5 for pay ($M=8.60$) and promotion ($M=8.30$). The aJIG scores ranged from a low of six to a high of 24 and had a median of 24.

Research Question Two

In general, Mississippi community college IT employees were highly satisfied with their jobs ($M=21.70$, $SD=4.50$). This answered the second research question regarding IT employees at Mississippi community colleges being happy with their jobs overall. This scale depicts that even though employees may be more satisfied in certain job facets, overall IT employees were satisfied with their current positions. Table 6 depicts more information regarding the score range, means, and standard deviations for the aJDI and aJIG survey results.

Research Question Three

To answer the research question if the number of years in the workforce plays a role in job satisfaction in general, descriptive statistics and an *independent samples t-test* were performed on the data. The independent variable was the number of years in the workforce. Level one for the independent variable is IT employees with 20 years or less in the workforce. Level two consists of IT employees with 21 or more years in the workforce. This division was based on people working for approximately 40 years before retiring and simply splitting the workforce by the midpoint of the total number of working years. The following paragraphs and table (Table 7) provide the results to the

question regarding whether a significant difference exists between IT employees with 21 years of work experience and IT employees with 20 years or less work experience.

Table 7 Descriptive Statistics of Survey Results Grouped by Total Work Experience in Years

Job Facet	Work			
	Experience	<i>n</i>	<i>M</i>	<i>SD</i>
aJIG	20 yrs or less	15	20.87	5.78
	21 yrs or more	15	22.53	2.64
Work	20 yrs or less	15	12.80	4.87
	21 yrs or less	15	15.00	0.00
Pay	20 yrs or less	15	7.53	4.00
	21 yrs or more	15	9.67	3.678
Promotion	20 yrs or less	15	8.47	5.71
	21 yrs or more	15	8.13	5.95
Supervisor	20 yrs or less	15	13.00	3.53
	21 yrs or more	15	11.47	5.73
Co-workers	20 yrs or less	15	10.80	5.54
	21 yrs or more	15	14.53	1.25

The descriptive statistics between the two evenly distributed groups are shown in Table 7. The two groups were fairly similar in regards to the means in all the job satisfaction categories. Co-workers held the largest difference between the means of the two groups with employees having more than 20 years of work experience being more satisfied with their co-workers than their less experienced counterparts. Work and pay were the next categories with somewhat of a difference in their means. Workers with 20 years or less work experience had an $M=12.80$, $SD=4.87$ for the work itself and employees with more than 20 years in the workforce had an $M=15.00$, $SD=0.00$ for the same facet. Respectively, employees with 20 years or less in the workforce had a lower mean and satisfaction ($M=7.53$, $SD=4.00$) for pay then those with more experience ($M=9.67$, $SD=3.68$). Promotion is the category where both groups have almost exactly the same satisfaction level with $M=8.47$, $SD=5.71$ for 20 years or less of work experience and $M=8.13$, $SD=5.95$ for employees with more than 20 years experience.

Due to the sample being small in nature, a histogram was created to depict the normal distribution of the groups for total years in the workforce. Figure 6 depicts this distribution.

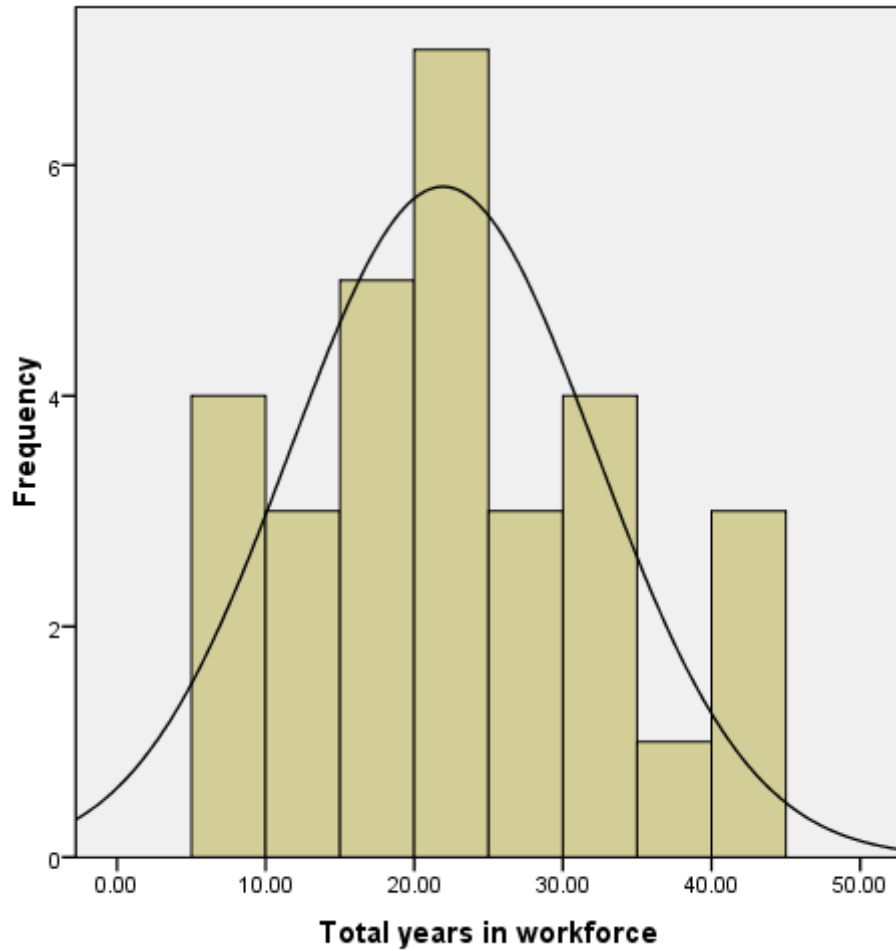


Figure 6 Histogram of Total Years in Workforce of IT Professionals ($N=30$)

Table 8 provides the results of an independent samples t -test based on the total years in the workforce as of the time the survey was completed. The following paragraphs discuss the significant relationships found via this statistical process.

Table 8 Independent Samples t-Test Results for aJIG (*IV*=Total Years in Workforce)

		Levene's Test for Equality of Variances		<i>t</i> -test for Equality Measures			
		<i>F</i>	<i>Sig.</i>	<i>T</i>	<i>df</i>	<i>Sig. (2- tailed)</i>	<i>Mean Difference</i>
aJIG	Equal variances assumed	1.727	.200	-1.016	28	.318	-1.667
	Equal variances not assumed			-1.016	19.606	.322	-1.667

An independent samples *t*-test was conducted to compare IT employees with 20 years or less of work experience to IT employees with 21 years or more of work experience. There was not a significant difference between the two levels of the independent variable in regards to the aJIG facet. The test of differences between scores for workers with 20 years or less in the workforce ($M=20.87, SD=5.78$) and workers with 21 or more years in the workforce ($M=22.53, SD=2.64$) resulted with $t(28) = -1.016, p=.318$. These results suggest that regardless of the number of years in the workforce there is no difference between how satisfied an employee is with his or her job in general. Specifically, the number of years in the workforce did not significantly differ regarding the level of general job satisfaction for IT employees at Mississippi community and junior colleges.

Relationships Between aJDI Facets and aJIG

As part of the programming in SPSS to determine the results of the aJDI and aJIG, an intercorrelation matrix was developed for the facet areas to determine any significant relationships. The relationships between work, supervision, co-workers, promotion, pay, and the job in general were examined. The table below (Table 9) provides the results of this statistical process.

Table 9 Correlations for aJDI and aJIG Survey Results

	aJDI					aJIG
	Work	Pay	Promotion	Supervision	Co-Workers	
aJDI						
Work	--					
Pay	.012	--				
Promotion	.224	.059	--			
Supervision	.328	.170	.423*	--		
Co-workers	.413*	.216	.378*	.024	--	
aJIG	.605**	.128	.580**	.329	.679**	--

Note: (N=30) * $p < .05$, two tails; ** $p < .01$, two tails

There were several significant correlations between the aJDI facets and aJIG. The work ($r(28)=.605, p<.01$), promotion ($r(28)=.580, p<.01$), and co-worker ($r(28)=.679, p<.01$) facets all had statistically significant relationships with the job in general category. According to Holcomb (as cited in Brown, 2007, slide 11), correlations between .50 and .74 are moderately strong. Therefore, these three interactions provided a moderately strong level of strength.

