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A MOTIVATED WORKFORCE:
A MIXED METHODS STUDY OF WORKER MOTIVATION AT A NEBRASKA
MANUFACTURING COMPANY

by

Kevin R. Wesley

A DISSERTATION

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Educational Leadership and Higher Education
Under the Supervision of Professor Marilyn L. Grady

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A MOTIVATED WORKFORCE:
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MANUFACTURING COMPANY

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University of Nebraska, 2012

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The study of worker motivation and human motivation in general, has been the focus of psychologists, sociologists, behavioral scientists, and leadership theorists for more than a century. An understanding of the factors that motivate workers is critical not only to corporate executives who concentrate on the bottom line, but more importantly to the security of our nation as it relates to competing in the global market. The purpose of this mixed-methods study is to examine worker motivation in a Nebraska manufacturing company. A pragmatist worldview informs the convergent parallel design of this study, which consists of a qualitative strand using interviews and observation, and a quantitative strand using surveys. Factors pertaining to worker motivation identified through grounded theory methodology merge with data gathered from quantitative strategies to better understand this phenomenon through the experiences of the workers. The quantitative study relies upon survey data, which was designed using the elements of Frederick Herzberg's Two-Factor Theory of Motivation (Herzberg, Mausner, & Synderman, 1959) as a basis. Congruence and incongruence between the motivation factors identified at the research site and those identified by Herzberg are examined using an interpretive qualitative approach and by merging qualitative and quantitative data through discussion and matrix integration. This dissertation builds on the fundamental tenets of Herzberg's Two-Factor Theory of Motivation (Herzberg, et al., 1959) and

provides insight into factors that motivate the workforce. The findings inform leaders and educators and aid in developing new curricula for workforce training that incorporates the factors of individual worker motivation. Understanding what motivates workers at the individual level will result in larger collective social benefits, private and social organizational success, and position the United States favorably to compete in the global marketplace.

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Table of Contents

Chapter 1 The Father of Job Enrichment.....	4
Chapter 2 The Literature Review	7
Chapter 3 The Herzberg Study	
Research Approach	9
Data Coding and Analysis	14
Chapter 4 Positioning the Researcher	16
Chapter 5 The Pilot Study	23
Methods.....	25
Data Coding & Analysis	30
Findings.....	31
Chapter 6 The Mixed Methods Study	
Research Design.....	35
Lincoln Industries	40
Methodology.....	44
Chapter 7 Ethical Considerations.....	47
Chapter 8 Observation	49
Methods.....	51
Participants.....	54
Procedures and Analysis	54
Findings.....	57
Chapter 9 The Qualitative Interview	
Methods.....	59
Participants.....	59
Procedures and Analysis	60
Findings.....	65
Chapter 10 The Quantitative Survey.....	72
Methods.....	73
Participants.....	743
Procedures and Analysis	743
Findings.....	74
Chapter 11 Data Merging & Interpretation.....	78
Chapter 12 Discussion	82
Chapter 13 Limitations and Future Research.....	91
Chapter 14 Conclusion.....	95

References.....	98
Appendices.....	103
Endnotes	113

List of Figures

Figure 3.1	Frederick Herzberg's Comparison of Satisfiers/Dissatisfiers.....	13
Figure 6.1	Convergent Parallel Mixed Methods Design	37
Figure 6.2	Theoretical Framework	44
Figure 9.1	Interview Open Coding	66
Figure 9.2	Interview Axial Coding.....	69
Figure 11.1	Merged Results: Interview, Observation, Survey.....	79
Figure 12.1	Mixed Methods Results versus Herzberg's Results	82

List of Tables

Table 5.1	Pilot Study, Interview Open Coding, GOOD Sequences	27
Table 5.2	Pilot Study, Interview Open Coding, BAD Sequences	29
Table 8.1	Frequency of Observable Factors / Inter-rater Reliability	55
Table 8.2	Observation Field Notes	57
Table 9.1	Interview Axial Coding, GOOD Sequences	62
Table 9.2	Interview Axial Coding, BAD Sequences	63
Table 9.3	Interview Axial Coding, LINEAR Sequences	64
Table 10.1	Survey Findings	75
Table 12.1	Interview Excerpts	87

Appendices

Appendix A	Interview Questions.....	103
Appendix B	Observation Research Instrument.....	104
Appendix C	Research Instrument Findings Comparison.....	105
Appendix D	Factor Comparison Across Research Instruments	107
Appendix E	Survey	109

INTRODUCTION

There have been numerous studies on leadership, management, and worker motivation, from which leadership and production models are developed to address the age-old organizational leadership question: What motivates a worker? (Bass & Bass, 2008; Birnbaum, 2000; Buckingham & Coffman, 1999; Carlson, 2000; Collins, 2001, 2005; George, 2003; Gerth & Mills, 1946; Herzberg, 1957, 1966, 1968, 1976; Herzberg, et al., 1959; Maslow, 1954; Montor, 1998; Northouse, 2009, 2010; Tierney, 1988; Wagner & Harter, 2006; Yukl, 2010) In Frederick Herzberg's 1959, *The Motivation to Work*, Herzberg presented the findings of his research on worker motivation. Herzberg's theory, known as the Two-Factor Theory of Motivation, stated that there are certain factors in the workplace that cause job satisfaction, while a separate set of factors cause dissatisfaction.

Following qualitative study of worker motivation and publication of book, *The Motivation to Work* (Herzberg, et al., 1959), Herzberg continued to research and lecture on worker motivation. His famous article published in the *Harvard Business Review* in 1968 titled, *One More Time: How Do You Motivate Employees?*, has sold more than 1.2 million copies despite its public availability, and is the most requested article from the *Harvard Business Review*. Herzberg's article, and his original research on worker motivation and focus on industrial psychology, continue to be regarded by higher education as fundamental to the study of worker motivation, leadership theory, organizational theory and business management.

The purpose of this mixed-methods study was to examine worker motivation in a Nebraska manufacturing company. A pragmatist worldview informed the convergent parallel design of the study, which consisted of a qualitative strand using interviews and

observation, and a quantitative strand using surveys. Factors pertaining to worker motivation identified through grounded theory methodology were merged with data gathered from quantitative strategies to better understand the phenomenon through the experiences of the workers. The quantitative study relied upon survey data, which was designed using the elements of Frederick Herzberg's Two-Factor Theory of Motivation (Herzberg et al., 1959) as a basis. Congruence and incongruence between the motivation factors identified at the research site and those identified by Herzberg were addressed using an interpretive qualitative approach and by merging qualitative and quantitative data through discussion and matrix integration. The study built on the fundamental tenets of Herzberg's Two-Factor Theory of Motivation (Herzberg, et al., 1959) and provided insight into factors that motivate the 2012 workforce. The findings inform leaders and educators to aid in developing new curricula for workforce training that incorporates the factors of individual worker motivation. Understanding what motivates workers at the individual level results in larger collective social benefits, private and social organizational success, and positions the United States favorably to compete in the global marketplace.

The answer to the question of "Why is this study important?" is consistent with the rationale given by Herzberg (Herzberg et al., 1959) more than 50 years ago:

To industry, the payoff for a study of job attitudes would be in increased productivity, decreased turnover, decreased absenteeism, and smoother working relations. To the community, it might mean a decreased bill for psychological casualties and an increase in the over-all productive capacity of our industrial plant and in the proper utilization of human resources. To the individual, an

understanding of the forces that lead to improved morale would bring greater happiness and greater self-realization (p. ix).

Baron (2003) supported the importance of such research stating, “a strong case can be made for the view that motivation—*the internal processes that activate, guide, and motivate behavior (especially goal-directed behavior)*—is one of the most pivotal concerns of modern organizational research” (p. 193).

The sections that follow provide a background of Frederick Herzberg’s life; a detailed review of Herzberg’s research approach and methodology as it provided the theoretical framework for the study, a discussion of the pilot study conducted at Norland International which further expounded on Herzberg’s research methodology, it’s application in the study, and the mixed methods study conducted at Lincoln Industries.

As noted, the research approach of this study was founded on the work of Frederick Herzberg, and as such, an understanding of Herzberg’s life, worldview, theoretical foundation, methodological approach, and research methods is necessary.

CHAPTER 1 THE FATHER OF JOB ENRICHMENT

Background

Frederick Herzberg was born in Lynn, Massachusetts on 18 April 1923 to Lewis and Gertrude Copleman Herzberg and educated in the New York public school system. Herzberg is recognized as one of the major management philosophers of our time. His studies in psychology at the City College of New York (CCNY) were interrupted by the Second World War while serving in the United States Army from 1943 to 1946. Fluent in both German and Yiddish, Herzberg was involved in the relocation of internees of the Dachau Concentration Camp. This experience, where he "realized that a society goes insane when the sane are driven insane," (Herzberg, 1976, p. ix) was the matrix from which Herzberg's philosophy developed. His work, which stresses the nourishment of human character in the workplace, is directed toward 'keeping the sane, sane' (Herzberg, 1976). After receiving his B.S. from CCNY in 1946, Herzberg moved to the University of Pittsburgh, where he was first lecturer then instructor while working toward his graduate degrees. He was awarded an M.S. in Clinical and Industrial Psychology in 1949, with his Ph.D. following a year later. Herzberg was the research director for Psychological Services of Pittsburgh from 1951 to 1957. In 1957, he became a professor of psychology at Case Western Reserve University in Cleveland, during this time he also served as director of the graduate program in industrial mental health (J. Willard Marriott Library, n.d.).

Herzberg's first book, *Job Attitudes: Research and Opinion*, was published in 1957. This book was the outgrowth of his work in the 1950s when he conducted a number of employee morale surveys with apparently contradictory results, which

prompted him to rethink the traditional approach in measurement of job satisfaction. *The Motivation to Work* (Herzberg et al., 1959), Herzberg's controversial challenge to the industrial psychology establishment which questioned the validity of traditional attitude-measurement techniques, followed in 1959. Herzberg was awarded a Fulbright research fellowship in 1963 that took him to Finland. An inquiry about his theories led Herzberg to travel to the Soviet Union on a tourist visa and resulted in a long and productive relationship with colleagues in the Soviet Union. Herzberg's *Work and the Nature of Man*, recently named one of the ten most important books on management in the 20th century, was published in 1966 (J. Willard Marriott Library, n.d.).

In 1972, Herzberg accepted an offer from the University of Utah in Salt Lake City and became distinguished professor of management in the college of business. In addition to teaching and writing, Herzberg spent the next twenty years consulting with government and industry leaders throughout the world. He developed seminars and workshops to train managers and employees at all levels. Herzberg retired from the University of Utah in 1995 and died in January of 2000 (J. Willard Marriott Library, n.d.).

Herzberg's experiences during World War II had a profound effect on him and played a critical role in reshaping his "worldview" and the epistemological underpinnings that guided his future research. His view of the production line worker and their tedious tasks was seen through the lens of "sanity"—to be sure, he wanted to "keep the sane, sane." Herzberg's background and wartime experiences influenced his lifelong pursuits in psychology and defined the "assumptions, paradigms, and interpretive and/or theoretical frameworks" (Creswell, 2007, p. 16) of his research.

Herzberg's theories on worker motivation continue to inform and challenge students, educators, corporate, government and social leaders, researchers, and academia. The study of worker motivation is not only a worthwhile endeavor, but critically important. The "Father of Job Enrichment" asserts that "methodologically; [his] study presents a model that contains many aspects that might well be copied by future investigators" (Herzberg, et al., 1959, p. ix). I have accepted Herzberg's challenge; the following research is largely a result of "copy[ing] many aspects" (p. xi) of Herzberg's seminal research that produced the famous *Two-Factor Theory of Motivation* (Herzberg, et al., 1959).

CHAPTER 2

THE LITERATURE REVIEW

This study is founded on Frederick Herzberg's research and publications. The following publications provided the basis from which the research instruments for this study were developed: *Job Attitudes: Review of Research and Opinion* (Herzberg, 1957), *The Motivation to Work* (Herzberg et al., 1959), *Work and the Nature of Man* (Herzberg, 1966), *One More Time: How Do You Motivate Employees* (Herzberg, 1968), and *The Managerial Choice: To Be Efficient and To Be Human* (Herzberg, 1976).

Herzberg's first book, *Job Attitudes: Review of Research and Opinion* (1957) was the outgrowth of his work in the 1950s, when he conducted a number of employee morale surveys with apparently contradictory results, which prompted him to rethink the traditional approach to measuring job satisfaction. This volume covers a literature survey in eight areas: the prevalence of job dissatisfaction, characteristics of dissatisfied workers, effects of job attitudes, factors related to job attitudes, social aspects of the job, supervision and job attitudes, vocational selection and job attitudes, and mental health in industry. "This study provides a background that will be most helpful to anyone interested in the various dimensions that are related to the problems of the feelings of the man who works in industry" (Herzberg, 1957, p. 20).

The Motivation to Work (Herzberg et al., 1959) was Herzberg's controversial challenge to the industrial psychology establishment which questioned the validity of traditional attitude-measurement techniques, followed in 1959. This publication represents the core of Herzberg's research on *worker motivation* and the genesis of his Two-Factor Theory of Motivation. Much of Herzberg's successive publications, as well

as the numerous academic lectures, and corporate consultation seminars, reference the research published in *The Motivation to Work* (Herzberg, et al., 1959).

In the final publication of the trilogy, *Work and the Nature of Man* (1966), Herzberg expands the application of his motivation-hygiene theory. This study is the result of more than four years of participation in a multitude of management programs all over the nation and in many parts of Europe. Herzberg used this book to defend his Two-Factor Theory of Motivation (Herzberg, et al., 1959) against critics, citing several studies that duplicated Herzberg's research methodology and yielded results similar to his own

Also referenced is Herzberg's famous *One More Time: How Do You Motivate Employees?* (1968) in which he expands his discussion on hygiene-motivator factors and introduces a new theme that addressed the futile efforts of organizations attempting to boost employee motivation through continuous escalation of "hygiene" factors. Herzberg affectionately coined: *KITA* (Kick In The Ass).

The theoretical foundation that positioned and guided the mixed methods study follows. Frederick Herzberg *Two-Factor Theory of Motivation* (Herzberg et al., 1959) provided an a priori "framework for both the quantitative and the qualitative data collection efforts in the study" (Creswell & Plano Clark, 2011, p. 10).

CHAPTER 3 THE HERZBERG STUDY

Research Approach

In Herzberg's extensive literature review of previous research on worker motivation, he identified many studies that were quantitative in nature, survey-driven, and often resulted in conclusions that simply identified worker traits and characterized worker *motivation* as moving along a one-dimensional continuum with little mention of worker "attitudes" or the "effects" that such attitudes had on job performance (Herzberg et al., 1959). Herzberg considered several approaches for his study: surveys, observation, and interviews. As mentioned previously, surveys could only provide limited insight into how workers truly felt about their jobs; he rejected observation due to the results of the famous Hawthorne Studies, which revealed that workers "attitudes toward the job changed artificially merely because employees sensed that the company was paying more attention to them doing something different or novel" (Herzberg, 1968, p. 56) and finally, Herzberg felt that:

...the relationship among the components of the factors-attitudes-effects complex should be studied within individuals. That is, an attempt should be made to note, individual by individual, how given kinds of factors lead to high or low morale and the consequences of the morale state as indicated by various criterion measures. A likely way of doing this is to obtain from the individual an account of his periods of high or low morale. (Herzberg, et al., 1959, p. 12)

Similar to the idiographic approach adopted by Herzberg, Max Weber's (as cited in Gerth & Mills, 1946) philosophy on enlightenment concentrated on the individual as the unit of analysis as opposed to the institution, or environment:

Interpretative sociology considers the individual [*Einzelindividuum*] and his action as the basic unit, as its “atom”—if the disputable comparison for once may be permitted. In this approach, the individual is also the upper limit and the sole carrier of meaningful conduct...In general, for sociology, such concepts as “state,” “association,” “feudalism,” and the like, designate certain categories of human interaction. Hence it is the task of sociology to reduce these concepts to “understandable” action, that is, without exception, to the actions of participating individual men. (p. 118)

Thus, Herzberg relied upon interviews as the source of data collection for his qualitative approach for researching worker motivation and chose to remain as a “non-participant” in his analysis to ensure objectivity and avoid the Hawthorne Effect.

Herzberg’s (Herzberg et al., 1959) research approach foreshadowed certain aspects of qualitative research —particularly *grounded theory* and *phenomenology*—that are popular among researchers in 2012. Originally developed by Barney Glaser and Anselm Strauss in 1967, the grounded theory approach stated that “theories should be grounded in data from the field, especially in the actions, interactions, and social processes of people” (Creswell, 2007, p. 63). Grounded theory aims to answer the fundamental research question about a phenomenon, “What is happening here?” (Babchuk, 2012) Herzberg’s aforementioned goal of attaining personal accounts from individuals, the participant’s view, is consistent with the goal of qualitative research in general and a grounded theory approach specifically. Herzberg’s approach to identifying the factors of worker motivation was largely congruent with the methods characteristic of grounded theory:

- Sampling aimed toward theory construction, not for population representativeness;

- Simultaneous involvement in data collection and analysis;
- Constructing analytic codes and categories from data, not from preconceived hypotheses;
- Using the constant comparative method, which involves making comparisons during each stage of the analysis;
- Logically deduced hypotheses;
- Advancing theory development during each step of data collection and analysis (Creswell, 2007, p. 98).

Herzberg (Herzberg et al., 1959) described two primary research options from which to choose, 1) “an a priori approach in which analysis is based upon a previously defined and outlined schematic system,” and 2) an “a posteriori approach” (p. 6).

Herzberg selected the second approach where the “categories of analysis are extracted from the material itself. This approach tends to set up categories that are meaningful in terms of the empirical material gathered during the course of the study” (Herzberg et al., 1959, p. 37). Similar to the core characteristic of grounded theory, Herzberg felt that “the most valuable analysis would be one which emerged from the material itself” (Herzberg et al., 1959, p. 16).

Herzberg’s central interview question attempted to understand the meaning of motivated worker behavior from the participant’s standpoint, consistent with goals of a phenomenological research approach. Creswell (2007) stated, “Phenomenological study describes the meaning for several individuals of their *lived experiences* of a concept or a phenomenon” (p. 57). A phenomenological approach is applicable in Herzberg’s study of worker motivation as a concept or phenomenon. The two broad questions referenced in psychological phenomenology (Moustakas, 1994) are closely related to the questions

asked by Herzberg in his study of worker motivation. The phenomenological questions ask, “What have you experienced in terms of the phenomenon? What contexts or situations have typically influenced or affected your experiences of the phenomenon?” (Creswell, 2007, p. 61) Similarly, in an effort to explore the phenomenon of motivation, Herzberg asked:

- Think of a time when you felt exceptionally GOOD or exceptionally BAD about your job, either your present job or any other job you have had. Tell me what happened.
- How long ago did this happen? How long did the feeling last? Can you describe specifically what made the change in feelings begin? When did it end?
- Was what happened typical of what was going on at the time?
- Can you tell me more precisely why you felt the way you did at the time?
- What did these events mean to you?
- Did these feelings affect the way you did your job? How? How long did this go on?
- How seriously were your feelings (GOOD or BAD) about your job affected by what happened? (Herzberg et al., 1959, p. 61)

Herzberg followed the phenomenological approach in capturing the “essence” of the phenomenon through the use of “textural description” (Creswell, 2007, p. 60) from the participants perspective. Herzberg sought to understand motivation as a phenomenon which could only be elucidated through participant interviews and observation. “We don’t have to tell our friends whether we are happy or unhappy; the nature of our feelings

emerges from the welter of details. It can be inferred from the composite picture of anecdotes, passing comments, and feeling tones” (Herzberg et al., 1959, p. 26).

Finally, the phenomenological approach is designed to reduce multiple first-hand experiences of a phenomenon or event to a universal description (Creswell, 2007). Herzberg's Two-Factor Theory of Motivation (1968), illustrated in Figure 3.1, represents the reduction of several hundred first-hand experiences with the

Figure 3.1. Comparison of Satisfiers and Dissatisfiers

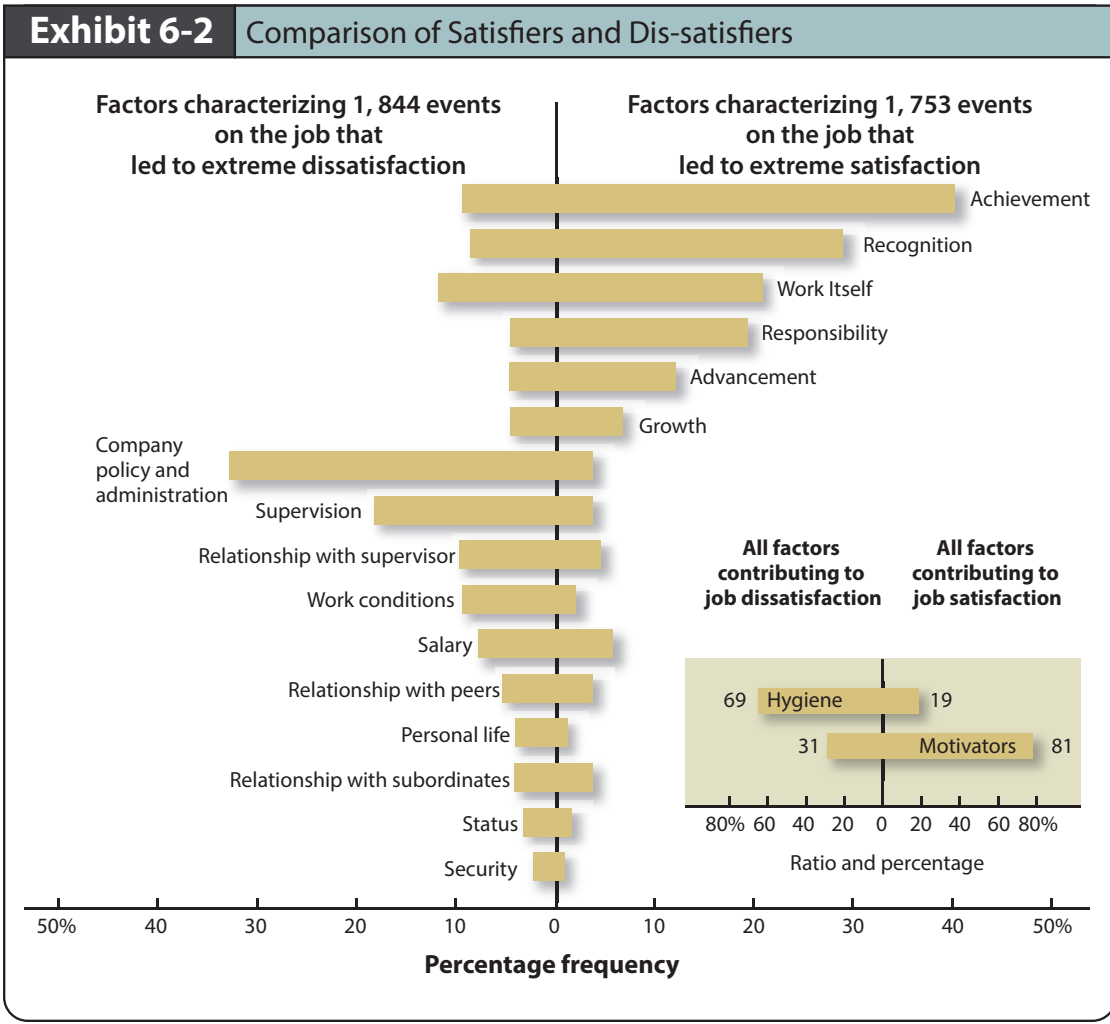


Figure 3.1. Frederick Herzberg's Comparison of Satisfiers and Dissatisfiers (Herzberg, One more time: How do you motivate employees?, 1968, pg. 91.)

Figure 3.1 Fredrick Herzberg's "Comparison of Satisfiers and Dis-satisfiers" (Herzberg, 1968, p. 91)

phenomenon of motivation into a universal description of worker motivation and in a broader sense, into a universal description of a culture of motivation. Data Coding & Analysis

Herzberg developed a system for coding the information gathered from interviews using what he referred to as a *factors-attitude-effects* (F-A-E) schematic. From his root question, he developed fourteen additional probing questions in an effort to elicit a specific sequence, or event that an individual associated an exceptionally GOOD or BAD feeling at work. (For a complete list of the interview questions that were posed to research participants see Appendix A.) Herzberg's team categorized the data from the interviews into three primary categories: 1) first-level factors, 2) second-level factors, and 3) effects. The *first-level factors* were "objective occurrences" identified by the respondent as being especially related to "attitude;" the *second-level factor* categories were formed from the "reasons" respondents gave for the "feelings" that they held for a given job "sequence," or event; and the *effects* categories were formed from identifying "attitudinal effects beyond the behavioral level involved in productivity, turnover, or interpersonal relations" (Herzberg et al., 1959, p. 57). From these three broad categories, Herzberg's team identified recurring themes to fill or saturate subcategories consistent with a "constant comparative strategy for theme development" (Creswell & Plano Clark, 2011, p. 116), and further analyzed the subcategory elements using time as a descriptor, e.g., duration of feelings and effects.

Herzberg's approach to coding and categorizing is similar to "The Step-By-Step Process of Analysis" outlined by Merriam (2009) for analyzing qualitative data and is the approach used in this study. Herzberg's research approach is further explicated in the

discussion of the methodology and analysis of the pilot study presented in the next section.

CHAPTER 4 POSITIONING THE RESEARCHER

We are confronting a universe marked by tremendous fluidity; it won't and can't stand still. It is a universe where fragmentation, splintering, and disappearance are the mirror images of appearance, emergence, and coalescence. This is a universe where nothing is strictly determined. Its phenomena should be partly determinable via naturalistic analysis, including phenomenon of men [and women] participating in the construction of the structures which shape their lives (Corbin & Strauss, 2008).

The purpose of this mixed methods study was to examine worker motivation in a Nebraska manufacturing company. The epistemological approach to this study was guided by a pragmatist worldview to allow for depth and breadth in examining worker motivation. Frederick Herzberg's (Herzberg et al., 1959) interview questions represented the core of this research; the prepotency of the interview findings supported the effort to approximate Herzberg's original study. However, a mixed methods approach also provided the ability to *triangulate* data—that is, to “mutually corroborate” the data obtained from qualitative and quantitative analysis, and gain a more complete picture of what factors motivate workers. This is a synergistic approach, where the combined interaction of the parts, both qualitative and quantitative, was greater than the sum of the individual parts (Creswell & Plano Clark, 2011).

A “paradigm” discussion relating to a mixed methods research approach often elicits a visceral response from quantitative and qualitative purists reminiscent of the paradigm wars that erupted in response to the newly-established mixed methods research approach (Tashakkori & Teddlie, 1998 / 2008). Both qualitative and quantitative researchers argue that:

the frame of thought they promote provides a means for acquiring knowledge about social phenomena, and each regards the efforts of the other as at best misguided...They differ on what phenomena should be attended to, how one is to approach phenomena, and how the phenomena are to be analyzed. (As cited in Neuman, 2011, p. 80)

Many researchers who are committed to a particular research approach and its associated worldview reject the idea of mixing methods, as well as the pragmatism paradigm that is often used to justify it. Critics of mixed methods research (MMR) pile on attacking pragmatism in general, and mixed methods specifically. Those who criticize the use of pragmatism to support a mixed methods research approach assert that a:

...“what works” approach is simply “cash register pragmatism,” not classic pragmatism... It is one thing to endorse pluralism, or multiple frameworks, but it is quite another to build a social science on cash register pragmatism...As currently formulated, MMR offers few strategies for assessing the interpretive, contextual level of experience where meaning is created. (Denzin & Lincoln, 2011, p. 247)

Denzin & Lincoln (2011) continue their critique of mixed methods research, “Mixed methods presume a *methodological hierarchy* in which quantitative methods are at the top and qualitative methods are relegated to a largely auxiliary role in pursuit of the technocratic aim of accumulating knowledge of what works” (p.247). However, this is somewhat of a distorted view of mixed methods research designs. There are multiple mixed methods designs that allow the researcher to emphasize either quantitative or qualitative methods, as well as the worldview, methodology, data collection, analysis,

and interpretation associated with each philosophical framework. Morse (1991) presented a convincing argument in support of a mixed methods approach to research:

Researchers who purport to subscribe to the philosophical underpinnings of only one research approach have lost sight of the fact that research methodologies are merely tools, instruments to be used to facilitate understanding. Smart researchers are versatile and have a balanced and extensive repertoire of methods at their disposal. (Plano Clark & Creswell, 2008, p. 152)

A pragmatic paradigm “employs ‘what works,’ using diverse approaches, and valuing both objective and subjective knowledge” (Creswell & Plano Clark, 2011, p. 43). Mixed methods research embraces the fact that “some methods may be more suited than others for conducting research on human construction of social realities, no method is the ‘royal road to ultimate knowledge’” (Guba & Lincoln, 2005, p. 84). However, critics of the pragmatic paradigm pose the question, “Practical for what? Something could be practical for bad ends” (Plano Clark & Creswell, 2008, p. 70). Although a valid point, it is largely irrelevant when applied to the core research question in this mixed methods study and posed by Herzberg in his original research, *How Do You Motivate Employees?* (1968). Creswell (2007) provided sound, convincing rationale for adopting a pragmatist approach in mixed methods research:

Pragmatism is not committed to any one system of philosophy and reality; researchers are “free” to choose the methods, techniques, and procedures of research that best meet their needs and purposes; pragmatists do not see the world as an absolute unity, mixed methods researchers look to many approaches to collecting and analyzing data rather than subscribing to only one way (e.g., quantitative or qualitative); truth is what works at the time, it is not based in a

dualism between reality independent of the mind or within the mind; pragmatist researchers look to the “what” and “how” to research based on its intended consequences—where they want to go with it; pragmatists agree that research always occurs in social, historical, political, and other contexts. (p. 22-23)

I acknowledge and appreciate the benefits of, and often the requirements for using a mono-method research approach, yet also embrace the value added by a mixed methods approach and the broader “methodological appropriateness” (Molina-Azorin, 2010) philosophy that supports it.

The qualitative strand in this mixed methods study duplicated the critical element in Herzberg’s (1968) methodology, the interview. Semi-structured interviews were the cornerstone of Herzberg’s qualitative research, and as such, his original interview questions were used in this study. Although an ostensibly trivial point, it is worth emphasizing because many of Herzberg’s critics cite studies that have claimed to test Herzberg’s theory using interview questions that have been significantly modified, or in some cases, wholly ignored and replaced with surveys or other research instruments that Herzberg did not use in his research (Herzberg, 1966, 1976; Herzberg et al., 1959).

Both the survey and observation instruments were designed to achieve triangulation as Jick (1979) identified:

In sum triangulation, which prominently involves qualitative methods, can potentially generate what anthropologists call “holistic work” or “thick description...Qualitative data are apt to be superior to quantitative data in density of information, vividness, and clarity of meaning—characteristics more important in holistic work, than precision and reproducibility. (p. 611)

A mixed methods research design enables the researcher to understand a phenomenon from multiple angles, using multiple research instruments. “Triangulation using multiple sources of *data* means comparing and cross-checking data collected through observations at different times or in different places, or interview data collected from people with different perspectives or from follow-up interviews with the same people” (Merriam, 2009, p. 216).

From a methodological standpoint, pragmatism is also well suited to a grounded theory approach:

In deciding which research method to use, a researcher should avoid “ideological commitments to only one method...An approach to a necessarily higher level of plausibility should be based, therefore, on using the method or methods best suited to the socially structured necessities of the research situation. (Glaser & Strauss, 1967, p. 233)

Although Herzberg’s (Herzberg et al., 1959) research was conducted before grounded theory was formally established, the research approach they utilized followed in the development of the Two-Factor Theory of Motivation was consistent in many respects with the basic tenets of grounded theory, “...grounded theories are emergent, the grounded theory method itself is open-ended and relies on emergent processes, and the researcher’s emerging constructions of concepts shape both process and product” (Charmaz, 2006, p. 178).

I was also sensitive to reflexivity and the influence that personal experiences exert on qualitative research (Creswell, 2007). “Researchers construct their respective products from the fabric of their interactions, both witnessed and lived” (Charmaz, 2006, p. 178). A mixed methods approach proved effective in developing a better

understanding of the phenomenon, motivation, and was consistent with my pragmatic approach to many life experiences. I am a career United States Naval Aviator with more than twenty-four years of active duty naval service and have completed multiple combat deployments, both in a flying capacity and as a ground officer embedded with U.S. Marine Corps security forces in Iraq. As a career military officer, I have been involved with and responsible for the motivation of personnel in various environments, which required a reflexive effort to *bracket* such personal experiences. On a personal level, it seemed practical to use whatever method(s) that provided the most comprehensive and exhaustive understanding of a phenomenon, or human interaction, and this stance resonated with a constructivist grounded theory approach:

Researchers can draw on the flexibility of grounded theory without transforming it into rigid prescriptions concerning data collection, analysis, theoretical leanings, and epistemological positions...Just as these grounded methods need not be tied to a single method of data collection, or emerge from a specific theoretical perspective, the methods need not be tied to a single epistemology. (Charmaz, 2000, p. 178).

I spent more than nine years of my life on five different continents with exposure to new people, new cultures, different experiences, and worldviews unfailingly altered my personal perceptions and beliefs about the world. Given these personal experiences, it is my opinion that strict, rigorous adherence to specific worldviews, methodologies, and methods may serve to constrict rather than advance research efforts and hinder research design:

If what is designated by such terms as doubt, belief, idea, conception, is to have any objective meaning, to say nothing of public verifiability, it must be located

and described as behavior in which organism and environment act together, or *inter-act*. (As cited in Corbin & Strauss, 2008, p. 74)

CHAPTER 5 THE PILOT STUDY

The pilot study was conducted at Norland International, located in Lincoln, Nebraska. The pilot study presented an opportunity to further develop and refine the research instruments as well as practice using the research instruments and analyzing data. The pilot study also yielded meaningful results, albeit from a very small sample of workers. Coupled with discussion of Herzberg's study, above, the pilot study imparted greater insight into how Herzberg's theoretical foundation guided and informed the research approach and methodology in the major study to follow.

Similar to Herzberg's rationale for conducting pilot studies, this pilot study was "designed to test the feasibility" of this research. Herzberg (Herzberg et al., 1959) outlined the specific questions that they intended to answer with the pilot projects:

Would it be possible for people to tell us about times when they felt exceptionally good or bad about their jobs? Of more importance, would it be possible for us to develop from their reports a coherent picture of the factors responsible for their attitudes? Lastly, would these reports reveal the effects of job attitudes in sufficient detail so that a convincing account of these effects could be made?

(p. 84)

The pilot study presented in this dissertation served the same investigative purpose in testing research methodology as detailed in Herzberg's description of his pilot projects' goals. Herzberg conducted two pilot studies smaller in scale and sample size than his major study. He chose two manufacturing companies with similar missions to the manufacturing company where he intended to conduct his major study. Similarly, the

pilot study for this project was conducted at Norland International, a successful manufacturing company in Lincoln, Nebraska.

Norland International

Norland International is a water bottling company that designs, manufactures, installs, and services water bottling equipment in more than 80 countries around the globe. Norland International provides potable water solutions for some of the most remote and impoverished regions of the world. Provided with a water source, Norland International transforms unsanitary, undrinkable water into life-saving nourishment, increasing the quality of life of those who live in the region. Ultimately, Norland International demonstrates a means by which the goals of guaranteeing basic human rights for people everywhere can be realized.² Norland International's mission statement is:

Norland International is a global leader in the bottling and packaging industries by successfully designing world class equipment solutions for our customers. We are powered by a team of dedicated people who are committed to producing the most cost-effective, innovative products on the planet. (Norland International, n.d., Mission Statement Page, para. 3)

Norland International is a proven leader in the international water bottling business and places great demand on its employees to meet the company's high standards of performance in austere working conditions around the world; an obvious choice for studying worker motivation. Norland International is a small company, employing a total of 28 people. Norland International's total sales vary from six to thirteen million dollars annually, and production levels have continued to increase despite the challenging global

economic conditions. Norland International (n.d.) emphasizes its expert advice and exceptional service:

Norland International provides innovative equipment design and manufacturing, expert advice based on our extensive experience in the bottled water business (as an equipment manufacturer and as a bottler), and exceptional after-sale service to bottled water companies worldwide. In short, we provide you with the edge you need to help your business succeed. (Mission Statement Page, para. 3)

Methods

The pilot study of Norland International was driven by Herzberg's theoretical framework, and as such, could be characterized as an *a priori* approach. However, I adhered to the major tenets of a grounded theory approach in the research and analysis of the phenomenon, which is consistent with an *a posteriori* research approach. This study did not simply rely upon the research schema provided by Herzberg, but rather adopted a *constructive* stance in researching the phenomenon. Charmaz (2006) provided guidance for a constructivist approach to grounded theory:

- The grounded theory research process is fluid, interactive, and open-ended.
- The research problem informs initial methodological choices for data collection.
- Researchers are part of what they study, not separate from it.
- Grounded theory *analysis* shapes the conceptual content and direction of the study; the emerging analysis may lead to adopting multiple methods of data collection and to pursuing inquiry in several sites.
- Successive levels of abstraction through comparative analysis constitute the core of grounded theory analysis.

- Analytic directions arise from how researchers interact with and interpret their comparisons and emerging analyses rather than from external prescriptions.