Additionally, the co-worker category had significant relationships with several other job satisfaction facets. Work and co-workers are one such correlation having $r(28)=.413, p<.05$. Promotion and co-workers also shared a significant relationship, $r(28)=.378, p<.05$. The only significant relationship held with supervision is promotion having $r(28)=.423, p<.05$. Holcomb stated (as cited in Brown, 2007, slide 11) that correlations between .25 and .49 represent moderate relationships. Consequently, these scenarios fell within this range and level of strength.

All the relationships that were statistically significant depicted positive, direct relationships. Pay had no significant relationships with any of the other job satisfaction facets within the aJDI and aJIG. All the significant relationships were based on $p<.05$ (2-tailed) or $p<.01$ (2-tailed).

Chapter five provides more analysis, summaries, and conclusions based upon the statistical findings of this research. Reasoning behind the results of the survey is also discussed. Furthermore, several recommendations are suggested by the researcher. These include suggestions on how to rectify lower job satisfaction in the specified areas, ways to continue high levels of satisfaction, and thoughts and suggestions on how to

further this body of research. Immediately following chapter five, the remainder of this document includes the references and appendices used within this research study.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to determine the factors that influence job satisfaction with IT professionals employed at institutions of higher education in the state of Mississippi, specifically community and junior colleges. Out of the fifteen community and junior colleges, ten provided the necessary information to participate in the research though twelve of the institutions gave their consent to conduct this body of research. The ten Mississippi community colleges that participated were comprised of Coahoma Community College, Copiah-Lincoln Community College, East Central Community College, East Mississippi Community College, Hinds Community College, Holmes Community College, Itawamba Community College, Meridian Community College, Northwest Mississippi Community College, and Southwest Mississippi Community College.

These ten community colleges yielded a total of 90 IT employees who were emailed a link to a web based survey that was administered via Survey Monkey. The factors employed to determine job satisfaction for this population comprised the abridged Job Descriptive Index (aJDI) and the abridged Job in General Index (aJIG) (Balzer et al., 2000). Demographic questions were also included in the survey for this research study. Out of the 90 potential survey respondents, 30 completed the survey. This comprised a

30% response rate. The sample size did cause small sample bias limitations in this study's findings. This research study posed three research questions. They included:

1. What is the most important job satisfaction factor for information technology (IT) employees employed at community and junior colleges in the state of Mississippi?
2. Are IT employees at Mississippi community and junior colleges satisfied with their jobs in general?
3. Is overall job satisfaction the same for employees with less than twenty years work experience than those with more than twenty years of work experience?

This research study was comprised of five chapters. Chapter one focused on the reasoning behind the topic of this research study along with the significance and limitations it faced through the investigative process. The research literature reviewed varying topics to help provide current knowledge on topics related to this research study. These areas of literature included why people work, job satisfaction theories, influences on one's work, job satisfaction research, information technology literature, and community college research. Chapter three included the methodology used within this research study. Areas in this chapter included the processes involved to determine and notify the population and subsequent sample. A total of 90 IT community college professionals were contacted via email, and 30 of these professionals completed the survey. The background information was also provided regarding the survey tool and pilot study. Additionally, information was provided on the survey distribution mechanism. This chapter ended with providing the reliability of the survey and the data

collection and analysis processes. Finally, chapter four provided the findings of this research study. The three research questions were answered and additional figures were provided, such as descriptive and demographic statistics, related to the data. Chapter five included the findings, conclusions, implications, and recommendations determined by this research study.

Summary of Findings

Initially, one question this research wanted to determine was the job facet that IT workers at Mississippi community and junior colleges deemed to be the most satisfying. The work itself, pay, promotion, supervision, and co-workers were the five categories from which the population was surveyed to determine the answer. These categories comprised the abridged Job Descriptive Index (aJDI). From the results of the survey tools, IT employees at Mississippi community and junior colleges indicated that they were highly satisfied in the job areas of work, co-workers, and supervision. This is compared to the other job facets measured by the aJDI, which included pay and opportunities for promotion. Particularly, this group of skilled workers is most satisfied with the work they performed. The work itself provides IT workers with the opportunity to fulfill their internal desire to meet self fulfillment and satisfaction. Mississippi community colleges have supplied their IT workers with challenging and interesting work even while facing monetary and technological difficulties. The results regarding supervision provide insight that managers and administration in IT departments are doing what others are expecting in the way of how day to day activities are directed.

Furthermore, fellow workers are also adhering to expectations in order for the department to function and provide services to their variety of constituents such as students, faculty, and staff.

On the other end of the spectrum, pay and promotion were areas where this group found neutral to slight satisfaction, with promotion actually having the lowest satisfaction rating between these two facets. Regarding pay, this feeling could be explained by educational institutions typically having lower salaries than private industry in addition to facing budget constraints in the current economic downturn (EDUCAUSE, 2000). Another budget issue faced by Mississippi community and junior colleges are there normal funding outlets, which can also be affected by economic downturns and competing with other educational institutions.

On the same note, the majority of IT departments at Mississippi community and junior colleges are small in the number of employees it comprises. The community colleges involved in this research were comprised of IT departments that ranged in size from two employees to 22 employees. Out of the 10 community colleges, only three had more than 10 IT employees. This can employ very few levels of advancement within the IT department, thus causing employees to not be highly satisfied with this facet. Employees want to advance their careers, but being in a small department the options are very limited compared to other situations. However, administration's hands would somewhat be tied related to this situation. Adding more employees and levels to the IT department organizational chart requires more money, resources, and ultimately approval from the appropriate administrative channels at the particular community college.

IT employees working in industry yield higher salaries and could yield more opportunities for advancement as compared to those in higher education settings. Pay and promotion are two areas in Mississippi community colleges that currently are difficult to overcome. Currently, community college administration is facing these issues in all realms of the institution. The administration tends to always have the difficult task of acquiring more money and resources to allow their employees ample opportunities to grow in both work and financial avenues. This problem is nothing out of the ordinary for IT employees or compared to other disciplines.

Another question posed at the beginning of this study was to determine if IT employees at two year institutions in Mississippi were satisfied with their jobs in general. This question employed the abridged Job in General (aJIG) survey to determine the results of this question. This inquiry was posed because workers might encounter difficulty with certain aspects of their jobs; however, evaluating all the facets of their job employees could have a differing level of satisfaction. Mississippi community and junior college IT employees do have high levels of satisfaction in their job overall based on the results of the aJIG survey tool. IT employees at these two year higher education institutions possess high levels of satisfaction in their jobs in general when all facets of their jobs are taken into account. Thus, despite having areas where satisfaction is a concern and improvement is warranted, IT employees at Mississippi community and junior colleges are highly satisfied with their jobs.

The findings of this research were promising when reviewing the relationship between IT employees and job satisfaction. Regardless of the range of high and low

levels of satisfaction in the specified work areas, IT employees at Mississippi community and junior colleges had no exceptionally low levels of satisfaction in any category. This information also determined that IT employees were generally satisfied with their jobs when analyzing the varying facets of their work. Despite the negative aspects of working in higher education, such as lower pay and incentives, IT employees are still extremely satisfied with their occupation at Mississippi community and junior colleges. This provides insight that despite the difficulties faced by community colleges and their individual departments, these institutions are meeting the requirements of their IT employees in order to accomplish their work in a rewarding manner.

Finally, the last question posed was to determine if there was any significant difference with job satisfaction in general when looking at an employee's total years in the workforce. The two groupings to determine this result were IT employees who had worked 20 years or less in the workforce and those employees who had worked 21 years or more in the workforce. These two groups were determined by assuming that the current workforce would work approximately 40 years, thus these two groups represent the midway point of one's career.

Comparing the number of years of work experience within this group found that there was no significant difference when comparing one's satisfaction with his job in general to the number of years worked. This provides insight towards IT professionals. This result shows that current IT departments are providing equipment and benefits to their employees that satisfy a range of experienced workers, varying genres, and backgrounds. Even with varying points in their careers and work-life situations, IT

employees at Mississippi community and junior colleges are not significantly different in their job satisfaction wants and needs.