(p. 178)

Furthermore, the coding and category development from interview data used an open coding technique in an effort to allow new categories, beyond those identified by Herzberg, to emerge from the data. As Merriam (2009) pointed out:

Merely selecting data for a category that has been established by another theory tends to hinder the generation of new categories, because the major effort is not generation, but data selection. Also, emergent categories usually prove to be the most relevant and the best fitted to the data. Working with borrowed categories is more difficult since they are harder to find, fewer in number, and not as rich; since in the long run they may not be relevant, and are not exactly designed for the purpose, they must be respecified. (p. 185)

The addition of survey and observation instruments to the study also signaled a departure from Herzberg's (Herzberg et al., 1959) original study. The pilot study of Norland Industries consisted of five interviews with company employees and twenty-eight surveys that were disseminated to all willing participants. The following tables provide the data obtained from interviews conducted during the pilot study of Norland International. Tables 5.1 and 5.2 were designed after those suggested by Merriam (2009) for use during the initial stages of qualitative analysis, or open coding.

The tables contain excerpts and quotes taken directly from interview transcripts from which factors or themes are recorded in the left. Tables 5.1 and 5.2 represent a single interview where the participant was asked to respond to Herzberg's interview questions (Appendix A).

Factor	Excerpt
Event	...the good was probably Afghanistan.
Relationship-customer	...got to know the workers...
Relationship	Got to know the people a little bit more, especially the people around the plant.
Care	You know, nobody cared about 'em.
Work Ethic / Commitment	But the people really worked hard for us. It was amazing to see 'em every day come in. It was freezing cold, no gloves, hardly any coats or anything like that. And, we went home for Christmas, and came back, and we brought bags of gloves with us and some stocking caps and stuff, and handed 'em out to the workers when we arrived at the plant.
Relationship-special bond	...special bond.
Work environment	...considering the living conditions.
Relationship-enduring	I still keep in touch with some of 'em there, via email.
Relationship-unique	It was something unique.
Work ethic	...work ethic of these people.
Relationship-respect.	Especially when we got on a one-on-one with 'em. And we treated 'em like, to me like people, like we, you know, respected 'em.
Relationship	...the relationship that we formed with 'em.
Relationship-customer	Yes. People... people to me, make 90% of our job out there. We either... have a good experience with 'em and they wanna try, or they... they don't give a darn about it, and don't try with us.
Expectations	I was, again very surprised about the, the outcome of that project.
Personal Growth-Respect	What did these events, the one you described, mean specifically to you? Um, it just, it just actually it made me a lot more respectful of the Afghan people. And it made me open up a little bit more on my travels to different countries, to not go in there with a set of blinders on.
Personal Growth-Perspective	...perspective...
Job performance-Enhanced	Yes, it did affect the way I did my job, and it's still going on today.

Table 5.1 (Continued) <i>Pilot Study Interviews: Open Coding, GOOD Sequence Predominant Factors, Job Satisfaction</i>	
Factor	Excerpt
Personal Growth-Tolerance, Understanding	...gave us a perspective to be more tolerant, of the situation and the, and the conditions that we were in. And, and, we also got to understand that these Indians and the Afghan people, had never worked on this kind a situation so, they were very new at it, so.
Personal Growth-Perspective	...affected me personally in a way that I have a broader view of people now, especially in foreign countries.
Personal Growth	I have a lot more patience and tolerance.
Job Appreciation-Good Feeling Company	...it actually made me feel better about the company.
Professional Growth	...strengthen my growth with the company, make myself more educated, and also I... also read up on more on the countries I go into now.
Relationship-Coworkers, Leadership, Professional Commitment	What motivates you most about work? Probably the... the family environment of Norland is, is probably my number 1. My number 2 is the leadership that we have here. Um... number 3 would be customer care. Um... they'll bend over backwards to take care of a customer, and I'm very proud of that.
Commitment	What reasons would you give to justify your self-sacrifice on the job? Because I know the company... if they ask me to stay out there and work and do something and miss these events, it's very important to 'em. And I respect that. I just missed my mom and dad's 60th, and my dad's 80th, so, because I was in Saudi. But... And you'd do that, you say your number one, you'd do it for the company? Yes I would.

The series of questions were posed twice to each participant: once relating to the "GOOD" experience identified by the participant (Table 5.1), a second time relating to the "BAD" experience identified by the participant (Table 5.2).

Factor	Excerpt
Dishonesty Distrust	Nigeria...we waited around for 17 days with nothing to do... it really taxes your... tolerance, it taxes your patience with people, and it's...it was a very tough situation. It's not the first one we've been into that we've been told something that was not true when we walked into these places.
Distrust	...not very trusting of, of some of the people...
Lie	...we were lied to...
Emotionally negative - self-esteem	...self-esteem went way down...
Dishonesty	...level of dishonesty...
NO effect on job performance; distrust-people	...hasn't affected the way I do my job; it effects the way that I trust people, okay, that, that's, and it's still today. I mean, when I get lied to...
Job performance unaffected	No. My job performance is, I still give everything I can to it.
Personally affected - View of people - Relationships	Did what happen affect you personally? Yes it did. How so? It made me very, very leery of people.
Stress	We were stressed, very stressed.
Team Hide frustrations	...didn't affect our performance out there. We worked very hard, and we were a team, but we didn't let the owners see that we were frustrated...
Good Communication with Company	...company kept us up to date and abreast...
No negative effect toward company / employer; environment restrictive	Affect your feelings toward the company? But it's hard to do when you're sitting in a hotel and you can't go anywhere 'cause you're in Nigeria and you're gonna get kidnapped if you walk outside the hotel. So you're, you know, you're bound by 4 walls for 17 days, it's tough on you. But no, the company, I mean it, didn't affect the way I felt towards the company or anything else, so, no.

Data Coding & Analysis

Data from the five interviews were recorded in an Excel spreadsheet which provided the basis for the initial axial or analytical coding (Merriam, 2009). This phase of analysis was consistent with Merriam's (2009) description:

At the beginning of an inquiry, this list is likely to be fairly long because you do not yet know what will surface across the rest of the data. You also will not yet know which groupings might be subsumed under others. (p. 180)

The numerous emergent themes or categories exceeded the number recommended by Merriam (2009). However, this was intentional and reflective of the a posteriori approach associated with grounded theory and facilitated the development of categories and themes beyond those discovered by Herzberg. Although the data represented a small sample, there were emerging themes from the interviews that were meaningful and provided a rich description of the experiences of the participants. "It should be clear that categories are abstractions derived from the data, not the data themselves. To paraphrase Glaser and Strauss (1967), these categories have a life of their own apart from the data from which they came" (Merriam, 2009, p. 181). One of the emergent abstractions from the GOOD experiences identified by participants was *Relationships*. Similarly, one of the emergent abstractions from BAD experiences was *Work Itself*.

The fact that the sample size was small for the pilot study complicated the issue of saturation of categories, which required a higher degree of researcher intuition in developing solid categories. "Devising categories is a largely intuitive process, but it is also systematic and informed by the study's purpose, the investigator's orientation and knowledge, and the meanings made explicit by the participants themselves" (Merriam, 2009, p. 183-184). My intuition was guided first by the participants themselves, then the

study's purpose, and lastly by the investigator's orientation and knowledge. The memos taken attempted to capture the magnitude, or passion of the participants' responses to interview questions with a rigorous metric of worker motivation central to the study's purpose and a determined effort to remain objective excepting the biases of the existing literature and studies on worker motivation, particularly that of Frederick Herzberg's (Herzberg et al.,1959). Every attempt was made to adhere to the same rigor used by Herzberg in the analysis of factors and factors-attitude-effects as discussed in earlier sections.

Findings

The stated goal of the pilot study was to test the feasibility of this research approach. This goal was achieved; the exercise proved beneficial for the development and modification of research instruments as well as for skill development in the use of the research instruments. Additionally, the data from the pilot study provided a significant amount of data with which coding and categorization techniques were practiced and developed.

The actual findings from the pilot study were inconclusive due to the small sample size and the concomitant inability to saturate the data categories. However, some categories, or themes emerged from the axial coding step. A total of 36 codes were identified by interview participants in their description of events, or sequences when the participants felt exceptionally GOOD or exceptionally BAD about their jobs. The most compelling theme that emerged from the codes associated with exceptionally GOOD feelings about their jobs was *Relationships*.

The *Relationship* category was broken up into five separate coding categories: *Supervisor*, *Customer*, *Personal Bond*, *Personal Growth*, and *Company Culture*. The

aggregate responses to the Relationship category reflected an overwhelming positive ratio (19:2) in support of relationships playing a significant role in workers feeling GOOD about their jobs. Arguably, the coding categories *Leadership*, *Loyalty-Company*, *Loyalty-Team*, *Team*, and *Respect* could also be considered for inclusion into the *Relationship* category. If these categories were subsumed, then the positive ratio increased even further (25:3) in support of relationships being integral to worker motivation.

Contrariwise, the coding categories that interview participants associated with BAD job experiences were: *Relationship-Supervisor* (counted “negatively” in the ratio referenced in the paragraph above), *Work Obstacles-Equipment*, *Job Security*, and *Emotions-Anxiety*, *Worry*, *Change*. These coding categories were largely unrelated and closer associations were not evident following a review of the interview transcripts; thus, these coding categories remained independent.

How do the findings from the pilot study compare to Herzberg’s research? The top six satisfiers or motivators identified by Herzberg were: *Achievement*, *Recognition*, *Work Itself*, *Responsibility*, *Advancement*, and *Growth*. *Achievement*, *Recognition*, *Advancement*, and *Growth* were all overwhelmingly associated with a positive job experience consistent with Herzberg’s motivators. However, *Work Itself* and *Responsibility* were equally satisfying and dissatisfying. The top dissatisfier identified by Herzberg, *Company Policy and Administration*, was not mentioned by interview participants in GOOD or BAD sequences. The coding categories from the pilot study, *Relationship-Supervisor* and *Job Security*, were consistent with Herzberg’s dissatisfiers or hygiene factors.

The largest incongruence identified is the prepotency of *Relationships* as a motivator. Not only did Herzberg not recognize the ascendancy of *Relationships* among

satisfiers, but listed *Relationships* as a hygiene factor among dissatisfiers. Also noteworthy, Herzberg's research indicated that *Salary* was equally satisfying and dissatisfying, and ultimately classified it as a dissatisfier due to the short duration associated with the accounts of satisfaction. The results from the pilot study placed *Salary* squarely in the *Motivators* category by a ratio of 6:0.

Understandably, there were a large number of open coding categories that were not subsumed into emergent themes. The results of the pilot study produced some interesting results despite its small sample size and raised some questions regarding factors that satisfy and factors that dissatisfy. The major study provided more clarity on these questions and provided enough data to assimilate the remaining categories following the axial coding effort.

The quantitative portion of the pilot study was not analyzed due to the fact that the survey instrument underwent significant modifications following dissemination to Norland International employees. However, the following quantitative hypotheses will be tested with the survey developed for the major study:

H₀: Null Hypothesis: Current study indicates no *significant* difference in factors associated with "satisfaction" and "dissatisfaction" as compared to a known population.

H₁: Alternative Hypothesis: Current study indicates a *significant* difference in factors associated with "satisfaction" and "dissatisfaction" as compared to a known population. (Herzberg et al., 1959)

The pilot study provided an invaluable appreciation for the task undertaken by Frederick Herzberg (Herzberg et al., 1959) in his qualitative analysis of worker

motivation, and portends the larger effort required for the major study which follows in the next section.

CHAPTER 6

THE MIXED METHODS STUDY

Research Design

The mixed methods study was an examination of worker motivation in a Nebraska manufacturing company. Research epistemology was informed by a pragmatist worldview. A convergent parallel mixed methods design was used. It was a type of design in which qualitative and quantitative data were collected in parallel, analyzed separately, and then merged. In the study, interviews were used to explore the motivation of workers at Lincoln Industries located in Lincoln, Nebraska. Additional depth and breadth were added to the study through the observation of workers on the production line. The quantitative data gathered from a survey, was used to test Herzberg's Two-Factor Theory of Motivation (Herzberg et al., 1959) that postulates factors that influence worker satisfaction are separate from factors that influence worker dissatisfaction. The reason for collecting both quantitative and qualitative data was to compare and corroborate the two forms of data to bring greater insight into worker motivation than would be obtained by either type of data separately (Creswell & Plano Clark, 2011). A mixed methods approach also provided an opportunity to triangulate the data and gain a more complete picture of what factors motivate workers (Jick, 1979).

The participants in the study were employees of Lincoln Industries. Although the sample size for the three instruments varied, the samples were drawn from the same population, a practice consistent with mixed methods research design. "When the purpose is to corroborate, directly compare, or relate two sets of findings about a topic, we recommend that the individuals who participate in the qualitative sample be the same individuals who participate in the quantitative sample" (Creswell, 2007, p. 183). The

homogeneity of the sample, as well as the criterion used to identify interview participants were further supported from a phenomenological and grounded theory perspective:

It is essential that all participants have experience of the phenomenon being studied. Criterion sampling works well when all individuals studied represent people who have experienced the phenomenon. In a grounded theory study, the researcher chooses participants who can contribute to the development of the theory. Strauss and Corbin (1998) refer to theoretical sampling, which is a process of sampling individuals that can contribute to building the opening and axial coding of the theory. This begins with selecting and studying a homogenous sample of individuals and then, after initially developing the theory, selecting and studying a heterogeneous sample—in order to confirm or disconfirm the conditions, both contextual and intervening, under which the model holds.

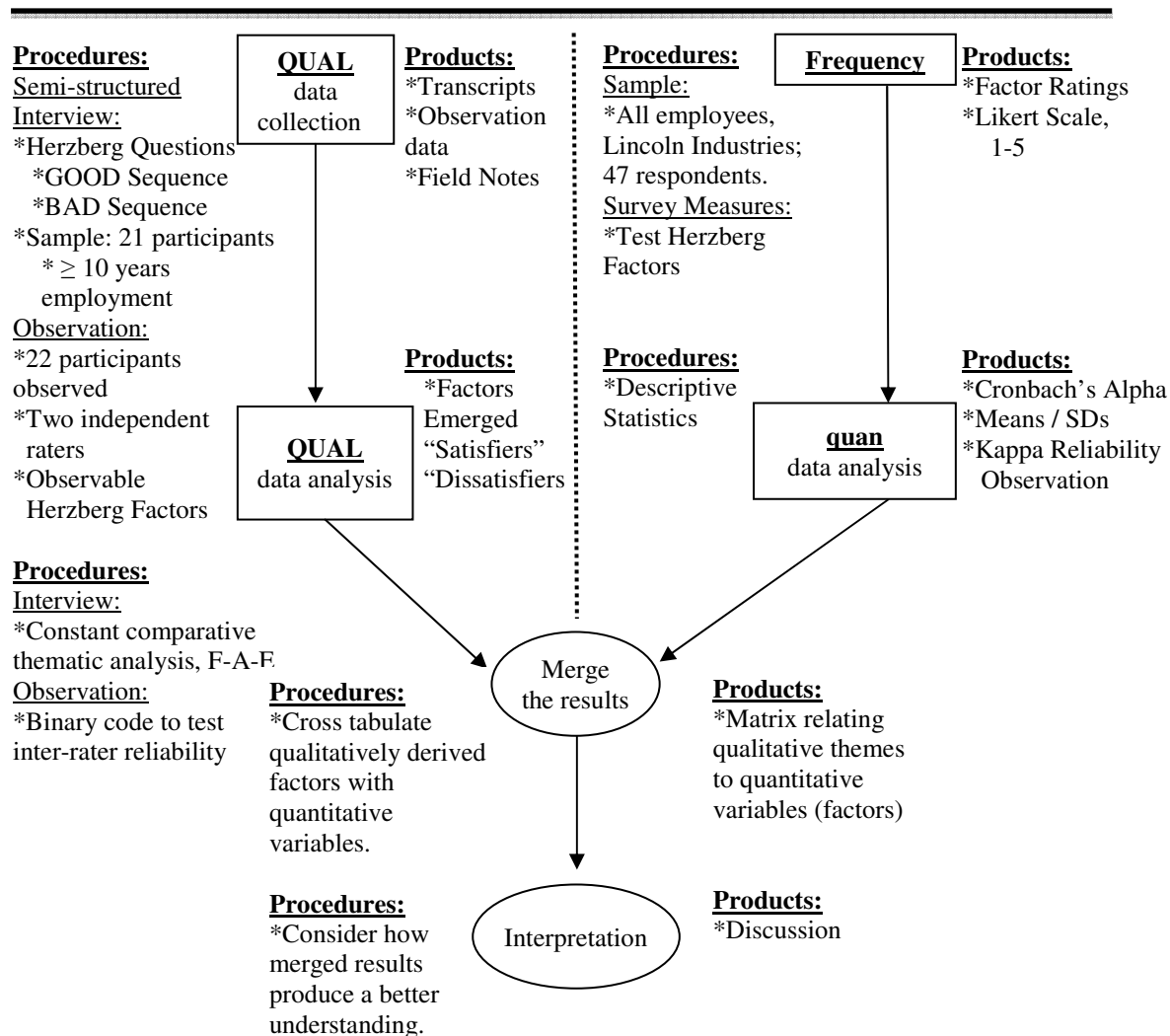
(Creswell, 2007, p. 128)

The parallel construction of questions across the three research instruments focused on a central phenomenon, worker motivation, which enabled the data from the three different instruments to be merged and compared in the interpretation stage of the study (Creswell & Plano Clark, 2011).

Figure 6.1 depicts the convergent parallel design of this study. The ostensibly contradictory title, “Convergent Parallel”, is better understood by viewing Figure 6.1. The left side of the diagram depicts the qualitative strand, consisting of observation and interviews of the research design, while the right side of the diagram depicts the quantitative strand, consisting of survey data. The data collection and analysis of the two research strands, qualitative and quantitative, were independent of one another, and the relationship of the two strands at this stage of the research was in parallel. Additionally,

since the interview data was assigned a higher priority than the other two research instruments, observation and survey, the qualitative notation on the left side of the diagram was written in capital letters, “QUAL.” Conversely, since the quantitative data

Figure 6.1. Convergent Parallel Mixed Methods Design.



KEY

QUAL: qualitative research strand emphasized more than quantitative strand;
quan: quantitative research strand complements qualitative strand results.

Notation: **QUAL + quan = to achieve triangulation, corroboration, and different but complementary data on a phenomenon—motivation.**

(Notation represents a Convergent Parallel Mixed Methods design emphasizing the qualitative strand over the quantitative strand for the purpose of corroborating data, obtaining convergent validity, and gathering different but complementary data to better understand a phenomenon—*worker motivation*.)

NOTE: Adapted from *Designing and Conducting Mixed Methods Research* (Creswell & Plano Clark, 2011).

from surveys was assigned a lower priority in the research design, its notation was written in lower case letters, “quan.” Following independent analysis of each research strand, results were merged in the interpretation phase of the research design thereby converging. For definitional purposes, all three research instruments were considered to have been conducted concurrently; however, the order of administration was deliberate. The observation research was conducted first, followed by the interviews, and the surveys. The intent of the order was to limit researcher influence and restrict the knowledge of the specific topic of research, worker motivation, from the wider population of workers at Lincoln Industries; the specificity of survey items would have informed the workers of the nature of the research topic.

The strengths of both qualitative and quantitative research can be leveraged through the use of mixed methods design and the researcher can capitalize on the research focus unique to each approach:

Qualitative: 1) learn about the views of individuals; 2) assess a process over time; 3) generate theories based on participant perspectives; 4) obtain detailed information about a few people or research sites.

Quantitative: 1) measure variables; 2) assess the impact of these variables on an outcome; 3) test theories or broad explanations; 4) apply results to a large number of people. (Creswell, 2008, p. 74)

Greene, Caracelli, and Graham (1989) explicated the benefits of mixed methods research:

The core premise of triangulation as a design strategy is that all methods have inherent biases and limitations, so use of only one method to assess a given phenomenon will inevitably yield biased and limited results. However, when two or more methods that have offsetting biases are used to assess a given

phenomenon, and the results of these methods converge or corroborate one another, then the validity of inquiry findings is enhanced. (p. 257)

Creswell and Plano Clark (2011) highlighted the following challenges to a convergent parallel mixed methods design:

- 1) much effort is required, need qualified researchers/teams to assist;
- 2) unequal sample sizes for various research interests;
- 3) challenging to merge two sets of very different data therefore, researcher must ensure that the qualitative and quantitative strands address the same concept/phenomenon;
- 4) what to do if qualitative and quantitative results do not agree contradictions may provide new insight into the topic. (p. 80)

The following steps were taken to mitigate the challenges outlined:

- Qualified team: I relied upon proven research experts, faculty members, and fellow doctoral students to cross-check data analysis and findings;
- Unequal sample sizes: samples sizes appropriate for the research instrument were used, data analyzed independently and merged in the interpretation phase;
- Same phenomenon: all research instruments developed in concert with the theoretical framework provided by Herzberg's (Herzberg et al., 1959) study of worker motivation;
- Non-confirmatory data: disparities between the findings in this study and Herzberg's (Herzberg et al., 1959) study were acceptable, and even anticipated. The triangulation of data provided by the selection of a mixed methods research design illuminated disparities between the two studies.

“The purpose of simultaneous triangulation is to obtain different but complementary data on the same topic, rather than to replicate results” (Plano Clark & Creswell, 2008, p. 157). The guidance provided by Green et al. (1989) was incorporated and addressed the concerns rose above, “triangulation requires that two or more methods be intentionally used to assess the same conceptual phenomenon, be therefore implemented simultaneously, and, to preserve their counteracting biases, also be implemented independently” (p. 257).

The next section presents a brief profile of the research site, Lincoln Industries. The numerous accolades, awards, and impressive employment statistics highlighted Lincoln Industries as a site likely to have experience with the phenomenon central to the study, worker motivation.

Lincoln Industries

The aim of the study was to understand the phenomenon of worker motivation through the lived experiences of workers at Lincoln Industries. Lincoln Industries’ nationally-recognized performance identified it as an ideal site to study worker motivation.

Lincoln Industries, founded in 1952, specializes in the manufacture and delivery of finished metal components to some of the world’s top companies, such as Harley Davidson, Caterpillar, and Polaris. Lincoln Industries’ sixty years of success has not gone unnoticed. In addition to the awards listed below, Lincoln Industries was “named one of the 25 Best Medium Companies to Work for in America” (Lincoln Industries, n.d., Culture page, para. 1) by the Great Place to Work[®] Institute and was chosen as a national Innovation in Prevention Award winner by the Department of Health and Human Services for its efforts in promoting healthy lifestyles in its community (Lincoln

Industries, n.d.). Other national recognitions include:

- C. Everett Koop National Health Award
- Great Place to Work® Institute: “Respect” Award for Wellness Focus
- American Heart Association: Platinum Award for “Start! Fit-Friendly Workplace”
- Partners for Prevention: “Leading by Example” Company
- Center for Disease Control: Worksite Wellness “SWAT” Project
- Wellness Councils of America: Platinum Award Winner

(Lincoln Industries, n.d.)

Lincoln Industries’ mission statement goes beyond simply defining the corporate goals of providing the highest quality finished metal products to its customers and addresses the fundamental questions of purpose for the individual worker. A statement of purpose permeates the organization and directly influences the activities and behavior of all of its constituents. In a historical analysis, Hartley and Schall (2005) analyzed the transformation of mission at two colleges. Their study examined institutional mission transformation as a means of responding to changing market and demographic conditions, while highlighting the enduring institutional core values. Hartley & Schall (2005) described the central importance and the powerful influence of a well-defined mission:

Institutional mission influences organizational life . . . [it] helps people discern which activities or behaviors are valued and which ought to be shunned . . . mission can also give people a sense of meaning about their work . . . also explain how their work contributes to a larger cause, which can generate greater commitment. (p. 5)

Lincoln Industries manages its bottom line by recognizing those on the front line, the workers. The focus on a healthy work environment, or culture, is evident in every aspect of the Lincoln Industries business model. Lincoln Industries prides itself on having a unique culture, “with the close-knit atmosphere of a family-owned business, we demonstrate a strong commitment to the people who work here. It’s the way we keep the passion alive at Lincoln Industries” (Lincoln Industries, n.d., para. 2). The six key elements below represent Lincoln Industries’ commitment to a healthy, motivated culture:

- **Developing Talented Individuals** – We select the right person for the right job and offer extensive training up front. We invest in our people by providing ongoing development and learning opportunities that foster career paths and strengthen the company as well as the individual.
- **Focusing on Wellness** – We encourage healthy lifestyle choices and a GOOD balance between work and home life. Ultimately, this investment means a healthier, happier and more dependable workforce.
- **Ensuring Safety** – This is a daily commitment we make to one another. Safety programs are in place to encourage our people to be actively involved in identifying, defining and measuring opportunities to improve safety in our workplace.
- **Maintaining Open Communication** – Communication is one of our greatest strengths. Information is shared in many ways, and people have the opportunity to ask questions as well as share information. We also put a priority on communicating with our customers and suppliers.
- **Recognizing Excellence** – Recognition is the greatest strength of our culture. Our

programs recognize achievements in all aspects of our jobs, including safety, service, innovation and growth. No matter the source, our recognition programs are designed to make people aware of the importance of their contributions and instill a sense of pride.

- **Community Connections** – The trust that our customers have shown in us through the years has allowed us to give back to our community with gifts and the volunteer support of Lincoln Industries people.

Lincoln Industries' focus on individual wellness and its care for the larger community and environment highlight Lincoln Industries' unique business model and identify it as an ideal research site to study worker motivation. The following questions guided the initial coordination effort with the Communications Executive, gatekeeper, at Lincoln Industries:

- Why was the site chosen for study?
- What will be done at the site during the research study? How much time will be spent at the site by the researchers?
- Will the researcher's presence be disruptive?
- How will the results be reported?
- What will the gatekeeper, the participants, and the site gain from the study?

(Reciprocity). (Creswell, 2007, p. 125)

In addition to the accomplishments listed above, testimonials from Lincoln Industries' customers complete the picture of Lincoln Industries' commitment to excellence: "The quality control section really impressed me. If it's not perfect, it doesn't leave the building," "The people of Lincoln Chrome, I get the feeling that they really care," and "I get a great feeling driving down the road, especially with Lincoln Chrome

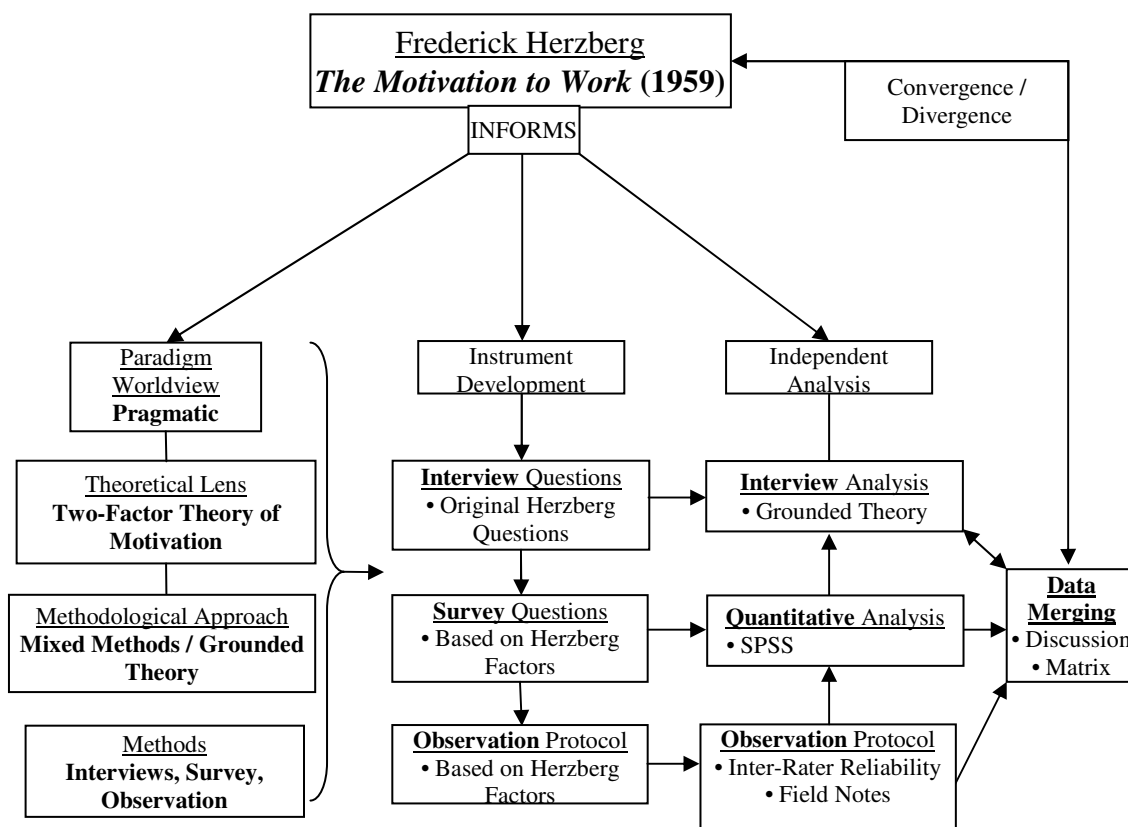
stacks on my truck” (Lincoln Industries, n.d., para. 4).

The next section includes the methodology for the mixed methods study of worker motivation at Lincoln Industries.

Methodology

My study closely parallels the methodology used by Herzberg (Herzberg et al., 1959) in his original study and *Two-Factor Theory of Motivation* represents the theoretical framework for this study. The cornerstone of Herzberg’s research was the interview, and more specifically, his interview questions. As such, the interview questions used in this study were the exact questions used by Herzberg in his original study. The theoretical and methodological frameworks for this study are depicted in Figure 6.2. This ostensibly trivial point is emphasized because many of the studies that

Figure 6.2. Theoretical Framework.



have claimed to test this theory have significantly modified, or totally disregarded the actual interview questions used by Herzberg (Herzberg, 1966, 1976; Herzberg et al., 1959). Beyond Herzberg's (Herzberg et al., 1959) original study, observation and survey instruments were added to this study in an effort to triangulate data. "Triangulation using multiple sources of *data* means comparing and cross-checking data collected through observations at different times or in different places, or interview data collected from people with different perspectives or from follow-up interviews with the same people" (Merriam, 2009, p. 216).

The methodological approach to the qualitative strand was consistent with a grounded theory approach, guided by Babchuk (1994), Charmaz (2006), and Glaser & Strauss (1967).

Participants responded to 68 survey items using a five - point Likert scale that ranged from 5 (*strongly agree*) to 1 (*strongly disagree*). All of the questions were developed using the findings in Herzberg's original research that resulted in the formulation of the Two-Factor Theory of Motivation. The survey was expected to strengthen the interview findings or to explain potential disparities between the findings at the primary research site and Herzberg's original findings. The survey was disseminated to all 500 employees at Lincoln Industries; participation in the survey was voluntary.

Similar to the survey instrument, the observation instrument was designed using the factors of Herzberg's (Herzberg et al., 1959) Two-Factor Theory of Motivation. The factors that were deemed observable formed the basis of the observation instrument. Five groups, consisting of a maximum of five participants each, were observed for 30 minutes per group; a total of 22 participants. In an effort to achieve inter-rater reliability, another

doctoral student assisted me by conducting independent observations of each group, using the same observation protocol.

The sample for each of the three instruments varied: purposive, criterion sampling for the interview participants; convenience sampling for the observation participants; and convenience sampling for the survey participants. The survey instrument was available for all Lincoln Industries employees who were willing to participate. The difference in sample size for each research instrument did not present a problem for the mixing of results in the final phase of the study. Each strand in the research design was analyzed independently in accordance with the rigor demanded by the philosophical and methodological framework associated with independent qualitative and quantitative research approaches. The sample “size differential is not a problem because the intent of the data gathering is different for the two databases: quantitative data collection aims toward making generalizations to a population while qualitative data collection seeks to develop an in-depth understanding from a few people” (Creswell & Plano Clark, 2011, pp. 183-184).

Beyond the specific efforts discussed, the following steps were taken to provide multiple levels of research reliability and validity throughout the study: member checking, intercoder agreement, inter-rater reliability, multiple reviews from faculty and other qualified researchers, and the discussion of disconfirming evidence (Creswell, 2007).

CHAPTER 7 ETHICAL CONSIDERATIONS

The ethical framework that guided this study was approved through the Institutional Review Board (IRB) and understood at the research site. The high ethical standards essential to the professional practice of research were briefed at the research site and a copy of the ethical protocol accompanied each research instrument for participants to review.

Participation in the study was voluntary and participants understood that they could withdraw at any time from the study with no negative consequences. Informed consent forms were provided with each research instrument explaining the nature of the study and explaining that there were no known risks associated with participating in the study. All research participants were adults, participant anonymity was assured, and all research data was secured by the primary investigator. Audio recorded interviews were transcribed by a professional transcriptionist who signed a “Statement of Confidentiality” regarding exposure to and handling of all research data. Reciprocity for research participants was addressed with the following statement:

You will have the opportunity to share your perspective on a very important issue in your company. You will be contributing to a greater understanding of what *motivates workers*. You have unique and valuable information to share regarding the topic of this exploratory study. The information you share will allow us to publish findings of this study in scholarly journals and to present them at scholarly meetings and conferences. Thus, your participation contributes new and additional knowledge about *worker motivation* and leadership development. The

results may also better inform the academy in enhancing educational leadership curricular development.

The following sections include the findings of the three research instruments in the order in which they were administered: observation, interview, and survey. Although administered concurrently, the order of execution was deliberate as discussed in the Research Design section.

CHAPTER 8 OBSERVATION

The observation instrument was developed to capture the essence of worker motivation in the context of the work environment and to better understand culture as an extrinsic factor to motivation as illustrated by Van Manen (1990):

The researcher who is involved in closely observing situations for their lived meaning is a gatherer of anecdotes. . . . What is important in collecting anecdotes is that one develops a keen sense of the *point* or *cogency* that the anecdote carries within itself. (p. 69)

The interview data were primary to the study, but observation provided an opportunity to corroborate anecdotal data in that “observation makes it possible to record behavior as it is happening” (Merriam, 2009, p. 119). As noted earlier, the study was designed such that the observation research was conducted prior to the interviews, which were conducted before dissemination of the surveys in order to avoid influencing, or potentially *priming* the responses of study participants.

According to Merriam (2009):

First, observations take place in the setting where the phenomenon of interest naturally occurs instead of a location designated for the purpose of interviewing; second, observational data represent a firsthand encounter with the phenomenon of interest rather than a secondhand account of the world obtained in an interview. (p. 117)

My goal was to experience the culture, the environment, the feel of motivation in action. As noted by Merriam (2009) the “setting where the phenomenon of interest naturally occurs” (p. 117) at Lincoln Industries is the production line. Workers on five

different production lines were observed, and although the amount of time spent observing these workers was short of a Malinowski-like *off the veranda* participant-observation study, it provided an invaluable field experience into what motivation looked and felt like in the specific setting.

As predicted, the observation experience enhanced the meaning of many of the personal accounts shared during the interviews, the details of which would not have been understood as well, or emphasized as much. As Paul (1996) stated:

“The validity of observers’ inferences is both a major strength and a major weakness” (Kerlinger, 1986) of this method. Inferences made by observers during data collection may improve the meaningfulness of the data, but they may also decrease the validity of the data by increasing the impact of consultant bias...They can provide data on specific incidents alluded to in interviews. They can identify important problem areas not directly addressed by other methods. And they can be instrumental in coalescing the data from other methods into a coherent interpretation. (p. 141)

The following interview excerpt provided an example of the value added to this study through observation, “. . . when I run good parts, everything is going smooth; no issues with quality, I feel really good . . . keeps you more motivated.” Through observation one can gain a more robust understanding and appreciation for worker accounts such as “running good parts.” When the newly-chromed product is received at the end of the production line, the level of motivation is palpable. Large, heavy, bulky pieces of aluminum are gently handled with the utmost care, thoroughly polished and meticulously wrapped in protective packaging in preparation for shipping, not unlike workers in a Swarovski crystal factory.³ The motivation and dedication to producing high

quality products was visible and the personal interaction between coworkers while performing repetitive tasks was exceptionally positive, lighthearted, and professional. Also of note, the observations were conducted on a Monday. Such data provided texture to the interview and survey data, as well as a reflective component, “the data that begin to emerge as the participant observer interacts in the daily flow of events and activities, and the intuitive reactions and hunches that participant observers experience as all these factors come together” (Merriam, 2009, p. 120). Herzberg (Herzberg et al., 1959) rejected observation in his research citing the Hawthorne Effect as defined by Merriam (2009):

...the extent to which the observer investigator affects what is being observed...The interdependency between the observer and the observed may bring about changes in both parties' behaviors...regardless of the stance, an observer cannot help but affect and be affected by the setting, and this interaction may lead to some distortion of the situation as it exists under non-research conditions. (p. 127)

However, “observations are also conducted to triangulate emerging findings; that is, they are used in conjunction with interviewing and document analysis to substantiate the findings” (Merriam, 2009, p. 119). The triangulation, corroboration, and thick description provided through observation proved to be of more value to the study than the limited risk of influencing the research environment.

Methods

We assumed the role of “complete observer” (Merriam, 2009, p. 125), which restricted all interaction between the observers and the participants. A script was provided to the production line supervisor and read to the workers being observed

explaining the presence of the researchers and providing a minimal amount of information regarding the nature and content of the study. Intervention by and interaction with production line workers in instances of potential production disruptions, or violations of safety protocol was expected and understood. The observation element of the study was deliberately conducted first in an effort to reduce influencing research participants with either the interview or survey instruments.