Discussion

Mississippi community colleges are providing work its IT professionals feel is promising and enjoyable as shown by this facet obtaining the highest level of satisfaction for this group of workers. These research results also coincided with other research that illustrated that IT professionals are motivated by challenging work (Goodwin, 2007; Luftman, 2008). This finding also coincides with research depicting IT professionals having high levels of job satisfaction with work (Compton, 2002).

The level of satisfaction with the job in general was also similar with IT professionals employed at Mississippi community and junior colleges compared to IT professionals in general. As shown in research by Compton (2002), members of the Association of Information Technology Professionals (AITP) were highly satisfied with their jobs in general. Conversely, research that included workers in general showed that American workers in general were dissatisfied with their job (The Conference Board, 2007).

Years in the workforce did not play a role in determining any significant difference in a specific work facet of job satisfaction for this sample of IT employees. Research by Chiang & Wang (2008) revealed that IT employees had no significant relationship between job satisfaction and tenure. This corresponds with the results of this study as well.

Suggestions for Practice

This body of research provided outcomes that can be utilized by administration in determining various job characteristics and opportunities for their IT employees and departments. This body of skilled workers and their administration provide a vital service in today's educational institutions. Though they work in conjunction with other departments on community college campuses in order to provide valuable and significant products, IT is becoming more prominent and necessary in achieving the majority of today's activities and needs. Though this study was limited by its response of only 30 IT employees in Mississippi community and junior colleges, it provided needed research where the present literature was lacking. Community colleges are a vital part of today's educational system, especially in Mississippi. These two year educational institutions provide essential services and opportunities to their districts and surrounding areas. Their continued existence ensures a better future, and with IT intertwined, the potential and promise continues for Mississippi community colleges.

The research revealed in this document can be utilized by administration to provide necessary factors to help improve not only job satisfaction with their IT employees, but it can yield channels for communication, concern, and open door policies between administration and employees. Reviewing the results, administration can deem how their current work environment, promotion strategy, supervisory preferences, departmental outlook, and employee benefits affect current employees. These findings can better prepare community college leaders to ensure a quality workplace for not only their current workers but attracting future employees as well. The next section provides

more details and suggestions in furthering this research and allowing community college IT professionals to continue their high level of job satisfaction.

Recommendations

This research study provided results regarding job satisfaction for IT professionals at Mississippi community and junior colleges. This data provided areas where further research could be conducted in addition to matters that need to be reviewed by administration at these community colleges to help maintain, improve, and determine future endeavors regarding job satisfaction for IT professionals.

1. An attempt to improve satisfaction with pay should be investigated due to it being the least satisfied facet with IT employees at Mississippi community and junior colleges. This should involve the community college as a whole to determine methods of increasing funding to provide salaries and other incentives not being met currently via the normal budgetary means. For instance, the community college's foundation could incorporate an endowment to fund salaries or yearly stipends for IT employees who excel in their job and departmental responsibilities.
2. Promotion is another area where improvement is warranted. Restructuring the IT department or combining departments could be a reasonable approach in providing more upward movement in positions. With the current trend of community college personnel reaching retirement in record breaking numbers, promotion satisfaction may see an increase in IT

departments by natural occurrences. However, IT administration should look at current organizational structures and service needs to find an optimal grouping of levels for employees to achieve during their career. This should also include consulting the human resource and other appropriate departments to ensure college guidelines and approvals are met if departmental changes are incorporated.

3. According to the statistical results of this research, satisfaction regarding the work itself, co-workers, and supervision are currently being met for IT employees. In order to continue meeting these standards, community and junior college IT departments should evaluate their current practices in these areas. This involves procedures for areas such as determining employee responsibilities, employee work interactions, and supervisor/employee relations. These findings should be used as a benchmark measure and should be compared to results from yearly evaluations in these areas. This provides techniques for IT departments to see if current practices are still meeting their satisfaction needs or if new, innovative means should be investigated.
4. Further study should be conducted on a larger scale to see how community college IT employees as a whole relate to other IT factions such as IT employees in private industry in the same geographic region or IT employees at four-year higher educational institutions. Community colleges are comparable to their four-year counterparts and provide

valuable assistance to their students, faculty, supporters, and staff.

Additionally, these two year institutions are as vital and visible as businesses. Research comparing and contrasting community colleges to four year institutions as well as private industry would be beneficial to researchers and IT administration at educational institutions.

5. This same study should be revisited on a larger scale to attempt to achieve a higher response from the population of IT employees at Mississippi community and junior colleges. Another survey methodology would also be an option of potentially improving the response rate and size of the population. A higher population would be able to achieve more generalizations about the IT employees at Mississippi community colleges.
6. Research should also be expanded to other departments at community colleges and to a community college as a whole. Comparing departments within the same community college could lead to sharing ideas and strategies that provide employees and managers with more satisfying and rewarding work. Investigating job satisfaction for an entity or specific department or profession can provide insight as to what and how a community college can provide its employees to better not only its mission but to produce more efficient and effective services and outcomes for its constituents. Using the community college as a whole via a case study research method would provide a wealth of information to the

administration. Similarly, having the knowledge of how the community college as a whole views job satisfaction can greatly benefit further analysis of how the entire entity compares and contrasts to specific functions and divisions on the same campus.

REFERENCES

- All, A. (2007). Company culture as important as salary. *IT Business Edge*. Retrieved June 10, 2009, from <http://www.itbusinessedge.com/cm/community/features/interviews/blog/company-culture-as-important-as-salary/?cs=22724>
- Balzer, W. K., Kihm, J. A., Smith, P. C., Irwin, J. L., Bachiochi, P. D., Robie, C., Sinar, E. F., & Parra, L. F. (2000). Users' manual for the job descriptive index (JDI; 1997 Revision) and the job in general scales. In J. M. Stanton and C. D. Crossley (Eds.), *Electronic Resources for the JDI and JIG*. Bowling Green, OH: Bowling Green State University.
- Basken, P. (2008). Most colleges fill classrooms even as students struggle to pay. *Chronicle of Higher Education*, 55(14), A1-A15.
- Bennett, S. M. (2006). *Exploring the relationship between continuing professional education and job satisfaction for information technology professionals in higher education*. (Doctoral dissertation, University of North Texas, Denton, Texas).
- Bond, P. (2008). Let the kids do it: Bringing a new generation to it. *Computerworld*. Retrieved January 12, 2009, from <http://www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=325292>
- Brown, M. S. (2007). *Correlation coefficients: The Pearson r Spearman's ρ* [PowerPoint slides]. Retrieved October 1, 2009, from http://education.tamuk.edu/kfmns00/EDLD6333/6333_10_Correlation%20Coefficients%20Pearson%20r.ppt
- Buckley, M. R., Carraher, S. M., & Cote, J. A. (1992). Measurement issues concerning the use of inventories of job-satisfaction. *Educational and Psychological Measurement*, 52, 529-543.
- Byers, C., Byers, W., Hoadley, M., & Pike, J. (2000). Empowering faculty with technology. *Technical Horizons in Education (THE) Journal* 27(10), 106.