“What to observe” (Merriam, 2009, p. 119)? We wanted to experience the culture of the company. The indisputable, nationally-recognized success of Lincoln Industries was the reason for selecting the company for a study of motivation, which elicits the question, “What does success *look* like?” Beyond the Herzberg (Herzberg et al., 1959) factors specifically linked to motivation, we were also interested in recording elements of the physical environment, such as signage, symbols, worker attire, and physical space. Of course, the greatest interest was in observing the activities and interactions of the workers. Complementary to the observable factors selected from Herzberg’s study, Merriam (2009) provided the following guidance for observing such interactions:

What is going on? Is there a definable sequence of activities? How do the people interact with the activity and with one another? How are people and activities connected? What norms or rules structure the activities and interactions? When did the activity begin? How long does it last? Is it typical activity, or unusual?
(p. 121)

The observation protocol was developed from Herzberg’s (Herzberg et al., 1959) second level factors, which defined attitude, in his F-A-E analysis. We determined that Herzberg’s second levels factors were the factors most observable and would capture the meaning of worker behavior and interaction within the environment or “culture.” A

cultural perspective is critical if one is to make an argument that extrinsic or hygiene factors have a profound influence on worker motivation. The challenge in developing the research instrument was in selecting those factors that researchers could observe and record in a systematic, structured fashion. Paul (1996) highlighted some of the challenges associated with observation research, in general:

Systematic observation is a relatively objective process in which a structured procedure is used to assign observed behaviors to predefined categories...Systematic observation has the advantage of quantifying non-repetitive or irregularly occurring behaviors of numerous employees.

Disadvantages of systematic observation include the possibility of obtaining obtuse results due to imprecise definition of categories, the likelihood of not capturing infrequently occurring activities, and the large amount of time required for observations. Systematic observations can contribute to the triangulation process by suggesting areas worthy of more detailed analysis and by providing objective (Kerlinger, 1986) measures to corroborate or refute interpretations based on other methods. (p. 146)

The following second level factors from Herzberg's (Herzberg et al., 1959) original 1959 study were selected to form the observation protocol: a) *Relationships: Supervisor, Peer, and Team*; b) *Work Itself-Performance, and Attitude*; c) *Group Feelings: Belonging or Isolation, Social or Skill, and Group*; and d) *Pride Feelings: Self, Work, Team, and Organization* (Appendix B). Inter-rater reliability was achieved through having a second, independent researcher conduct observations using the same observation protocol and record field notes independently.

Participants

Lincoln Industries permitted observation of all areas of the production facility, during any shift, within the negotiated one week of research. Using convenience sampling, the twenty - two participants were ordered into five groups of up to five individuals; each group was observed for 30 minutes. Each group represented a different production line involving workers performing unique tasks. Shift supervisors were provided a script explaining the presence of the researchers, the general nature of the research, and the fact that there would be no interaction between workers and researchers outside of that required to ensure the safety of all personnel and to avoid disruption in production.

Procedures and Analysis

We recorded the presence or absence of the observable factors that comprised the observation protocol (Appendix B). To measure inter-rater reliability, the recorded data was transformed into binary codes: “1” represented the presence of a particular factor and “0” represented the absence of a particular factor. It is important to note that the recorded frequency of a given observed factor represents a positive observation of that factor. For example, the factor with the highest recorded frequency, *Relationship: Peer*, reflects that researchers observed a positive, harmonious, and cordial relationship among peers. The non-observance of a positive relationship or observance of a negative, unfriendly relationship was recorded a “0” for reliability analysis. The exception to this interpretation of the frequency of observations lies with the *Group Feeling: Isolation* factor. When this behavior was observed, it was recorded as “1” due to the very nature of the factor being measured, *Group Feeling: Isolation*, this behavior is inherently negative not positive.

This clarification is for the reader and had no effect on inter-rater reliability figures. The frequency of observed factors and inter-rater reliability, Kappa, are displayed in Table 8.1, which also includes the four primary factors that were observed:

Relationship, Work Itself, Group Feelings, and Pride Feelings. These factors formed the core structure of the observation protocol. Table 8.1 provides the frequency, “Kappa”, of observed factors and associated inter-rater reliability statistic, an asterisk beside the Kappa statistic indicates moderate to substantial significance ($p < .05$).

Table 8.1
Frequency of Observed Factors and Inter-rater Reliability

Variable / Factor	Frequency	Kappa
Relationship		
Supervisor	10	.4
Peer	28	.475 *
Team	24	.3
Work Itself		
Performance	26	.386 *
Attitude	24	.456 *
Group Feelings		
Belonging		
Skill	18	.622 *
Social	12	0.516 *
Isolation		
Skill	4	.222
Social	0	.07
Pride Feelings		
Self	6	.222
Work	26	.25
Team	8	.063
Organization	10	.25

Note: Kappa, moderate to substantial significance, ($p < .05$)

Modifiers for each primary factor were also indicated: *Relationship: Supervisor, Peer, and Team; Work Itself: Performance and Attitude; Group Feelings: Belonging, Skill/Social and Isolation, Skill/Social; and Pride Feelings: Self, Work, Team, and Organization*. The observation categories are self-explanatory with the exception of *Group Feelings*; the two primary group modifiers are *Belonging* and *Isolation*. The two primary modifiers were further modified by considering if the observed *Belonging* or *Isolation* was inherent in the *Skill*, or task, that the worker was performing, or if it was associated with *Social* interaction.

An inter-rater reliability analysis using the Kappa statistic was performed to determine consistency among raters. As depicted in Table 8.1, five out of seven of the factors that recorded the highest frequencies also reflected moderate to substantial reliability, as indicated by the asterisk. The reliability figures vary from low to substantial due to the challenges associated with assessing the factors that comprised the observation protocol and to the low number of observations. “Even the best observational studies are terribly handicapped by the smallness of their samples and by the limited amount of observation possible” (Herzberg et al., 1959, p. 19). However, given the exploratory nature of the observation instrument, the reliability figures are acceptable given the complementary function of this element in the qualitative strand of the research design (McMillan, 2008; Orcher, 2005).

Field notes were recorded independently by each researcher to provide rich, amplifying descriptions of the observed factors. Field notes were descriptive in detailing the setting, activities, and behaviors of the participants, as well as reflective in capturing the researchers’ feelings, reactions, hunches, and initial interpretations. The short duration of observations made saturation of categories impossible, but many subtle

factors were observed such as nonverbal communication and worker attire, in addition to a wide range and variation of patterns relevant to the topic. As noted by Merriam (2009), “...no one can observe everything” (p. 120).

Findings

The motivation factors with the highest frequency of observed occurrences, as displayed in Table 8.2, were: *Relationship-Peer*, *Work Itself-Performance*, *Pride Feelings-Work*, *Work Itself- Attitude*, *Relationship-Team*, and *Group Feelings-Belonging, Skill*.

Factor	Field Notes
Relationship-Peer	Observer 1: Laughing, joking, likeable, good looking uniform; Observer 2: Dressed nicely, very interactive with team, smiles, proactive.
Work Itself-Performance	Observer 1: Impressive attention-to-detail, carefully placing both hands delicately on chrome product, gentle, prideful polishing of finished chrome product; Observer 2: Good work, delicate handling of large manufactured metal pieces, no observation with group due to isolated work.
Work Itself-Attitude	Observer 1: Laughing, singing, good teamwork, communication, and cooperation; Observer 2: Music, singing, smiles, light-hearted, very interactive...smiles often.
Group Feelings-Belonging-Skill	Observer 1: Parts assembly, interacted well with 3-person team, excellent attitude with subordinates and superiors; Observer 2: Focused on task, but able to quickly transition to provide guidance for other team members, likeable-supervisors and peers, recognized expert, nice Lincoln Industries uniform.
Relationship-Team	Observer 1: Proficient, quick, focused, self-motivated, coordinated a 3-person team, seemed well-liked; Observer 2: Worked with a 3-person team effectively very fast and able to joke during hectic pace of moving lots of parts to various individual packaging locations. New person well-mentored.
Pride Feelings-Work	Observer 1: Autonomy, focused worker, dropped part, inspected it, and rejected it, returned part to beginning of process; Observer 2: Well-dressed, uniform, not outwardly engaging, but consumed with careful inspection of each part--small parts, hundreds of them.

Reliability figures do not support the findings associated with *Relationship-Team* or *Pride Feelings-Work* and as such, are not listed in order, but rather as the last two categories in Table 8.2, Field Notes. In addition, Table 8.2 provides examples of amplifying information from researcher field notes for each of the most frequently observed motivation factors.

The motivation factors identified through direct observation of production line workers provided critical complementary data for corroborating and triangulating the interview data, which is provided in the next section.

CHAPTER 9 QUALITATIVE INTERVIEWS

Methods

A semi-structured interview consisting of the identical interview questions used by Herzberg (Herzberg et al., 1959) in his seminal research that produced the Two-Factor Theory of Motivation were used in the study. An a posteriori, constructivist grounded theory approach was used, centering on the core interview question, “Think of a time when you felt exceptionally good or exceptionally bad about your job, either your present job or any other job you have had. Tell me what happened” (p. 20).

Fourteen interview questions followed each event identified by the interviewee in response to the core question—a GOOD experience and a BAD experience. The follow-up questions formed the basis of Herzberg’s (Herzberg et al., 1959) *factors-attitude-effect* (FAE) analysis. Herzberg’s original interview questions were designed to capture an emic perspective to the motivation phenomenon (Merriam, 2009). The interview purpose is consistent with Van Manen’s (1990) description:

(1) it may be used as a means for exploring and gathering experiential narrative material that may serve as a resource for developing a richer deeper understanding of a human phenomenon; and (2) the interview may be used as a vehicle to develop a conversational relation with a partner (interviewee) about the meaning of an experience. (p. 66)

Participants

Purposeful sampling was used to select twenty-one interviewees from a pool of fifty-one qualified volunteers. In purposeful sampling, the “inquirer selects individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon in the study” (Creswell, 2007, p. 187). Interview

participants must have been employed at Lincoln Industries for at least ten years; this criterion identified individuals who contributed to the nationally-recognized success of the company and were most likely to have personal experiences with the worker motivation phenomenon. In concert with grounded theory methodology (Charmaz, 2006), theoretical sampling produced a sample of individuals who had personal experience with the phenomenon:

Theoretical sampling is purposeful sampling but it's purposeful sampling according to categories that one develops from one's analysis and these categories are not based upon quotas; they're based on theoretical concerns...is the major strength of grounded theory *because* theoretical sampling allows you to tighten what I call the corkscrew or the hermeneutic spiral so that you end up with a theory that perfectly matches your data. Because you choose the next people to talk to or the next cases to find based upon the [theoretical] analysis and you don't waste your time with all sorts of things that have nothing to do with your developing theory. (p. 101)

The purposeful sampling in this study was driven by Herzberg's (Herzberg et al., 1959) theoretical analysis and further supports the effort to develop theory based upon data rather than preconceived notions or categories (Glaser & Strauss, 1967).

Procedures and Analysis

The interviews were audio-recorded and transcribed by a professional transcriptionist who provided a signed statement of confidentiality. All potential interview participants were sent a letter along with a copy of the Informed Consent explaining the details and purpose of the study, the risks of the study, the assurance of anonymity, and the voluntary nature of participation in the study.

Validity was achieved with member checking and with a thorough review of interview transcripts by the researchers, faculty members, and doctoral students to ensure inter-coder agreement, which is a “basic procedure [that] involves having several individuals code a transcript and then compare their work to determine whether they arrived at the same codes and themes or different ones” (Creswell & Plano Clark, 2011, p. 212).

The series of interview questions were posed twice to each participant, once relating to the GOOD experience identified by the participant and a second time relating to the BAD experience identified by the participant. An open coding approach was used to begin categorizing data using forty categories. These categories expanded upon the thirty-six categories identified in the pilot study following analysis of the interview data. In keeping with a grounded theory approach, neither the pilot study, nor Herzberg’s (Herzberg et al., 1959) own categories constrained nor restricted the coding and categorization of interview data. Appendix C contains a list of codes identified in the initial phase of analysis for interview, survey, and observation data.

The following tables contain interview excerpts representative of the personal accounts from which emergent themes formed the factors associated with job satisfaction and job dissatisfaction. The factors are listed in order of predominance. For example, the factor that interviewees most often associated with feeling exceptionally GOOD about their jobs, satisfiers, was *Relationship-Company Culture*.

Table 9.1 lists the factors that emerged from the interviews relating to the GOOD sequences, a sample interview excerpt, and the interview number from which the excerpts were taken.

Table 9.1
Factors Identified as Satisfying

Factor	Excerpt	Interview #
Relationship-Company Culture	...a family organized company...they cared about you as an individual...the people around you...gives you the feeling that you are needed and wanted and cared about, makes a huge difference as to whether or not you want to go into work.	4
Achievement	I really enjoy teaching and mentoring an individual who is very eager to learn...it's just exciting for me, when, I teach something or mentor someone, and I see the light switch come on and they get it and they go out and practice it with their team, and it works for them. It's a good feeling.	16
Relationship-Peer	...it has to do with relationships...when the people that I work with are in a good mood...makes the day go much easier.	10
Team-Belonging	It makes me feel very special to this company...the environment of this company, makes me feel that I'm contributing toward something...that makes me feel better.	14
Recognition	I was selected to work on a new line...it was check FG [Finished Goods]...it was a good thing because only the best of the best can do this job...a feeling of value...feel like my work's appreciated.	18
Work Itself-Pride	...a new line, cadmium bomb lugs for the military, over a million parts without a customer return...I had a piece, a small piece in the system to help the long term achievement for the company.	1
Work Itself	...when I run good parts, everything is going smoothly; no issues with quality, I feel really good...keeps you more motivated.	9
Relationship-Customer	...when I help customers...makes me feel good, I think I'm helping out the company...more apt to do a good job when, when you're helping people.	8
Work-Challenging, Varied	A variety is a big thing too. I've been in production situations where you just do the same thing day after day, and after a while it gets to be a little bit monotonous, and you kind of lose interest, you know what I mean?	3
Advancement	And I really wasn't satisfied with what I was doing on the job...this gentleman come along one day and said, I have a job for you...I've really like it ever since, for the past 4 years.	12
Loyalty-Company	You want to help out as much as you can...if you're nice to the customer...they want to do more business, and come back to you.	8
Growth	...I just need to broaden my perspective, and realize it myself, and once I experienced it, I felt better about it.	21
Salary	...paid by the piece...I know the more I work, the more I get paid...that motivate me to, to get a raise.	2

Note: Axial Coding, GOOD Sequence Predominant Factors, Job Satisfaction

Similarly, Table 9.2 lists the predominant factors that interviewees most often associated with feeling exceptionally BAD about their jobs (dissatisfiers) with *Work Itself-Quality / Standards* being identified most often.

Table 9.2
Factors Identified as Dissatisfying

Factor	Excerpt	Interview #
Work Itself- Quality / Standards	I feel bad when I have too many rejects coming from the line...it means that we're not doin' 100%...I like to see the product done well.	14
Company Policy / Admin	It's just a matter of gettin' somebody trained to do my job, that way I'm comfortable if I am gone...I've had 3 Saturdays off in the last six months...I need somebody there...I don't feel comfortable right now.	5
Workload	...workin' extra unexpected hours, stresses you out, so by the time that you get home, you don't sleep as well. You kind of go fast without thinkin' about your actions or repercussions if you do somethin' you end up getting hurt or something like that.	15
Work Environment- Safety	There was a gentleman that was killed here. Makes me pay attention to other people more, watch other people, I had questions.	1
Stress	...ongoing pressure that makes you feel, um, overworked, and pressured sometimes to get the job done...there have been instances when you get in a hurry, you cut a corner, that you don't do the proper steps to accomplishing a task properly...either make a mistake, or possibly even damage something.	4
Mental Health	...reduction in employment due to BAD economic time...you never knew who was going to go, if you was going to be next, that was pretty scary...I was cautious on the job, not to let them have an excuse to let me go instead of the next guy, I couldn't really sleep that well that week.	7
Work-Obstacles	You run BAD parts, technical issues...stuff like that hampers my job...somethin' could be out of whack, could be mechanical, results in a reject...I take it personal, gets me down a little bit.	9

Note: Interviews: Axial Coding, BAD Sequence Predominant Factors, Job Dissatisfaction

Table 9.3 lists factors that interviewees identified as being equally satisfying and dissatisfying—or existing on a *linear* continuum. Interview excerpts representing both GOOD and BAD sequences are provided with the corresponding interview numbers from which the excerpts were taken. This linear relationship is contrary to Herzberg's (Herzberg et al., 1959) Two-Factor Theory of Motivation which argues against such a relationship and posits that all factors related to satisfaction and dissatisfaction are independent of one another.

Table 9.3
Factors Identified as Satisfying and Dissatisfying

Factor	Excerpt	Interview #, GOOD / BAD Sequence
Relationship-Supervisor	GOOD: ...it starts at the top...and all the way down. I mean those guys are so cool and down to earth... they have time...they're not uppity...if I had his money, I'd probably walk through here like I was P. Diddy, couple bodyguards at my side. BAD: I used to have supervisors that were really difficult to get along with...I'd call in sick a lot and didn't want to be here; I was actually lookin' for other places to go...that's when most of my work-related injuries happened.	11 / 6
Leadership-Support	GOOD: ...I thought for sure I was gone, so I started to walk away...the manager was right there, and asked me what happened. I told him, expecting him to say, well, see you later, and he didn't...just said, well you just need to kinda watch yourself. BAD: We would come in and have the same problems everyday...we would bring this stuff up in our turnover meetings, I would offer solutions, and still nothing would happen. So it kind of makes you think, okay, what am I doin' here...what's my value?	10 / 18
Job Security	GOOD: ...things are just so shaky right now...this is a GOOD company, I feel a lot better with this company than I would with some national board-operated company. BAD: ...reduction in employment due to BAD economic time...you never knew who was going to go, if you was going to be next, that was pretty scary...I was cautious on the job, not to let them have an excuse to let me go instead of the next guy, I couldn't really sleep that well that week.	18 / 7
Fairness	GOOD: I knew what I'd done was wrong, I knew better than that, it was a stupid thing to do...I thought the company was gonna say you're gone, and that would have been justified...I was kinda surprised when pretty much nothing happened. BAD: I thought as a supervisor, you would treat everybody on an even keel, but that ain't the way it was goin'...I thought it was unfair, I really thought it was.	10 / 12

Note: Interviews: Axial Coding, Linear Sequence Predominant Factors, Equally Satisfying and Dissatisfying

The interview data was recorded in an Excel spreadsheet, from which the open coding interview data was developed, and recorded in the left columns of Appendix C. The interview data in Appendix C provided the basis for initial axial or analytical coding (Merriam, 2009). Figure 9.1 depicts the results of the open coding phase of the interview analysis.