- Byers, M., & Others, A. (1996). Section 1. Career transition for attorneys. *Career Planning and Adult Development Journal*, 12(1), 11-65.
- Byrd, T. A., Lewis, B. R., & Turner, D. E. (2004). The impact of IT personnel skills on IS infrastructure and competitive IS. *Information Resources Management Journal*, 17(2), 38-62.
- Callens, P. (2008). *Using self determination theory to predict employee job satisfaction in a state psychiatric hospital*. (Doctoral dissertation, Mississippi State University, Starkville, Mississippi).
- Carnevale, D. (2007). Technology trends in higher education. *The Chronicle of Higher Education*, 54(8), 28.
- Caruso, J. B. (2007). *Impressions of community college students' IT experiences*. Retrieved June 23, 2009, from <http://net.educause.edu/ir/library/pdf/ERB0715.pdf>
- Caruso, J. B., & Salaway, G. (2008). *The ECAR Study of undergraduate students and information technology, 2008*. Retrieved December 17, 2008, from <http://www.educause.edu/ers0706/13903?time=1236219704>
- Cheney, P. H., & Scarpello, V. (1986). Job satisfaction and information systems research. *Journal of Management Information Systems*, 2(3), 21-36.
- Cherlin, M. (1981). Burnout: victims and avoidances. *Datamation*, 27(7), 49-70.
- Chiang, T., & Wang, J. (2008). *Workplace learning, job satisfaction, and organizational commitment in small to midsize companies in Taiwan*. Paper presented at the Academy of Human Resources Development International Research Conference in the Americas, Panama City, Florida.
- Compton, T. R. (2002). The level of job satisfaction among AITP members. *Information Executive*, 6(2), 1-2.
- Costa, P. T, Jr., & McCrae, R. R. (1988). Personality in adulthood: A six-year longitudinal study of self-reports and spouse ratings on the NEO personality inventory. *Journal of Personality and Social Psychology*, 54, 853-863.
- Couger, J. D., & Zawacki, R. A. (1978). What motivates DP professionals? *Datamation* 24(9), 116.

- Ciulla, J. B. (2000). *The working life: The promise and betrayal of modern work*. New York: Three Rivers Press.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334.
- Curry, C. (2007). *Predicting the effects of extrinsic and intrinsic job factors on overall job satisfaction for Generation X and Baby Boomers in a regional healthcare organization*. (Doctoral dissertation, Georgia State University, Atlanta, Georgia).
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.
- DeMeuse, K. P. (1985). A compendium of frequently used measures in industrial/organizational psychology. *The Industrial-Organizational Psychologist*, 23, 53-59.
- Dingfelder, S. (2006). Gifts and reminder e-mails boost online survey response rates, students find. *gradPSYCH* 4(4).
- Dohm, A., & Shniper, L. (2007). Occupational employment projections to 2016. *Monthly Labor Review Online*, 130(11).
- EDUCAUSE. (2000). Recruiting and retaining information technology staff in higher education. *EDUCAUSE Quarterly* 23(3), 4-7.
- Enrollments: Economy drives the rise. (2009, September 21). *The Clarion Ledger*. Retrieved on September 29, 2009, from <http://www.clarionledger.com/apps/pbcs.dll/article?AID=2009909210306>
- Evans, J. R., & Mathur, A. (2005). The value of online surveys. *Internet Research* 15(2), 195-219. Retrieved July 7, 2009, from <http://www.emeraldinsight.com/Insight/ViewContentServlet;jsessionid=178CF1605C1623BCD1495B6E1D44CB84?contentType=Article&Filename=Published/EmeraldFullTextArticle/Articles/1720150205.html>
- Findley, B. (2007). *The effects of career plateauing and social support systems on the retention of non-academic staff employees in higher education*. (Doctoral dissertation, University of Houston, Houston, Texas).
- Fitz-enz, J. (1978). Who is the DP professional? *Datamation*, 24(9), 125-128.

- Ganzach, Y. (1998). Intelligence and job satisfaction. *Academy of Management Journal*, 41, 526-539.
- Gilbert, D. J. (2009). Community college finance from a state perspective. [PowerPoint slides]. *Presentation at the Mississippi Community College Leadership Academy*, Raymond, MS on June 15, 2009.
- Goldstein, P. J., & Caruso, J. B. (2004). *Information technology funding in higher education*. Educause Center for Applied Research (ECAR). Retrieved January 15, 2009, from <http://net.educause.edu/ir/library/pdf/EKF/Ekf0407.pdf>
- Goodwin, B. (2007). Salary and benefits survey shows what motivates staff. *Computer Weekly*. Retrieved September 2, 2008, from <http://www.computerweekly.com/Articles/2007/01/04/220979/salary-and-benefits-survey-shows-what-motivates-staff.htm>
- Graverson, S. (2008). *Perceived job satisfaction of information technology professionals: An investigation utilizing the Keirsey Temperament Sorter*. (Doctoral dissertation, Capella University, Minneapolis, Minnesota).
- Gregorie, M. (2008). Employees leaving? Here's why and what you can do. *Chief Information Officer (CIO)*. Retrieved January 11, 2009, from <http://www.cio.com.au/index.php/id;1614677222>
- Grenway, B. (2007). *The relationship between employee motivation and job satisfaction of African-American human service employees*. (Doctoral dissertation, Walden University, Minneapolis, Minnesota).
- Guess, A. (2008). Outsourcing, open source and budget cuts. *Inside Higher Education*. Retrieved January 15, 2009, from <http://www.insidehighered.com/news/2008/10/29/computing>
- Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley.
- Heron, A. R. (1948). *Why men work*. Stanford University: Stanford University Press.
- Herzberg, F. (1968). One more time: How do you motivate employees? *Harvard Business Review*, 46(1), 53-62.
- Hill, N. (2009). An empirical exploration of the occupational satisfaction of counselor educators: The influence of gender, tenure status, and minority status. *Journal of Counseling & Development*, 87(1), 55-61.

- Holcomb, Z. C. (2009). *SPSS basics: Techniques for a first course in statistics* (2nd ed.). Glendale, CA: Pyrczak.
- Horrigan, J. B. (2007). *A typology of information and communication technology users. PEW Internet & American Life Project*. Retrieved January 9, 2009, from http://www.pewinternet.org/pdfs/PIP_ICT_Typology.pdf
- Hunsberger, M., Baumann, A., Blythe, J., & Crea, M. (2009). Sustaining the rural workforce: Nursing perspectives on worklife challenges. *Journal of Rural Health, 25*(1), 17-25.
- Ironson, G. H., Smith, P. C., Brannick, M. T., & Gibson, W. M. (1989). Construction of a job in general scale: A comparison of global, composite, and specific measures. *Journal of Applied Psychology, 74*(2), 193-200.
- James, H. S. (2005). Why did you do that? An economic examination of the effect of extrinsic compensation on intrinsic motivation and performance. *Journal of Economic Psychology, 26*, 549-566.
- Jaschik, S. (2009). Weak community college budgets. *Inside Higher Education*. Retrieved June 22, 2009, from <http://www.insidehighered.com/news/2009/04/08/ccfinance>
- Job descriptions - information systems. (n.d.). *Salary source – your ultimate source for salary survey information*. Retrieved August 10, 2009, from <http://www.salarysource.com/description2.cfm?cdkey=8#362>
- Judge, T. A. (2009). Core self-evaluations and work success. *Current Directions in Psychological Science, 18*, 58-62.
- Judge, T. A., Erez, A., Bono, J. E., & Locke, E. A. (2005). Core self-evaluations and job and life satisfaction: The role of self-concordance and goal attainment. *Journal of Applied Psychology, 90*(2), 257-268.
- Judge, T. A., Locke, E. A., & Durham, C. C. (1997). The dispositional causes of job satisfaction: A core evaluations approach. *Research in Organizational Behavior, 19*, 151-188.
- Judge, T. A., Locke, E. A., Durham, C. C., & Kluger, A. N. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology, 83*(1), 17-34.

- Jurkiewicz, C., & Massey, T. (1997). What motivates municipal employees: A comparison study of supervisory vs. non-supervisory personnel. *Public Personnel Management, 26*(3), 367-77.
- King, W., Hautaluoma, J., & Shikiar, R. (1982). Intrinsic motivation, the meaning of pay, and work quality and quantity. *The Journal of Social Psychology, 116*, 147-148.
- Knowles, S. (2006). Married to technology, for better or for worse? PR pros discuss pros and cons of new communication methods. *Public Relations Tactics, 13*(3), 20-28.
- Kolowich, S. (2009). Recession may drive more adult students to take online classes. *The Chronicle of Higher Education, 55*(19), 11.
- Kuchinke, K., Ardichvili, A., Borchert, M., & Rozanski, A. (2009). The meaning of working among professional employees in Germany, Poland and Russia. *Journal of European Industrial Training, 33*(2), 104-124.
- Laff, M. (2008). Workplace gloom is universal. *Training +Development, 62*(2), 18-18.
- Larrivee, B. (2008). The future is coming. Will we like IT? *Infonomics, 22*.
- Latimer, D. (2002). The cost of IT staff turnover: A quantitative approach. *Educause Center for Applied Research, Research Bulletin, 2002*(4).
- Lee, R., & Wilbur, E. R. (1985). Age, education, job tenure, salary, job characteristics, and jobsatisfaction: A multivariate analysis. *Human Relation, 38*(8), 781-791.
- Levenstein, A. (1962). *Why people work: Changing incentives in a troubled world*. New York: Crowell.
- Locke, E. A. (1968). What is job satisfaction? In association with the *American Psychological Association Convention*, San Francisco, CA. (ERIC Document Reproduction Service No. ED023138).
- Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (ed.), *Handbook of industrial and organizational psychology*. Chicago, Rand McNally.
- Loyalty cannot be bought. (2008). *Employee Benefits, 14*. Retrieved January 5, 2009, from Business Source Complete database.
- Luftman, J. (2008). Companies can't afford to lose their best IT pros. *Computerworld, 37*.

- Magid, C. (2001). The promise and betrayal of modern work [A review of the book *The working life*, by J. B. Ciulla]. *Business and Society Review*, 106(1), 89-101.
- Mak, B. L., & Sockel, H. (2001). A confirmatory factor analysis of IS employee motivation and retention. *Information & Management*, 38(5), 265-276.
- Mangan, K. (2008). Public campuses share pain of budget cuts with students. *Chronicle of Higher Education*, 55(14), A1-A22.
- Marten, J., & Samels, J. E. (2007). 10 trends to watch in campus technology. *The Chronicle of Higher Education*, 53(18), 7.
- Maslow, A. H. (1987). *Motivation and personality*. New York: Harper & Row.
- McFarlin, D. B., Coster, E. A., Rice, R. W., & Cooper, A. T. (1995). Facet importance and job satisfaction: Another look at the range-of-affect hypothesis. *Basic and Applied Social Psychology*, 16(4), 489-502.
- McManus, K. (2007). Power of the PDA. *Industrial Engineer: IE*, 22.
- Measures. (n.d.). *Job Descriptive Index Research Group*. Retrieved October 12, 2009, from <http://www.bgsu.edu/departments/psych/io/jdi/page54706.html>
- Mitchell, T. (1982). Motivation: New directions for theory, research, and practice. *Academy of Management Review*, 7(1), 80-88.
- Mitchell, T., Holtom, B., & Lee, T. (2001). How to keep your best employees: Developing an effective retention policy. *Academy of Management Executive*, 15(4), 96-108.
- Mooney, C. (2008). IT trends for community colleges. *Chronicle of Higher Education*, 54(30), 9.
- Morris, W., ed. (1981). *The American Heritage Dictionary of the English Language* (New College Edition). Boston: Houghton Mifflin Company.
- Myers, C. (1949). Why men work. *Industrial & Labor Relations Review*, 2(3), 458-459.
- Myers, M. E. (1989). *An examination of motivations in the information systems profession*. (Doctoral dissertation, University of Texas, Austin, Texas).

- National Association of State Chief Information Officers (NASCIO). (2008). *The workforce evolution: recruiting and retaining state IT employees*. Retrieved May 28, 2009, from <http://www.nascio.org/publications/documents/NASCIO-WorkforceEvolution.pdf>
- National Center for Education Statistics (NCES). (2005). *Employees in degree-granting institutions, by employment status, sex, control and type of institution, and primary occupation: Fall 2003*. Washington, D.C.: National Center for Education.
- National Center for Education Statistics (NCES). (2008). *The condition of education 2008, supplemental note 1*. Retrieved June 22, 2009, from <http://nces.ed.gov/programs/coe/2008/supnotes/n01.asp>
- Newcombe, T. (2002). Filling the workforce gap. *Government Technology*. Retrieved May 28, 2009, from http://www.govtech.com/gt/8017?id=8017&full=1&story_pg=1
- Provasnik, S. & Planty, M. (2008). Community colleges: Special supplement to the condition of education 2008. *National Center for Education Statistics*. Retrieved June 16, 2009, from <http://nces.ed.gov/programs/coe/2008/analysis/2008033.pdf>
- Purpose. (n.d.). *Job Descriptive Index Research Group*. Retrieved February 28, 2009, from <http://www.bgsu.edu/departments/psych/io/jdi/index.html>
- Rainie, L., & Horrigan, J. (2005). PEW Reports: Internet evolution. *PEW Research Center*. Retrieved January 9, 2009, from http://www.pewinternet.org/pdfs/Internet_Status_2005.pdf
- Reiner, D. M., & Zhao, J. (1999). The determinants of job satisfaction among United States air force security police. *Review of Public Personnel Administration*, 19(3), 5-18.
- Rogelberg, S. G. (Chair). (1998). *Surveys and more surveys: Addressing and dealing with oversurveying*. Symposium conducted at the annual meeting of the Society for Industrial and Organizational Psychology, Dallas, Texas.
- Rogelberg, S. G., & Luong, A. (1998). Nonresponse to mailed surveys: A review and guide. *Current Directions in Psychological Science*, 7, 60-65.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80, 1-28.

- Rotter, N. G. (n.d.) *Hackman Oldham's job characteristics model* [PowerPoint slides]. Retrieved March 4, 2009, from <http://web.njit.edu/~rotter/courses/hrm301/lecturenotes/hrm301-11.ppt>
- Russell, S. R., Spitzmüller, C., Lin, L. F., Stanton, J. M., Smith, P. C., & Ironson, G. H. (2004). Shorter can also be better: The abridged job in general measure. *Educational and Psychological Measurement, 64*(5), 878-893.
- Satterlee, A. (2008). *Job satisfaction of adjunct faculty serving in the online environment at a private evangelical university*. (Doctoral dissertation, Liberty University, Lynchburg, Virginia).
- Sheridan, J. E. (1992). Organizational culture and employee retention. *Academy of Management Journal, 35*(5), 1036-1056.
- Smith, P. C., Kendall, L. M., & Hulin, C. L. (1969). *The measurement of satisfaction in work and retirement*. Chicago: Rand McNally & Company.
- Spector, P. E. (1985). Measurement of human service staff satisfaction: Development of the job satisfaction survey. *American Journal of Community Psychology, 13*, 693-713.
- Spector, P. E. (1997). *Job satisfaction: Applications assessment, causes, and consequences*. Thousand Oaks, CA: SAGE Publications.
- Stanton, J. M., Sinar, E. F., Balzer, W. K., Julian, A. L., Thoreson, P., Aziz, S., Fisher, G. G., & Smith, P. C. (2001). Development of a compact measure of job satisfaction: The abridged job descriptive index. *Educational and Psychological Measurement, 61*, 1104-1122.
- Stout, K. A. (2007). The role of IT in student success at community colleges. *Educause Review, 42*(3), 6-7.
- Sutherland, E. (1992). Strategic management and information systems: An ambiguous relationship. *International Journal of Information Resource Management 3*(2), 24-32.
- Thatcher, J. B., Liu, Y., Stepina, L. P., Goodman, J. M., & Treadway, D. C. (2006). IT worker turnover: An empirical examination of intrinsic motivation. *The DATA BASE for Advances in Information Systems, 37*(2, 3), 133-146.
- The Conference Board. (2007). *U.S. job satisfaction declines, the conference board reports*. Retrieved June 16, 2009, from http://www.conference-board.org/utilities/pressDetail.cfm?press_ID=3075

- Ting, Y. (1997). Determinants of job satisfaction of federal government employees. *Public Personnel Management*, 26(3), 313.
- Trends in college spending, 2008. (2008). *Delta Cost Project*. Retrieved January 22, 2009, from http://www.deltacostproject.org/resources/pdf/trends_in_spending-Report.pdf
- U.S. Census Bureau. (1994). *Geographic areas reference manual*. Retrieved June 22, 2009, from <http://www.census.gov/geo/www/GARM/Ch12GARM.pdf>
- U. S. Department of Labor, Bureau of Labor Statistics. (2008a). *The employment situation: December 2008*. Retrieved January 16, 2009, from <http://www.bls.gov/news.release/pdf/empstat.pdf>
- U. S. Department of Labor, Bureau of Labor Statistics. (2008b). *Occupational employment statistics*. Retrieved January 11, 2009, from http://www.bls.gov/oes/current/oes_stru.htm#15-0000
- U.S. Department of Labor, Bureau of Labor Statistics. (2008c). *Occupational outlook handbook, 2008-09 edition*. Retrieved January 11, 2009, from <http://www.bls.gov/oco/home.htm>
- Vaughan, G. B. (2006). *The community college story*. Washington, D.C.: Community College Press.
- Weaver, C. N. (1980). Job satisfaction in the United States in the 1970s. *Journal of Applied Psychology*, 65(3), 364-367.
- Weiss, H. M. (2002). Deconstructing job satisfaction: Separating evaluations, beliefs and affective experiences. *Human Resource Management Review*, 12, 173-194.
- Zedeck, S. (1987). *Satisfaction in union members and their spouses*. Paper presented at the Job Satisfaction: Advances in Research and Practice Conference, Bowling Green, Ohio.
- Zhang, L. (2006). *A social capital perspective on IT professionals' work behavior and attitude*. (Doctoral dissertation, University of North Texas, Denton, Texas).