The interview data was recorded in an Excel spreadsheet, from which the open coding interview data was developed, and recorded in the left columns of Appendix C.

The factors that interview participants identified as *satisfiers* are depicted in Figure 9.1 on the right side of the vertical axis and those identified as *dissatisfiers* are depicted on the left side of the vertical axis.

The numbers within the text boxes indicate the total number of times that the factor was identified as a satisfier or dissatisfier, followed by the total number of times that the factor *defined the event*, whether it be an account of a GOOD or BAD sequence. The second number not only reflects the requirement that the factor define the event, but also that the factor has an effect on job performance. This requirement added additional rigor in forming the primary categories in keeping with Herzberg's (Herzberg et al., 1959) emphasis on factors that define the event, and ultimately effect job performance: Herzberg's (1966) F-A-E approach. "It should be emphasized that the more objective first-level analysis of the events takes precedence over the more subjective second-level analysis" (p. 96).

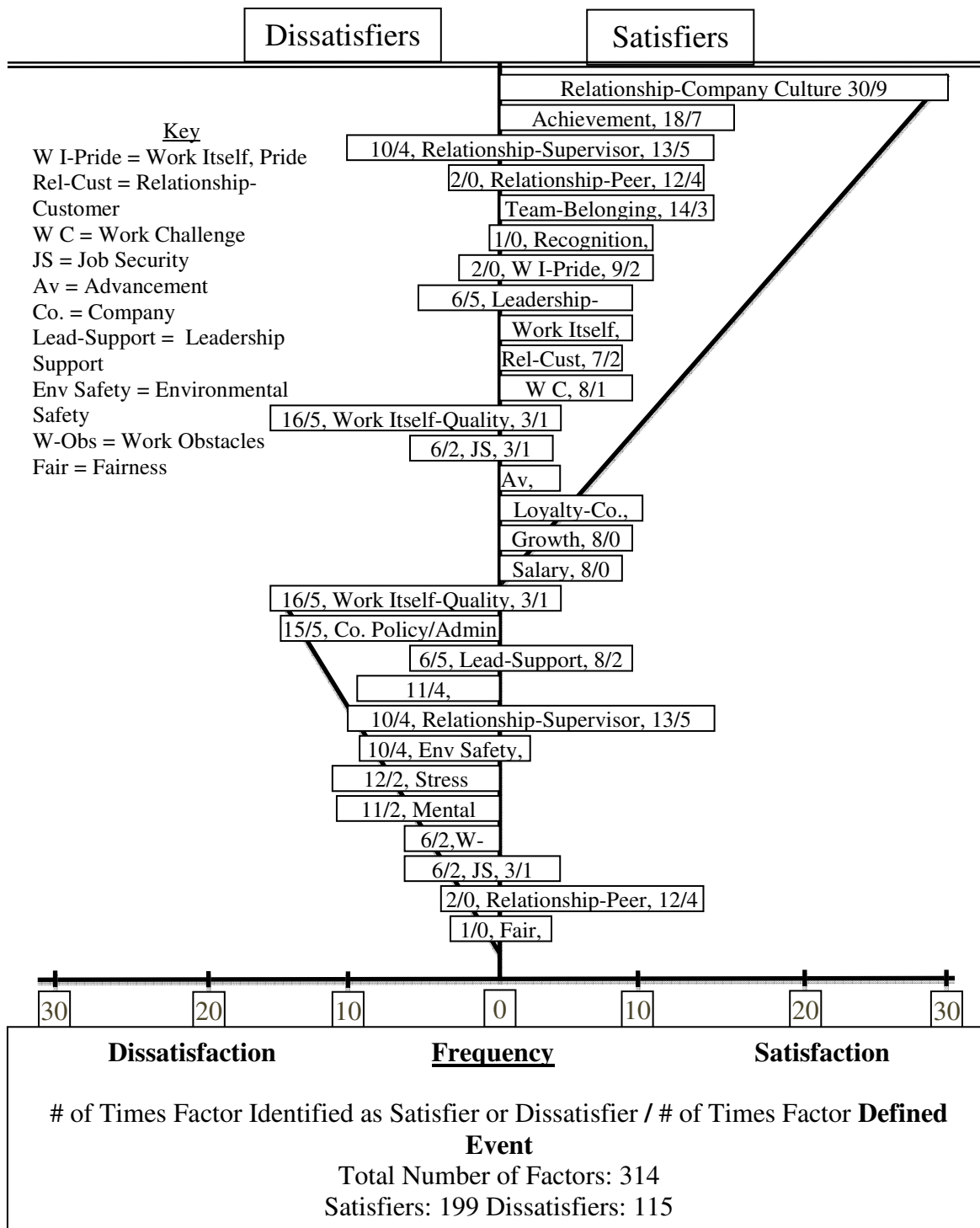
Findings

The interview transcripts were analyzed using constant comparative strategies for theme development. This analysis was purposefully independent from the quantitative analysis (Creswell & Plano Clark, 2011). "'Theme analysis' refers then to the process of recovering the theme or themes that are embodied and dramatized in the evolving meanings and imagery of the work...Phenomenological themes may be understood as the *structures of experience*" (Van Manen, 1990, pp. 78-79).

The 36 initial open codes identified from the pilot study formed the basis of coding matrix. The interview analysis produced an additional four codes, bringing the total number of open codes to 40 for consideration during the axial coding and category development phases of analysis.

The major themes, or factors, that emerged from the interview data are captured in Tables 9.1-9.3, and Figure 9.1.

Figure 9.1. Interview open coding.



The emergent themes that interview participants associated with feeling exceptionally GOOD about their jobs were: *Relationship-Company Culture*, *Achievement*, *Relationship: Peer*, *Team-Belonging*, *Recognition*, *Work Itself-Pride*, *Work Itself*, *Relationship-Customer*, *Work- Challenging-Varied*, *Advancement*, *Loyalty-Company*, *Growth*, and *Salary* (Table 9.1 and Figure 9.1). These themes were ranked first, based upon the frequency that the factor was identified as defining a GOOD sequence while also producing an effect on job performance. Second, themes were ranked upon the frequency that the factor was identified as playing *some* role in feeling GOOD about the job.

The theme that interview participants most often associated with feeling exceptionally GOOD about their jobs was *Relationship-Company Culture* which was referenced 30 times throughout the 22 interviews. This theme was highlighted as the defining event for GOOD sequences a total of nine times. Furthermore, *Relationship-Company Culture* was never referenced in any accounts of the BAD sequences indicating an overall regard as an element associated exclusively with workers' GOOD feelings about their jobs. Company culture is defined by those shared values and norms that influence behavior in support of a common goal or as Tierney (2004) pointed out:

Individuals have different models of the organizational world, but if their basic assessments of desired end results are common, goals can be achieved. The underlying tenet of a cultural perspective is that one needs to constantly interpret the environment and the organization to internal and external constituencies.

(p. 210)

The effort to continually interpret the environment was reflected in the personal connection felt toward the company from interview participants, "Lincoln Industries is a

family-organized company . . . it was a very pleasant experience starting in a company knowing that they cared about you as an individual, and you were not just somebody that they worked with.”

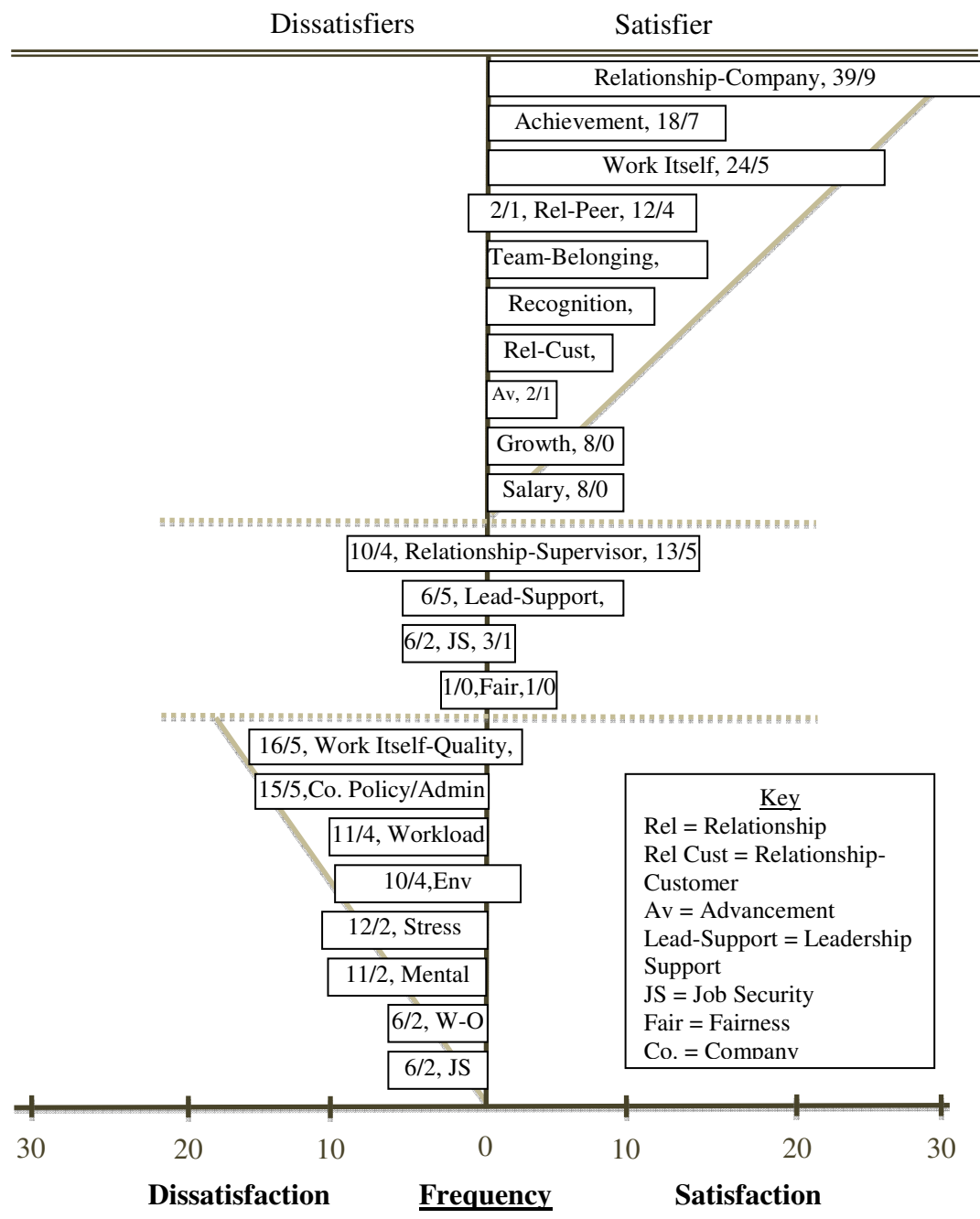
Nearly all of the references to company culture contained a positive personal element relating to supervisors, management, and peers; culture defined through personal interaction rather than the physical, constructed environment, other extrinsic factors, or even the *Work Itself* as described by an interview participant:

Working here, I think is good because of the good working environment, a diverse group of people, there's good people everywhere. You like the environment, you like the people, the management, we have a good culture—a culture of we're all kinda in this together.

Attention should be given to the factor *Relationship-Company Culture* due to its prepotency in the analysis of GOOD sequences. In the pilot study analysis, *Loyalty-Company* was subsumed by the code *Relationship-Company Culture*. The same argument can be made for the major study; subsuming *Loyalty-Company* into the coding category *Relationship-Company Culture* results in a GOOD/BAD ratio of 39:0. Additionally, axial coding resulted in a single category, *Work Itself*, subsuming *Work Itself- Pride* and *Work Itself-Challenging*. The factors that resulted from axial coding are depicted in Figure 9.2.

The hygiene factors that emerged from workers' accounts of feeling BAD about their jobs were: *Work Itself-Quality Standards*, *Company Policy/Administration*, *Workload*, *Work Environment-Safety*, *Stress*, *Mental Health*, *Work-Obstacles*, *Relationship-Supervisor*, *Leadership-Support*, *Job Security*, and *Fairness* (Table 9.2 and d Figure 9.2).

Figure 9.2. Interview axial coding.



of Times Factor Identified as Satisfier or Dissatisfier / # of Times Factor **Defined Event**
 Total Number of Factors: 314
 Satisfiers: 199 Dissatisfiers: 115

The predominant factor that interview participants associated with feeling BAD about their jobs was *Work Itself- Quality Standards* with a BAD/GOOD ratio of 16:3 accounting for five of the BAD events. The *Work Itself-Quality Standards* factor emerged as a new factor relative to Herzberg's study and is addressed in the "Discussion" section. The *Company Policy/Administration* factor was congruent with Herzberg's study, with a BAD/GOOD ratio of 15:0; also defining five BAD events. The other dissatisfiers identified which are common to Herzberg's findings (Herzberg et al., 1959) were: *Work Environment- Safety, Stress, Mental Health, Work-Obstacles, Relationship- Supervisor, and Job Security*. In addition to the new factor, *Work Itself-Quality Standards* and the unique hygiene factors, *Workload, Leadership-Support, and Fairness* emerged in this study.

Finally, Table 9.3 shows the factors that interview participants identified as being equally satisfying and dissatisfying. Herzberg (Herzberg et al., 1959) did not entertain the idea of factors affecting worker satisfaction existing on a linear scale—that is, the same factor being capable of making a worker *feel* GOOD and BAD about his/her job. This possibility is entertained in this study and the interview data supports a linear relationship between satisfaction and dissatisfaction on the job for the factors listed in Table 9.3. The following factors appear to have a linear relationship: *Relationship-Supervisor, Leadership-Support, Job Security, and Fairness*. The GOOD/BAD ratio for the factor *Relationship-Supervisor* is 13:10 and the ratio of the number of GOOD/BAD events that this factor defined is 5:4. This data strongly supports the linear relationship argument, particularly given the nearly equal number of events defined. The *Leadership-Support* factor is nearly as convincing with a GOOD/BAD ratio of 8:6, and an event

defining ratio of 2:5. These linear factors are depicted in Figure 9.2 as being near equally dispersed on both sides of the vertical axis.

Through constant comparison and multiple-coder review, the satisfiers, dissatisfiers, and the newly-coined *linear* factors formed the final categories for the study from a total of 314 factors: 199 Satisfiers and 115 Dissatisfiers. The linear factors are identified between the horizontal dashed lines in Figure 9.2.

The quantitative strand consisting of survey data is discussed in the following section.

CHAPTER 10

THE QUANTITATIVE SURVEY

Frederick Herzberg (Herzberg et al., 1959) developed his qualitative study of worker motivation which relied solely upon interviews in response to conflicting results from survey data. Herzberg's review of previous studies also reflected a disparity of results and survey findings on worker motivation which led to the survey used in this mixed methods study. Their literature review revealed that there was "a difference in the primacy of factors, depending upon whether the investigator was looking for things the worker liked about his job or things he disliked" (Herzberg et al., 1959, p. 7). The questions in the survey were designed using the factors identified by Herzberg in his Two-Factor Theory of Motivation (Herzberg et al., 1959). Of the 68 questions, the number of questions asking what workers liked about their jobs and those questions that asked workers what they disliked about their jobs were nearly equal. The questions incorporated all of the first-level factors that defined satisfaction and dissatisfaction; that is, the questions included all of Herzberg's primary hygiene factors and motivators.

The dependent variables in the survey instrument were job satisfaction and job dissatisfaction referred to by Herzberg (Herzberg et al., 1959) as motivators and hygiene factors respectively. The independent variables consisted of the factors that Herzberg identified as defining job satisfaction and dissatisfaction. The independent variables that formed the survey items to measure job satisfaction were: *Achievement, Recognition, Work Itself, Responsibility, Advancement, and Growth*. The independent variables designed to measure job dissatisfaction were: *Company Policy and Administration, Supervision, Relationship with Supervisor, Work Conditions, Salary, Relationship with Peers, Personal Life, Relationship with Subordinates, Status, and Security*.

Building from Herzberg's qualitative study, the quantitative strand of the mixed methods study was designed to address the gap identified in previous, less-informed quantitative instruments. (The complete survey instrument is provided in Appendix E.)

Methods

The 68-item questionnaire was developed using Herzberg's (Herzberg et al., 1959) motivation-hygiene schema. The survey was the last research instrument used in the study, following observations and interviews, respectively. A paper copy of the interview was disseminated via personal mailboxes for all 500 employees of Lincoln Industries. Participation in the survey was voluntary and a letter explaining the purpose of the survey and the larger study was provided with each survey. Completed surveys were returned to a collection box located in a common area. The response rate was ten percent, 47 completed surveys were returned.

Participants

A convenience sampling of all employees of Lincoln Industries was used. Thirty four percent of the 500 employees of Lincoln Industries' workforce was female and consisted of a total of 17 ethnic backgrounds. The only demographic item requested on the survey was gender, however, ethnicity data was provided by the Communications and Human Resources departments at Lincoln Industries. Participation was voluntary; the response rate was ten percent, $N=47$.

Procedures and Analysis

The survey utilized a five - point Likert scale that ranged from 5 (*strongly agree*) to 1 (*strongly disagree*). The internal reliability was measured using Cronbach's Alpha, which is one of the most widely used statistics to measure internal consistency. The validity scores resulted in an internal instrument reliability of .975, based upon 66 items,

$N=47$. The internal reliability tests of each item resulted in the rejection of two questions as further explained by Fowler (2009):

In surveys, answers are of interest not intrinsically but because of their relationship to something they are supposed to measure. Good questions are reliable (providing consistent measures in comparable situations) and valid (answers correspond to what they are intended to measure). (p. 87)

The high Cronbach's Alpha suggests that the survey instrument performed well at measuring what the instrument was designed to measure. The validity of the survey was high and reliability was not established in that there were no additional tests of the instrument beyond this study.

The survey was specifically designed to test the motivators and hygiene factors identified by Herzberg in his Two-Factor Theory of Motivation (Herzberg et al., 1959) and to address the gap noted by Herzberg in the same study. Consequently, the null and alternate hypotheses for the quantitative strand of the mixed methods study are:

H_0 : Null Hypothesis: Current study indicates no *significant* difference in factors associated with worker "satisfaction" and "dissatisfaction" as compared to a known population: Herzberg's (Herzberg et al., 1959) original study.

H_1 : Alternate Hypothesis: Current study indicates a *significant* difference in factors associated with worker "satisfaction" and "dissatisfaction" as compared to a known population: Herzberg's (Herzberg et al., 1959) original study.

Findings

Table 10.1 lists the top fifteen motivators and top fifteen hygiene factors based upon the mean and standard deviation of each questionnaire item using a five - point Likert scale that ranged from 5 (*strongly agree*) to 1 (*strongly disagree*).