APPENDIX A

SURVEY PERMISSION REQUEST EMAIL

May 15, 2009

Dear Community College President,

Currently, I am a graduate student at Mississippi State University conducting a graduate research project tentatively titled Perceptions of Motivation and Job Satisfaction for Information Technology (IT) Professionals at Institutions of Higher Learning in Mississippi. As part of this research project, I would like to survey the information technology professionals at your organization. If granted permission to do so, I would need your institution's help to determine IT employees in addition to their email addresses. I would like to email each IT professional with a link to the survey regarding job satisfaction. The survey instrument will be available online via Survey Monkey, and all responses will be confidential.

Do I have your permission to contact the appropriate personnel at your institution to begin this research process?

If you should have any questions about this research project, please feel free to contact me at lmm11@msstate.edu or my committee chair, Dr. Ed Davis at jed11@colled.msstate.edu.

Sincerely,

Leann M. Markham
Graduate Student
Mississippi State University

APPENDIX B
JOB SATISFACTION SURVEY

Job Satisfaction Survey

1. Consent

This research project is titled Perceptions of Motivation and Job Satisfaction for Information Technology Professionals at Institutions of Higher Learning in Mississippi. This survey is sent to all IT professionals employed at your institution to gain insight about the views and perceptions of IT employees regarding their current job satisfaction.

As the topic of the research is job satisfaction, you must be at least 18 years old to participate in this research. If you are under the age of 18, please disregard this email and do not answer any of the questions. Your participation in this research is voluntary, and you are not obligated to complete this survey. If you would like to participate, your responses are strictly confidential. By clicking the link and completing this survey, you are giving your informed consent to participate in this research project. There are no foreseeable risks to participants, and your response will benefit the researcher's accurate depiction of IT professionals' perceptions and opinions regarding job satisfaction. There are no other incentives or reimbursement for this project. The survey is expected to take 10 minutes to complete.

If you should have any questions about this research project, please feel free to contact Leann Markham at 662-325-9176, lmm11@msstate.edu or Dr. Ed Davis at 662-325-0944, jed11@colled.msstate.edu. For additional information regarding your rights as a research subject, please feel free to contact the MSU Regulatory Compliance Office at 662-325-5220.

2. IT Professional Prerequisite

1. Are you currently employed as an information technology (IT) professional?

Yes

No

3. Solicited Participant Prerequisite

1. Did you receive an email notification to participate in this research?

Yes

No

4. Job Evaluation

In each of the questions below you will be asked to think about the certain aspects of your present job. You will be given a list of words or phrases to review and asked to determine how well each describes that aspect of your present job. For the descriptive words or phrases, please choose:

"Yes" if it describes that aspect of your current job

"No" if it does not describe it

"Undecided" if you cannot decide

Job Satisfaction Survey

1. WORK ON PRESENT JOB

Think of the work you do at present. How well does each of the following words or phrases describe your work?

Choose "Yes", "No" or "Undecided" for EACH word or Phrase

	Yes	No	Undecided
Satisfying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gives a sense of accomplishment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Challenging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uninteresting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. PRESENT PAY

Think of the pay you get now. How well does each of the following words or phrases describe your present pay?

Choose "Yes", "No" or "Undecided" for EACH word or Phrase

	Yes	No	Undecided
Income adequate for normal expenses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fair	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insecure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Well paid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Underpaid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. OPPORTUNITIES FOR PROMOTION

Think of the opportunities for promotion that you have now. How well does each of the following words or phrases describe your opportunities for promotion?

Choose "Yes", "No" or "Undecided" for EACH word or Phrase

	Yes	No	Undecided
Good opportunities for promotion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotion on ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dead-end job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good chance for promotion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unfair promotion policy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Job Satisfaction Survey

4. SUPERVISION

Think of your supervisor and the kind of supervision that you get on your job. How well does each of the following words or phrases describe your supervision?

Choose "Yes", "No" or "Undecided" for EACH word or Phrase

	Yes	No	Undecided
Praises good work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tactful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Up-to-date	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Annoying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. PEOPLE AT WORK

Think of the majority of people that you work with now or the people you meet in connection with your work. How well does each of the following words or phrases describe these people?

Choose "Yes", "No" or "Undecided" for EACH word or Phrase

	Yes	No	Undecided
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intelligence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lazy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. JOB IN GENERAL

Think of your job in general. All in all, what is it like most of the time?

Choose "Yes", "No", or "Undecided" for EACH word or phrase.

	Yes	No	Undecided
Good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undesirable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better than most	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disagreeable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes me content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enjoyable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Job Satisfaction Survey

5. General Information

1. What is your gender?

- Male
 Female

2. In which year were you born? Please enter a 4 digit year.

3. In which of the following groups did your total income fall last year (2008) before taxes?

- Less than \$15,000
 \$15,000 - 24,999
 \$25,000 - 34,999
 \$35,000 - 49,999
 \$50,000 - 74,999
 \$75,000 - 99,999
 \$100,000 - 299,999
 \$300,000 and above

4. What is the highest level of education attainment you have achieved?

- Attended elementary or high school
 High school graduate
 Associate Degree
 Bachelors Degree
 Masters Degree
 Doctorate Degree or higher

Job Satisfaction Survey

5. In which of the following categories does your current job with this organization fall?

- Application Developer/Programmer
- Database Administrator (DBA)
- Database Analyst
- Help Desk Technician
- Network Administrator
- System Security Manager
- Web Administrator
- Web Master
- Manager/Administrator of IT personnel
- Other (please specify)

6. With which racial/ethnic group do you most strongly identify?

- White
- Black or African American
- Asian, Pacific Islander
- Hispanic
- American Indian, Eskimo
- Multiracial
- Other (please specify)

7. What is the total number of years you have been in the workforce?

8. How many years have you worked in IT?

9. How many years have you been in your current position?

10. What is your residential zip code?

Job Satisfaction Survey

11. What is your employer's zip code?

12. In which of the following employment situations are you working?

Full-time

Part-time

6. End of Survey

Thank you for your interest in this survey. You either reached this page by answering the survey questions or because you did not meet the criteria for the survey.

APPENDIX C
PARTICIPANT EMAIL SURVEY SCRIPT

June 2009

To: IT Employees

From: Leann M. Markham & Dr. Ed Davis

I am a graduate student conducting a graduate research project titled Perceptions of Motivation and Job Satisfaction for Information Technology Professionals at Institutions of Higher Learning in Mississippi. This survey is sent to all IT professionals employed at your institution to gain insight about the views and perceptions of IT employees regarding their current job satisfaction. Attached in this email is a link to the survey.

As the topic of the research is job satisfaction, you must be at least 18 years old to complete the survey. If you are under the age of 18, please disregard this email and do not answer any of the questions. Your participation in this research is voluntary, and you are not obligated to complete this survey. If you would like to participate, your responses are strictly confidential. By clicking the link and completing this survey, you are giving your informed consent to participate in this research project. There are no foreseeable risks to participants, and your response will benefit the researcher's accurate depiction of IT professionals' perceptions and opinions regarding job satisfaction. There are no other incentives or reimbursement for this project.

If you should have any questions about this research project, please feel free to contact Leann Markham at 662-325-9176 or lmm11@msstate.edu or Dr. Ed Davis at 662-325-0944 or jed11@colled.msstate.edu. For additional information regarding your rights as a research subject, please feel free to contact the MSU Regulatory Compliance Office at 662-325-5220.

Please click the link below to launch the survey.

https://www.surveymonkey.com/s.aspx?sm=db_2fHXW2ZJAWsUsHdiwXBIw_3d_3d

APPENDIX D

PARTICIPANT EMAIL SURVEY REMINDER SCRIPT

June 2009

To: IT Employees

From: Leann M. Markham & Dr. Ed Davis

This is a reminder email to complete a brief survey about IT professionals' job satisfaction. If you have already completed this survey, please ignore this email.

I am a graduate student conducting a graduate research project titled Perceptions of Motivation and Job Satisfaction for Information Technology Professionals at Institutions of Higher Learning in Mississippi. This survey is sent to all IT professionals employed at your institution to gain insight about the views and perceptions of IT employees regarding their current job satisfaction. Attached in this email is a link to the survey.

As the topic of the research is job satisfaction, you must be at least 18 years old to complete the survey. If you are under the age of 18, please disregard this email and do not answer any of the questions. Your participation in this research is voluntary, and you are not obligated to complete this survey. If you would like to participate, your responses are strictly confidential. By clicking the link and completing this survey, you are giving your informed consent to participate in this research project. There are no foreseeable risks to participants, and your response will benefit the researcher's accurate depiction of IT professionals' perceptions and opinions regarding job satisfaction. There are no other incentives or reimbursement for this project.

If you should have any questions about this research project, please feel free to contact Leann Markham at 662-325-9176 or lmm11@msstate.edu or Dr. Ed Davis at 662-325-0944 or jed11@colled.msstate.edu. For additional information regarding your rights as a research subject, please feel free to contact the MSU Regulatory Compliance Office at 662-325-5220.

Please click the link below to launch the survey.

https://www.surveymonkey.com/s.aspx?sm=db_2fHXW2ZJAWsUsHdiwXBIw_3d_3d

APPENDIX E

REVERSE SCORING KEY CHART FOR aJDI AND aJIG

Work on Present Job – aJDI			
Question	Yes	No	Undecided (?)
Satisfying	3	0	1
Gives a sense of accomplishment	3	0	1
Challenging	3	0	1
Dull	0	3	1
Uninteresting	0	3	1

Present Pay Facet – aJDI			
Question	Yes	No	Undecided (?)
Income adequate for normal expenses	3	0	1
Fair	3	0	1
Insecure	0	3	1
Well paid	3	0	1
Underpaid	0	3	1

Opportunities for Promotion Facet – aJDI			
Question	Yes	No	Undecided (?)
Good opportunities for promotion	3	0	1
Promotion on ability	3	0	1
Dead-end job	0	3	1
Good Chance for promotion	3	0	1
Unfair promotion policy	0	3	1

Supervision Facet – aJDI			
Question	Yes	No	Undecided (?)
Praises good work	3	0	1
Tactful	3	0	1
Up-to-date	3	0	1
Annoying	0	3	1
Bad	0	3	1

People at Work Facet – aJDI			
Question	Yes	No	Undecided (?)
Boring	0	3	1
Helpful	3	0	1
Responsible	3	0	1
Intelligence	3	0	1
Lazy	0	3	1

Job in General - aJIG			
Question	Yes	No	Undecided (?)
Good	3	0	1
Undesirable	0	3	1
Better than most	3	0	1
Disagreeable	0	3	1
Makes me content	3	0	1
Excellent	3	0	1
Enjoyable	3	0	1
Poor	0	3	1

(Balzer et al., 2000)

APPENDIX F
PILOT STUDY SURVEY

Pilot Study of Job Satisfaction Survey

1. Consent

This survey is sent to all IT professionals employed at your institution to gain insight regarding the job satisfaction survey tool for accuracy, reliability, and validity. Your help regarding this survey is greatly appreciated and will provide valuable feedback to the researcher.

You must be at least 18 years old to participate in this pilot study. If you are under the age of 18, please disregard this email and do not answer any of the questions. Your participation in this research is voluntary, and you are not obligated to complete this survey. If you would like to participate, your responses are strictly confidential. By clicking the link and completing this survey, you are giving your informed consent to participate in this research pilot study project. There are no foreseeable risks to participants, and your response will benefit the researcher's accurate depiction of IT professionals' perceptions and opinions regarding job satisfaction. There are no other incentives or reimbursement for this project. The survey is expected to take 10 minutes to complete.

If you should have any questions about this research project, please feel free to contact Leann Markham at 662-325-9176, lmm11@msstate.edu or Dr. Ed Davis at 662-325-0944, jed11@colled.msstate.edu. For additional information regarding your rights as a research subject, please feel free to contact the MSU Regulatory Compliance Office at 662-325-5220.

Pilot Study of Job Satisfaction Survey

2. IT Professional Prerequisite

1. Are you currently employed as an information technology (IT) professional?

Yes

No

Pilot Study of Job Satisfaction Survey

3. Solicited Participant Prerequisite

1. Did you receive an email notification to participate in this research?

Yes

No

Pilot Study of Job Satisfaction Survey

4. Job Evaluation

In each of the questions below you will be asked to think about the certain aspects of your present job. You will be given a list of words or phrases to review and asked to determine how well each describes that aspect of your present job. For the descriptive words or phrases, please choose:

- 1 for "Yes" if it describes that aspect of your current job
- 2 for "No" if it does not describe it
- 3 for "Undecided" if you cannot decide

1. YOUR WORK

Think of the work you do at present. How well does each of the following words or phrases describe your work?

Choose "Yes", "No" or "Undecided" for EACH word or Phrase

	Yes	No	Undecided
Satisfying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gives a sense of accomplishment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Challenging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uninteresting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. PAY

Think of the pay you get now. How well does each of the following words or phrases describe your present pay?

Choose "Yes", "No" or "Undecided" for EACH word or Phrase

	Yes	No	Undecided
Income adequate for normal expenses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fair	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insecure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Well paid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Underpaid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. SUPERVISION

Think of your supervisor and the kind of supervision that you get on your job. How well does each of the following words or phrases describe your supervision?

Choose "Yes", "No" or "Undecided" for EACH word or Phrase

	Yes	No	Undecided
Praises good work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tactful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Up-to-date	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Annoying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Pilot Study of Job Satisfaction Survey

4. PEOPLE

Think of the people that you work with now or the people you meet in connection with your work. How well does each of the following words or phrases describe these people?

Choose "Yes", "No" or "Undecided" for EACH word or Phrase

	Yes	No	Undecided
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intelligence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lazy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. PROMOTION

Think of the opportunities for promotion that you have now. How well does each of the following words or phrases describe your opportunities for promotion?

Choose "Yes", "No" or "Undecided" for EACH word or Phrase

	Yes	No	Undecided
Good opportunities for promotion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotion on ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dead-end job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good chance for promotion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unfair promotion policy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. JOB IN GENERAL

Think of your job in general. All in all, what is your job like most of the time?

Choose "Yes", "No", or "Undecided" for EACH word or phrase.