Table 10.1 Survey Findings: Predominant Motivation and Hygiene Factors							
(N = 47)							
Motivators				Hygiene Factors			
Variable	Range	M	SD	Variable	Range	M	SD
Achievement-Company	1-5	4.66	.522	Hygiene, Childcare	1-5	2.76	1.25
Achievement-Self	1-5	4.55	.544	Hygiene, Lounge Facilities	1-5	3.21	.99
Work Itself-Attitude	1-5	4.55	.582	Salary, Relationship-Peer	1-5	3.3	1.04
Work Itself-Attitude	1-5	4.43	.62	Workload	1-5	3.34	1.23
Growth-Personal	1-5	4.43	.773	Workload	1-5	3.4	.99
Loyalty-Company	1-5	4.4	.61	Relationship-Supervisor	1-5	3.5	1.06
Achievement-Self	1-5	4.37	.645	Relationship-Supervisor, Micromanagement	1-5	3.57	.95
Relationship-Peer	1-5	4.36	.67	Hygiene, Disability Benefits	1-5	3.57	1.01
Relationship-Peer	1-5	4.34	.67	Company Policy / Administration	1-5	3.62	1.15
Relationship-Supervisor / Responsibility / Autonomy	1-5	4.3	.66	Company Policy / Administration	1-5	3.66	1.01
Achievement-Company	1-5	4.3	.72	Company Policy / Administration	1-5	3.66	1.07
Relationship-Supervisor	1-5	4.27	.74	Relationship-Supervisor	1-5	3.7	1.08
Lack of Recognition	1-5	4.26	.61	Lack of Recognition	1-5	3.74	1.01
Hygiene, Co. Fitness Plan	1-5	4.26	.77	Hygiene, Co. Fitness Plan	1-5	3.74	1.03
Responsibility	1-5	4.26	.79	Hygiene, Retirement Benefits	1-5	3.74	1.22

A casual glance at the recorded *means* in Table 10.1 reveal that the mean of the motivators are much stronger both in value and standard deviations, than the mean of the hygiene factors. The range of means for motivators is 4.26 to 4.66, whereas the range of means for hygiene factors is 2.76 to 3.74.

All questions were unidirectional in question design; hence a strong response to motivators would be reflected by a mean closer to a value of “5.” Conversely, a strong response to hygiene factors would be reflected by a mean closer to a value of “1.” The top ten motivators identified by survey respondents were: *Achievement-Company*, *-Self*, *Work Itself-Attitude*, *Growth-Personal*, *Loyalty-Company*, *Achievement-Self*, *Relationship-Peer*, *Relationship-Supervisor/Responsibility/Autonomy*. *Work Itself-Attitude* and *Relationship-Peer* recorded two positions in consecutive order. The factors are self-explanatory with the exception of *Relationship-Supervisor/Responsibility/Autonomy*. The multiple codes reflect a question item that touched upon several factors: “I am given the freedom to try new ideas.”

The top ten hygiene factors identified by survey respondents were: *Hygiene-Childcare*, *Hygiene-Lounge Facilities*, *Salary/Relationship Peer*, *Workload*, *Relationship-Supervisor*, *Relationship-Supervisor/Micromanagement*, *Hygiene-Disability Benefits*, and *Company Policy-Administration*. *Workload* and *Company Policy-Administration* were recorded in two consecutive positions. Several of the questionnaire items were written to reflect general hygiene factors relevant to the 2012 workforce. Three of the top ten dissatisfiers were general hygiene factors. Reference the middle columns of Appendix C for a complete list of satisfiers and dissatisfiers identified by the survey data.

The findings suggest that there are significant differences between those factors identified in the study as motivators and those identified by Herzberg (Herzberg et al., 1959); the null hypothesis is rejected. However, the hygiene factors identified in this study are closely aligned with those identified in Herzberg’s study, and therefore would result in “not rejecting” the null hypothesis. This is not a valid statistical comparison,

since Herzberg's original study did not include a quantitative research strand to which a direct statistical comparison could be made.

The next section is a presentation of the merged or *mixed* findings from the qualitative strand, observation and interview data and the quantitative strand, survey data.

CHAPTER 11

DATA MERGING AND INTERPRETATION

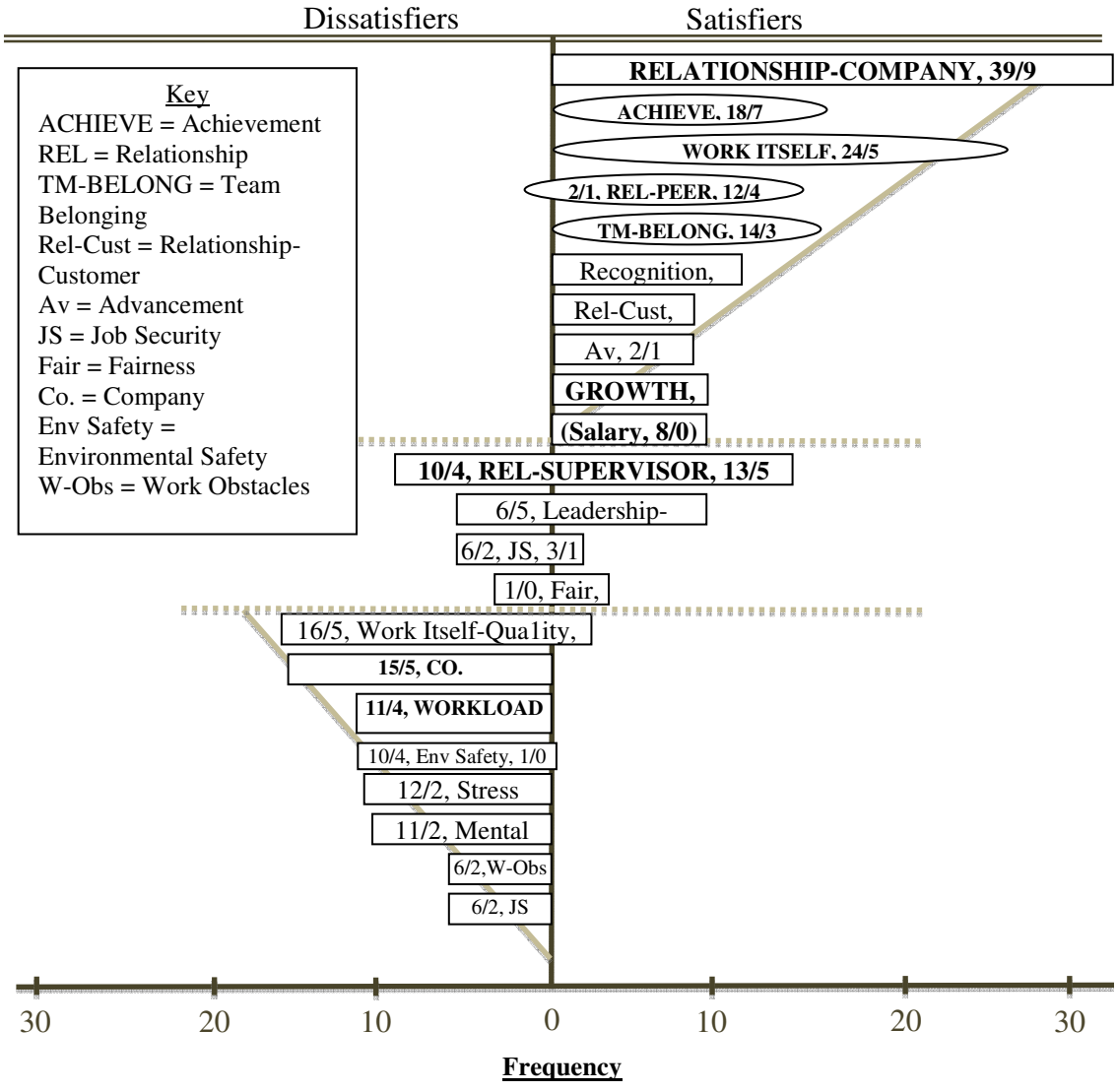
One benefit of conducting a mixed methods study is the ability to *triangulate* the findings from various research instruments, while highlighting the advantages and minimizing the disadvantages of each research instrument. This section will merge the findings of the observation, interview, and survey research instruments used in the study.

The interview findings were assigned the highest priority in relation to the observation and survey findings. The triangulation and complementary functions of the observation and survey findings proved to be valuable in building a comprehensive understanding of worker motivation at Lincoln Industries. Figure 11.1 depicts the merged results of the three research instruments.

Figure 11.1 was developed from the factors identified through interview analysis with satisfiers depicted on the right side of the vertical axis, dissatisfiers depicted on the left side of the vertical axis, and linear factors depicted in the center of the figure between the two horizontal dashed lines. The rectangular shapes indicate factors identified through interview analysis. Factors that appear in all capital letters represent interview results supported by survey results, as they appear in the figure as a satisfier, dissatisfier, or linear factor. Conversely, the factors formed with interview data that are not supported by survey data are identified in parentheses. Specifically, the factor *Salary* is classified as a satisfier by interview data and dissatisfier by survey data. Oval shapes indicate congruency between observation and interview data. Congruency across all three research instruments is indicated by factors written in all capital letters within an oval shape, e.g., *Work Itself*. Similar to displays in previous figures, the numbers within the text boxes indicate the total number of times that the factor was identified as a satisfier or

dissatisfier, followed by the total number of times that the factor defined an event, whether it be GOOD or BAD.

Figure 11.1. Merged results: Interview, observation, and survey.



ALL Factors depicted in this *Figure* are products of **Interview** Analysis.
 # / # = Number of times: factor identified as “Satisfier,” or “Dissatisfier,” / factor **defined** an **Event**.

- Interview = Interview Data
- CAPS** = Interview Data supported by Survey Data, represented by **CAPITAL** letters
- () = Interview Data not supported by Survey Data
- = Interview Data supported by Observation Data
- CAPS** = **Congruency** among Interview, Survey, and Observation Data

The top five satisfiers, *Relationship-Company*, *Work Itself*, *Achievement*, *Relationship-Peer*, and *Team-Belonging* are displayed in all capital letters in Figure 11.1 indicating interview findings corroborated with survey findings. Four of the top five satisfiers are also in oval shapes indicating full congruency among all three research instruments. *Relationship-Company* was not deemed an observable factor in the observation protocol; therefore, it is the single satisfier in the top five that is not depicted in an oval.

There is no congruency among all three research instruments for any of the top five dissatisfiers. Similar to the limitation for the single satisfier above, the elements of the observation protocol were insufficient for assessing dissatisfiers. The level-2 factors from Herzberg's (Herzberg et al., 1959) original study, from which the observation protocol was developed, did not provide observable factors relating to dissatisfaction. However, two of the top five dissatisfiers were supported with survey data: *Company Policy and Administration* and *Workload*; they are highlighted in all capital letters in Figure 11.1.

The classification of *Relationship-Supervisor* as a linear factor through interview analysis was further corroborated with survey data and appears in all capital letter in Figure 11.1. There were no observable factors in the observation protocol for the linear group primarily due to the fact that this group was not recognized in Herzberg's (Herzberg et al., 1959) original study from which the observation protocol was developed.

Figure 11.1 is a culmination of results from three different research instruments. The merged results in Figure 11.1 represent the benefits of mixed methods research and particularly the enhanced understanding of *worker motivation* in the study.

The next section is a discussion of the implications of the findings of this study and how they compare to Herzberg's (Herzberg et al., 1959) original study.

However, merging the findings from the three instruments produces an aggregate analysis that is comprehensive. The merged results identify the satisfiers and dissatisfiers associated with *worker satisfaction* at Lincoln Industries. How do these results compare to Herzberg's original study? For the following discussion comparing the findings of this study with those of Herzberg's (Herzberg et al., 1959).

This study identified the factor, *Relationship-Company Culture*, as the strongest factor of the entire study, among both satisfiers and dissatisfiers. The *Relationship-Company Culture* factor motivates workers at Lincoln Industries and it also represents a significant incongruence with Herzberg's (Herzberg et al., 1959) Two-Factor Theory of Motivation. Further divergence between the satisfiers identified in this study and Herzberg's Two-Factor Theory of Motivation emerged in the following categories: *Relationship-Peer*, *Team-Belonging*, *Relationship-Customer*, and *Salary*. *Relationship-Peer* and *Salary* were identified as dissatisfiers by Herzberg, and *Team-Belonging* and *Relationship-Customer* are new categories that emerged in this study. In Herzberg's study, *Salary* coded equally satisfying and dissatisfying; in this study, *Salary* coded overwhelmingly satisfying, with a GOOD/BAD ratio of 8:0. This ratio indicates significant divergence from Herzberg's findings; however, it is important to note that *Salary* did not *define* any of the GOOD sequences, hence, although exclusively positive, *Salary* was not as significant a motivator as those factors that *defined* GOOD sequences. Furthermore, *Salary* was coded negatively by survey data, which obfuscates the interview data that strongly suggests *Salary* is a motivator. The contradictory data, born of the mixed methods design of this study, places *Salary* squarely in concert with Herzberg's original findings. The detailed discussion of *Salary* is a product of a mixed methods research design, "When different methods yield dissimilar results, they demand that the

researcher reconcile the differences somehow. In fact, divergence can often turn out to be an opportunity for enriching the explanation” (Greene et al., 1989, p. 144).

The *Company Policy/Administration* hygiene factor was congruent with Herzberg’s (Herzberg et al., 1959) study, with a BAD/GOOD ratio of 15:0 and it also *defined* five BAD events. The other dissatisfiers identified in this study that are common to Herzberg’s findings are: *Work Environment-Safety, Stress, Mental Health, Work-Obstacles, Relationship-Supervisor, and Job Security*. In addition to the new factor, *Work Itself-Quality Standards*, the following unique hygiene factors emerged in the study: *Workload, Leadership-Support, and Fairness*.

However, the predominant factor that interview participants associated with feeling BAD about their jobs was *Work Itself-Quality Standards* with a BAD/GOOD ratio of 16:3, and this factor *defined* four out of the five BAD events. This factor is problematic. As noted, *Work Itself-Quality Standards* is incongruent with Herzberg’s study, but more importantly, upon closer examination it appears to be a healthy motivator for workers. When workers performed poorly, below expectations, or produced low quality products, they *felt* BAD. From an employer’s perspective, the factor *Work Itself-Quality Standards* is not likely to be viewed as BAD, but rather viewed as positive as it affects worker attitude. The majority of these BAD events were internalized and *motivated* the workers to rededicate themselves to higher work performance as indicated by an interview participant, “I don’t let these things bother me as far as long term, my impression of the company, or myself...tomorrow’s another day, we’ll start fresh again, we all have to work together in order to get the job done.” However, in keeping with the methodological approach of this study, as well as the theoretical underpinnings of Herzberg’s (Herzberg et al., 1959) original study, coupled with the fact that *Work Itself-*

Quality Standards defined nearly one quarter of the BAD events that made workers *feel* BAD about their jobs, *Work Itself-Quality Standards* will remain a dissatisfier in this study.

The final area of significant divergence from Herzberg's (Herzberg et al., 1959) study is that of the newly-coined "LINEAR" factors. As discussed above, Herzberg rejected the possibility of factors being capable of making workers feel equally satisfied or dissatisfied. However, this study suggests that *some* factors may, in fact, exist on a linear continuum.

The findings of this mixed methods study suggest that those factors that dissatisfied workers in 1959 still dissatisfy workers today. The factors that motivated workers in 1959 still motivate workers today with one significant change: the single most influential motivator, *Relationship-Company Culture*, has supplanted all of the motivators identified by Herzberg in 1959 as the predominant factor in a *motivated workforce*. This finding is interesting in that Herzberg (1968) bemoaned the human relations efforts in corporations, writing them off as simply hygiene factors. Herzberg (1976) argued that such efforts would have little effect on the monotonous tasks given to assembly line workers:

The assembly line is the place where we most often find this motivational problem. Frequently, the only available motivator is the degree to which working faster fosters feelings of achievement, along with the recognition for achievement built into exceeding the standard piece rate set for the job and earning incentive pay. Evidence suggests that these motivators move only a minority of assembly-line workers. Inevitably, a dependence on these less nutritious motivators

increases the need for ‘atta boys’ from the supervisor, with subsequent inversion of hygiene items such as interpersonal relationships with the supervisor. (p. 79)

The observation instrument in this mixed methods study revealed that the tasks assigned to the workers at Lincoln Industries were not unlike those of the typical assembly line worker in 1959. Many of the production lines at Lincoln Industries required workers to perform repetitive tasks for several hours at a time with little human interaction and no opportunity to “self-actualize.” Again, motivation associated with these types of tasks is not expected from Herzberg’s (1976) perspective:

Motivation at work is an attitude that justifies the behavior that arises when people are given a combination of ability to do a good job and the opportunity to have a good job. The attitude of motivation impels people to seek appropriate arenas where their ability can be enhanced by the opportunity to put it to use, in the expectation that there will be further development of that ability. (p. 99)

Yet, by an overwhelming margin, the *Relationship-Company Culture* factor defined more sequences in which workers *felt* GOOD about their jobs than any other factor. This factor represents a significant divergence from Herzberg’s (Herzberg et al., 1959) study and clearly motivated the workers at Lincoln Industries. Table 12.1 provides specific interview excerpts that are indicative of the themes that emerged in this study that formed the category: *Relationship-Company Culture*.

Beyond the organizational theory definition of culture, it is worthwhile to understand how Lincoln Industries defines its corporate culture through its mission statements, stated goals, actions and personnel feedback. “When asked what makes Lincoln Industries different than other companies, the answer is always, ‘The culture’” (Lincoln Industries, n.d., para. 4). The philosophical approach to culture at Lincoln

Industries has much in common with the principles described in Jim Collins (2001) book *GOOD to Great, Why Some Companies Make the Leap...and Others Don't*. This is not simply coincidental, but rather purposeful; Lincoln Industries openly espouses Collins' (2001) principles (Lincoln Industries, n.d.).

Factor	Excerpt
Relationship-Company Culture	...a family organized company...they care about you as an individual...the people around you...gives you the feeling that you are needed and wanted and cared about, makes a huge difference as to whether or not you, uh, wanna go into work.
	It make me feel very special to this company...the environment of this company, makes me feel that I'm contributing toward something...that makes me feel better.
	You wanna help out as much as you can...if you're nice to the customer...they want to do more business, and come back to you.
	I was grateful for them...the company leaders said ..."you're not large enough to handle bumpers, polish, to do physical things," but I told them "give me a chance, if I can't do it, I quit." Since then we never looked back, I was considered one of their sons, I am grateful.
	I wanna make sure that what I do contributes to the success of the company, even a small portion. I wanna make sure what I do affects the company in a positive way.
	[It] has been a great company throughout the years, as far as keeping you involved and making you feel like they care about you as an individual.
	Good to just be workin' for a company that's been solid since I've started workin' here, past 28 years and always treated me right.
	The good part is the diversity of things I get to do, or opportunities here at Lincoln Industries...good place, makes you feel good when you go home at the end of the day.
	Lincoln Industries is always going forward with somethin'...you feel good about where you're workin', you wanna kinda develop that and stick with it, and grow with them.
	That makes me feel good that I'm helping, I think I'm helping out the company.
	Well I do it because it is for the good of the company; I won't deny that.
...has to do with relationships...I have good days when the people that I work with are in a good mood. We joke around, you know, we have serious stuff to do, but we joke around and it seems that it makes the day go that much easier when everybody's in a good mood.	