	Yes	No	Undecided
Good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undesirable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better than most	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disagreeable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Makes me content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enjoyable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Pilot Study of Job Satisfaction Survey

5. General Information

1. What is your gender?

- Male
 Female

2. In which year were you born? Please enter a 4 digit year.

3. In which of the following groups did your total income fall last year (2008) before taxes?

- Less than \$15,000
 \$15,000 - 24,999
 \$25,000 - 34,999
 \$35,000 - 49,999
 \$50,000 - 74,999
 \$75,000 - 99,999
 \$100,000 - 299,999
 \$300,000 and above

4. What is the highest level of education attainment you have achieved?

- Attended elementary or high school
 High school graduate
 Associate Degree
 Bachelors Degree
 Masters Degree
 Doctorate Degree or higher

Pilot Study of Job Satisfaction Survey

5. In which of the following categories does your current job with this organization fall?

- Application Developer/Programmer
- Database Administrator (DBA)
- Database Analyst
- Help Desk Technician
- Network Administrator
- System Security Manager
- Web Administrator
- Web Master
- Manager/Administrator of IT personnel
- Other (please specify)

6. With which racial/ethnic group do you most strongly identify?

- White
- Black or African American
- Asian, Pacific Islander
- Hispanic
- American Indian, Eskimo
- Multiracial
- Other (please specify)

7. What is the total number of years you have been in the workforce?

8. How many years have you worked in IT?

9. How many years have you been in your current position?

10. What is your residential zip code?

11. What is your employer's zip code?

Pilot Study of Job Satisfaction Survey

12. In which of the following employment situations are you working?

- Full-time
- Part-time

Pilot Study of Job Satisfaction Survey

6. Suggestions

1. Please provide any suggestions or comments regarding the layout or content of this survey.

Pilot Study of Job Satisfaction Survey

7. End of Survey

Thank you for your interest in this survey. You either reached this page by answering the survey questions or because you did not meet the criteria for the survey.

APPENDIX G

EXAMPLE OF SURVEY CONTACT INFORMATION REQUEST

Leann Markham - Graduate Research involving ICC

From: Leann Markham
To: dlgarvin@iccms.edu
Date: 6/2/2009 8:36 AM
Subject: Graduate Research involving ICC

Mrs. Garvin,

Currently, I am a graduate student at Mississippi State University conducting a graduate research project tentatively titled Perceptions of Motivation and Job Satisfaction for Information Technology (IT) Professionals at Institutions of Higher Learning in Mississippi. As part of this research project, I would like to survey the information technology professionals at your organization.

Dr. Cole has given me permission to conduct this research at ICC, and he suggested I contact you regarding my request. I need your help to determine IT employees in addition to their email addresses. I would like to email each IT professional with a link to the survey regarding job satisfaction. The survey instrument will be available online via Survey Monkey, and all responses will be confidential. Can you please help me with this request?

Thank you for your time,
Leann Markham

APPENDIX H

aJDI AND aJIG PERMISSION REQUEST

From: Leann Markham [mailto:Imm@its.msstate.edu]
Sent: Tuesday, April 28, 2009 10:14 AM
To: JDI Research Assistance
Subject: non-commercial use of BGSU test measures - questions

Hello,

I am currently a graduate student at Mississippi State University, and I am in the process of starting my dissertation. I am planning to use the abridged JDI/JIG in my research related to job satisfaction of IT professionals in Higher Education. I've found your document online to request a 100% price rebate in exchange for me providing my data to you within 6 months of approval for usage. I'm still going through IRB approval and upon receiving this approval, I will contact several institutions of higher learning in hopes of them agreeing to participate in my research then submit my request to you for usage. My question is typically how long is the approval process once I submit my Non-commercial use of BGSU Test Measures application?

Another question, I am planning to typeset the abridged JDI/JIG using Survey Monkey. Is this acceptable? I would have the copyright notation within the survey I create in Survey Monkey and include the required demographic questions (age, gender, time in job, job title/position, person's zip code, company zip code) in addition to other questions I plan to add. Is there anything else I would need to do since I would not be using your booklets to ensure I give the correct acknowledgment to BGSU? I would be more than happy to send you the link to my survey at the time I send my request if that would help the approval request process and allow you to check accuracy/acknowledgments.

Thanks for your time,
Leann Markham

From: JDI Research Assistance <jdi_ra@bgsu.edu>
To: Leann Markham <lmm@its.msstate.edu>
Date: 4/28/2009 9:51 AM
Subject: RE: non-commercial use of BGSU test measures - questions

Hi Leann,

To answer your questions... Typically, once you fax or email me your non-commercial agreement, I have it processed and sent back to you within 1-3 days (depending on my schedule and workload). There's not a long process or anything.

Administration of the JDI/JIG is completely acceptable using SurveyMonkey. We just ask that the survey is not posted in a public place (i.e. message board). You do not have to worry about acknowledgement to BGSU on the survey itself; it just has to be acknowledged in the manuscript, which you can do by citing the manual. You do not have to worry about sending the survey, either.

Just let me know when you are ready and if you have any other questions.

Thanks!

Mike

Michael Sliter
JDI Office Manager
Department of Psychology
Bowling Green State University
Voice: 419.372.8247
Fax: 419.372.6013

From: Leann Markham [lmm@its.msstate.edu]
Sent: Tuesday, May 26, 2009 3:25 PM
To: JDI Research Assistance
Subject: RE: non-commercial use of BGSU test measures - questions

Hi Mike,

We exchanged e-mails about a month ago regarding the usage of JDI. I'm in the process of completing the Non-commercial Use of BGSU Test Measures to fax to your office (I can email the completed form if you prefer). My research involves IT professionals employed at community colleges in Mississippi, and I'm planning to use the AJDI and AJIG. I have an estimate of how many people my population will be. Is that estimate the number of copies I need to request? I know all the population will not respond, so I wasn't sure of the best approach in the number of copies I should request. I'm estimating my entire population will only be around 50. I assume if I've grossly miscalculated my population, I can request more copies of the AJDI? I'll also be conducting the survey online via Survey Monkey in case that information is helpful in answering my question.

Finally, how should I refer to the abridged versions of the JDI and JIG in my manuscript? I see is listed as AJDI on your Non-commercial Use agreement. Is that the correct way? The reason I'm asking is I've seen it referenced as aJDI/aJIG and AJDI/AJIG in articles.

Thanks for your help,
Leann Markham

From: JDI Research Assistance <jdi_ra@bgsu.edu>
To: Leann Markham <Imm@its.msstate.edu>
Date: 5/27/2009 10:27 AM
Subject: RE: non-commercial use of BGSU test measures - questions

Hi Leann,

If you just make a high estimate (e.g. 100), that we be completely fine. We just want to discourage people asking for 50 uses, then using the measure in studies again and again. Surveymonkey is also fine, so as long as the link to your survey is not made publically available.

There isn't an official way to refer to the measures (aJDI or AJDI). I personally prefer aJDI, but you can do whichever you'd like.

Let me know if you need anything else!

Mike

APPENDIX I

INSTITUTION REVIEW BOARD (IRB) APPROVAL LETTER



Mississippi State
UNIVERSITY

Office of Regulatory Compliance

Post Office Box 6233

Mississippi State, MS 39762

Compliance Division
Administrative Offices
Animal Care and Use (IACUC)
Human Research Protection
Program (IRB)
1207 Hwy 182 West
Starkville, MS 39759
(662) 325-5496 - fax

Safety Division
Biosafety (IBC)
Radiation Safety
Hazardous Waste
Chemical & Lab Safety
70 Morgan Avenue
Mississippi State, MS 39762
(662) 325-8776 - fax

<http://www.orc.msstate.edu>
compliance@research.msstate.edu
(662) 325-3294

May 20, 2009

Leann Markham
307 Fairfield Drive
Starkville, MS 39759

RE: IRB Study #09-094: Perceptions of Motivation and Job Satisfaction for Information Technology Professionals at Institutions of Higher Learning in Mississippi

Dear Ms. Markham:

The above referenced project was reviewed and approved via administrative review on 5/20/2009 in accordance with 45 CFR 46.101(b)(2).

Enclosed with this letter you will find a list of the sites that have been approved to date. Please forward the additional permission letters to our office via email prior to recruiting the actual subjects at the remaining sites. Please remember to include the IRB study number (09-094) in the email subject space when you send the additional letters of permission.

Continuing review is not necessary for this project. However, any modification to the project must be reviewed and approved by the IRB prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project. The IRB reserves the right, at anytime during the project period, to observe you and the additional researchers on this project.

Please note that the MSU IRB is in the process of seeking accreditation for our human subjects protection program. As a result of these efforts, you will likely notice many changes in the IRB's policies and procedures in the coming months. These changes will be posted online at <http://www.orc.msstate.edu/human/sahrpp.php>.

Please refer to your IRB number (#09-094) when contacting our office regarding this application.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at cwilliams@research.msstate.edu or call 662-325-5220.

Sincerely,

Christine Williams
IRB Compliance Administrator

cc: James Ed Davis

enclosure