Table 12.1 (Continued) Interview Excerpts Predominant Factor: Relationship-Company Culture	
Factor	Excerpt
Relationship-Company Culture	One of the good things is because there's such a diverse group of people, and...I get to learn a lot about other cultures, you know, and other people, how they live and how they think. And...just kinda shows me that it doesn't matter where you're from, there's good people you know from everywhere. So I kinda like that.
	When you come to a place...and you like the environment, you like the people, the management, it makes you wanna...we kinda have a culture of, we strive to do better. You know, we're all kinda in this together, I like that about the company.
	...it starts at the top...and all the way down. I mean those guys are so cool and down to earth... they have time...they're not uppity...if I had his money, I'd probably walk through here like I was P. Diddy, couple bodyguards at my side.
	I feel really good about my job...really care about you, the company does, the people, I am really happy with that...care from the management.
	What makes me feel good about my job presently is that I do what makes everybody feel happy. It makes me feel very special to the company, the environment of the company makes me feel that I'm contributing toward something to this company, and that makes me feel better.
	I guess the people, the environment. It means a lot, 'cause, then you can trust the people.
	I really enjoy the people I work with; they always treated me like I was part of the family. I guess I feel really good about what I have to offer the company.
	I enjoy workin' here, so, I mean it just reflects more on the company as a whole.
	It's a sense of accomplishment for the company and for myself. It's a profit for the company, havin' a good day. It's getting good parts out the door.
	They're willing to take care of you if you get hurt on the job rather than replacing you when you get hurt, you're on the street lookin' for a job.
	Just a great company to work for, love the family-owned business. Pretty much follow by example of the leaders, they do a great job of that. I can't imagine workin' anywhere else.
I got gratification because it saved the company money.	

In his description of “great” companies, Collins (2001) emphasized a corporate culture focused on people, not just people, but the “right” people. One of Collins’ core principles is “*First Who . . . Then What*” (Collins, 2001, p. 41). This principle focuses on the character of the individual and how well the individual fits the culture of the company, rather than focusing on the abilities or skill set of the individual. “At Lincoln

Industries, we believe in selecting people based on fit, talent and skill—in that order. Our vision is to be an organization with the right people, in the right seats, fully engaged and successful in what they do to achieve great results” (Lincoln Industries, n.d., para. 3).

Collins (2001) highlights how *great* companies and *Level 5* leaders, the most successful executives, concentrate on the right people and earn their commitment to the company’s vision. Using the metaphor of a bus moving along the corporate road, Collins (2001) describes getting the *right* people “on the bus and the *wrong* people “off the bus.” The *right* or *wrong* people are determined by the *culture* of the company. “If we get the right people in the right seats and the wrong people off the bus, then we’ll figure out how to take it someplace great” (Collins, 2001, p. 41). Lincoln Industries (n.d.) describes its goals similarly:

Being in the “right seat on the bus” is just as critical as being a right fit for Lincoln Industries...Once we have someone with the right fit and high talent, we look at their skills and knowledge. Skills and knowledge are acquired through experience, education and training. While having necessary skills and knowledge is important, these can be taught. Lincoln Industries’ learning and development team can help each individual to learn specific skills needed for the position.

(para. 5)

The focus on culture infuses every aspect of Lincoln Industries’ stated goals. “The culture at Lincoln Industries is also essential to the exceptional service provided by Lincoln Industries. Our award-winning workplace wellness program keeps our people healthy and engaged in their work” (Lincoln Industries, n.d., para. 4). The results of this study, through the voices of the workers, suggest that Lincoln Industries’ focus on corporate culture and placing people first has been successful and is supported by the

ascendancy of the *Relationship-Company Culture* motivator and illustrated by worker narratives in Table 9.

The reasons behind the predominance of the new factor *Relationship-Company Culture* as it affects *worker motivation* are beyond the scope of this study, but provide an interesting topic for future research and is best left for the following section, “Limitations and Future Research.”

CHAPTER 13 LIMITATIONS AND FUTURE RESEARCH

The limitations associated with a mixed methods research design were addressed as were the measures taken to minimize the limitations of a mixed methods design. The specific limitations unique to this study varied with each research instrument and will be addressed accordingly.

The observation instrument provided essential qualitative texture to this study, but was limited to those second-level Herzberg factors that were observable. Additionally, the observable factors that comprised the observation protocol addressed motivators only, not hygiene factors; thus, only one half of Herzberg's (Herzberg et al., 1959) Two-Factor Theory of Motivation could be assessed through observation. There were no unique limitations associated with the interview instrument beyond those associated with qualitative methods in general. The interview responses were susceptible to the same negative critiques levied against Herzberg's interview responses; the effects of the fundamental attribution error. The fundamental attribution error suggests that individuals often attribute their successes to self and their failures to extrinsic factors or others. This concept calls Herzberg's Two-Factor Theory of Motivation into question. The survey instrument served as the sole source for quantitative data and the most glaring limitation of the survey in this study was the poor response rate, less than 10 percent, and the associated limitations to statistical analysis of a small sample.

The opportunities for future research based upon this study's results are myriad and are also attributable to the mixed methods design of the study:

In a mixed-method study with an initiation intent, the major aim of combining qualitative and quantitative methods is to uncover paradox and

contradiction...iterative use of both method types can intentionally seek areas of nonconvergence in order to “initiate interpretations and conclusions, suggest areas for further analysis, or recast the entire research question” (Greene et al., 1989, p. 138-139).

As discussed in the Discussion section, the most striking nonconvergence between the findings in this study and Herzberg’s (Herzberg et al., 1959) study are intriguing and suggest multiple avenues for further research on *worker motivation* specifically and organizational theory generally. The largest “nonconvergence” lies with the primacy of the motivator *Relationship-Company Culture*. Research focused on defining and achieving a better understanding of the motivator *Relationship-Company Culture*, would be beneficial to academia, the corporate world, the social sector, and most importantly, the individual worker.

Additionally, there could be many factors that are largely undetermined; they are equally dissatisfying and satisfying. This might suggest that some motivation factors are, in fact, mutually exclusive and reside on the same satisfaction-dissatisfaction continuum, contrary to Herzberg’s Two-Factor Theory. This study suggests that a *Three-Factor Theory of Motivation* exists where some factors are predominantly satisfiers, some are predominantly dissatisfiers, and others are equally satisfying-dissatisfying where worker motivation is concerned. Additional future research efforts should focus on this concept of *Three-Factor Theory of Motivation*. This approach is reflective of the grounded theory approach described by Glaser & Strauss (1967):

Through the level of generality of his concepts he tries to make the theory flexible enough to make a wide variety of changing situations understandable, and also flexible enough to be readily reformulated, virtually on the spot, when it does not

work in application. The person who applies the theory will, we believe, be able to bend, adjust or quickly reformulate a grounded theory when applying it, as he tries to keep up with and manage the situational realities that he wishes to improve...The person who applies theory becomes, in effect, a generator of theory, and in this instance the theory is clearly seen as *process*: an ever-developing entity. (p. 242)

In response to being asked, what motivates workers, Herzberg famously argued, “Essentially three things: what an individual can do, what he is permitted to do, and what is reinforced when he does do something” (Herzberg, 1976, p. 96). This study does not directly argue against Herzberg’s answer, but it does call Herzberg’s answer into question due to the seemingly dichotomous relationship between assembly line-like work and the *Relationship-Company Culture* motivator discussed.

Future researchers are challenged to address this apparent divergence between this study’s findings and Herzberg’s (Herzberg et al., 1959) foundational research on *worker motivation*. The nonconvergence between the findings in this study and Herzberg’s could be attributed to a number of factors, all of which require additional research:

- A different era:

A different work ethic, a different worker/citizen mindset (e.g., the workers who won World War II, the *Greatest Generation* studied by Herzberg versus Generations X and Y);

- A different sample:

This study involved 47 interview participants consisting of production line workers, varying racial backgrounds and 34% female, vs., Herzberg’s

(Herzberg et al., 1959) study that involved 203 interviews with white collar, white male engineers and accountants;

- A different company:

Lincoln Industries is a nationally-recognized “successful” company; there is no data available on the health of the company where Herzberg (Herzberg et al., 1959) conducted his study;

- Although the response rate for the survey was low, 34% of the respondents were female, which is representative of the worker population at Lincoln Industries. It is interesting, and perhaps even significant, that the average response values for nine out of the top ten motivators were all higher by .1, or higher. For example, the survey item “Achievement-Company” received the highest average response value for all survey participants, 4.66 (Table 10.1), but female responses alone indicate an average response value of 4.87. Does this suggest, based upon the survey questions referenced, that female workers are more concerned with the company’s success, more *loyal* to the company, more concerned about co-workers’ welfare, have better attitudes at work...are more *motivated*?

CHAPTER 14 CONCLUSION

The three objectives of this study were to: examine *worker motivation* at a Nebraska manufacturing company using a mixed methods research design, address the gap in the literature, which is largely defined by the critics of Herzberg's (Herzberg et al., 1959) Two-Factor Theory of Motivation, and test Herzberg's research approach to assess *worker motivation* in a different era and environment.

First, this study succeeded at assessing *worker motivation* at Lincoln Industries, a medium-sized manufacturing company located in Lincoln, Nebraska using a convergent parallel mixed methods research design. Leveraging the advantages of triangulation through the use of qualitative and quantitative methods provided higher levels of confidence in the findings of multiple research methods and also highlighted key areas of divergence with the findings from Frederick Herzberg's (Herzberg et al., 1959) original study.

Second, the gap in the literature was defined through other studies of *worker motivation* conducted by critics of Herzberg's (Herzberg et al., 1959) original study. Critics of Herzberg's theory frequently reference the narrow demographics of Herzberg's sample; specifically, all of the participants in the study were white collar, white male engineers and accountants. In contrast to Herzberg's study sample, this study's sample was comprised of blue collar production line workers, of which 34% were female, and according to data provided by Lincoln Industries also represented 17 ethnicities (Lincoln Industries, n.d.). The sample for all three research instruments, observation, interview, and survey, conformed to this diverse demographic. Beyond the criticism of Herzberg's sample, few of the critical comparison studies followed the same research methodology,

the basis of which was the interview questions. This study used Herzberg's exact interview questions and attempted to mimic Herzberg's analysis procedures to the extent that this study's resources permitted.

Third, a test of Herzberg's (Herzberg et al., 1959) motivation-hygiene theory in a new era and different environment was conducted and produced results that largely validate Herzberg's Two-Factor Theory of Motivation. Divergence between this study's findings and Herzberg's study was found among satisfiers or motivators.

Herzberg's Two-Factor Theory of Motivation has withstood the test of time and continues to inform students and leaders alike. As in Herzberg's study, this dissertation is about people; more precisely, it is about people's "attitudes toward their jobs" (Herzberg et al., 1959, p. 3). Herzberg's seminal research has proven to be an enduring analysis of worker motivation and continues to garner the respect of educators, leaders in the private and social sectors, and academia (Herzberg, 1968).

My intent was not to undermine or criticize Herzberg's research, but rather to test and elaborate upon what motivates workers in a different environment, with a different sample, and in a different era. A mixed methods research design proved to be well-suited for understanding the phenomenon—*motivation*:

A good description that constitutes the essence of something is construed so that the structure of a lived experience is revealed to us in such a fashion that we are now able to grasp the nature and significance of this experience in a hitherto unseen way. (Van Manen, 1990, p. 39)

The essence of worker motivation was revealed in this study and provided unique insight into organizational behavior and provided an informative comparison to one the most significant studies on worker motivation ever conducted, the research of Frederick

Herzberg (Herzberg et al., 1959), “We cannot help but feel that the greatest fulfillment of man is to be found in activities that are meaningfully related to his own needs as well as those in society” (p. 139).

The theoretical framework of this study was informed by the work of Frederick Herzberg (Herzberg et al., 1959), specifically the Two-Factor Theory of Motivation. As such, the interview findings were weighted more heavily than the observation or survey findings. However, the convergent parallel mixed methods design of this study was intended to triangulate the findings of all research instruments providing an aggregate, rich understanding of the worker motivation phenomenon. The observation and survey findings served both to corroborate and reinforce emergent themes from interview data as well explain the divergence of findings between this study and Herzberg’s original study.

The nonconvergence between the findings of this study and Herzberg’s (Herzberg et al., 1959) study could be the result of the efforts of the *Father of Job Enrichment*. Herzberg’s dedication to the mental health and well-being of the average worker may have profoundly changed the work environment such that “Relationships” and “Company Culture” are so well-developed and meaningful that assembly line workers of 2012 are motivated by factors that were simply nonexistent in Herzberg’s era, perhaps a direct outgrowth of Frederick Herzberg’s lifelong efforts to *motivate workers?*

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Appendix A
Interview Questions

“Think of a time when you felt exceptionally good or exceptionally bad about your job, either your present job or any other job you have had. This can be either the “long-range” or the “short-range” kind of situation, as I have just described it. Tell me what happened.”

1. How long ago did this happen?
2. How long did the feeling last? Can you describe specifically what made the change in feelings begin? When did it end?
3. Was what happened typical of what was going on at the time?
4. Can you tell me more precisely why you felt the way you did at the time?
5. What did these events mean to you?
6. Did these feelings affect the way you did your job? How? How long did this go on?
7. Can you give me a specific example of the way in which your performance on the job was affected? How long?
8. Did what happened affect you personally in any way? How long? Did it change the way you got along with people in general or your family? Did it affect your sleep, appetite, digestion, general health?
9. Did what happened basically affect the way you felt about working at that company or did it merely make you feel good or bad about the occurrences itself?
10. Did the consequences of what happened at this time affect your career? How?
11. Did what happened change the way you felt about your profession? How?
12. How seriously were your feelings (good or bad) about your job affected by what happened? Pick a spot on the line below to indicate how strong you think the good or bad feelings were. Circle that position. Least 1...Average 12-13...Greatest 21.
13. Could the situation you described happen again for the same reasons and with the same effects? If not, describe the changes that have taken place which would make your feelings and actions different today than they were then.
14. Is there anything else you would like to say about the sequence of events you have described? What did you think of the interview? Have you any other comments on the interview or on the research?

Appendix B
 Observation Instrument
 30-Minute Observation (5 Participants)

Participant	Relationships	Work Itself	Group Feelings	Pride Feelings	Field Notes
1.	S:+ - _____ P:+ - _____ T:+ - _____	P: A:	BW: _____ BF: _____ IW: _____ IF: _____ Group: +/-	M: _____ W: _____ T: _____ O: _____	
2.	S:+ - _____ P:+ - _____ T:+ - _____	P: A:	BW: _____ BF: _____ IW: _____ IF: _____ Group: +/-	M: _____ W: _____ T: _____ O: _____	
3.	S:+ - _____ P:+ - _____ T:+ - _____	P: A:	BW: _____ BF: _____ IW: _____ IF: _____ Group: +/-	M: _____ W: _____ T: _____ O: _____	
4.	S:+ - _____ P:+ - _____ T:+ - _____	P: A:	BW: _____ BF: _____ IW: _____ IF: _____ Group: +/-	M: _____ W: _____ T: _____ O: _____	
5.	S:+ - _____ P:+ - _____ T:+ - _____	P: A:	BW: _____ BF: _____ IW: _____ IF: _____ Group: +/-	M: _____ W: _____ T: _____ O: _____	

1) Relationships: (S), Supervisor; (P), Peer; (T), Team.

Modifiers: Mentorship, S-Support for Subordinate, S-Listens, Isolation, Cohesive Group, Delegation, Micromanagement, Critical, Favoritism, *Recognition, Growth*

2) Work Itself: Interest in Performance of Job. Performance (P), Attitude (A).

3) Group Feelings: Belonging (B)/Isolation (I): Social (F)/Skill (W); +/- Group

4) Pride Feelings: Self (M), Work (W), Team (T), Organization (O).

Framework Source:

Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). *The Motivation to Work*. New York, New York, United States: John Wiley & Sons, Inc. □

Appendix C Research Instrument Comparison Interview, Survey, and Observation					
Interviews		Surveys		Observation	
Satisfiers	Dissatisfiers	Satisfiers	Dissatisfiers	Factor	# Positive Behavior Interactions
1) Relationship-Co. Culture	11) Work Quality / High Standards	1) q27, Achievement-Co. ($M=4.66$)	1) q14, Hygiene, Childcare ($M=2.76$)	1) Relationship-Peer (R-P)	28
2) Achievement	18) Company Policy / Administration	2) q2, Achievement-Self	2) q19, Hygiene, Lounge Facilities	2) Pride Feelings, Work (P-W)	26
3) Relationship-Supervisor	8) Leadership-Support	3) q53, Work Itself-Attitude	3) q46, Salary, Rel-Peer	3) Work Itself, Performance(W-P)	26
4) Relationship-Peer	18) Workload	4) q36, Work Itself-Attitude	4) q42, Workload	4) Relationship, Team (R-T)	24
5) Team-Belonging	3) Relationship-Supervisor	5) q29, Growth-Personal (Co.)	5) q43, Workload	5) Work Itself-Attitude (W-A)	24
6) Recognition	17) Work Environment-Safety	6) q25, Loyalty, Co.	6) q55, Relationship-Sup	6) Group Feelings, Belonging-Skill (B-W)	18
7) Work Itself-Pride	18) Stress	7) q59, Achievement-Self	7) q20, Relationship-Sup (Delegation/Micro)	7) Group Feelings, Belonging-Social (B-F)	12
8) Leadership-Support	18) Physical / Mental Health / Anxiety / Worry	8) q28, Relationship-Peer	8) q11, Hygiene, Disability Benefits	8) Pride Feelings, Organization, (P-O)	10
9) Work Itself	18) Work Obstacles-Equipment	9) q26, Relationship-Peer	9) q15, Co. Policy / Admin	9. Relationship-Sup, (R-S)	10
9) Relationship-Customer	11) Job Security	10) q32, Relationship-Sup, Responsibility, Autonomy	10) q41, Co. Policy / Admin	10. Pride Feelings, Team (T)	8
10) Work Itself-Challenging / Varied	4) Relationship-Peer	11) q1, Achievement-Co.	11) q21, Co. Policy / Admin	11. Pride Feelings, Self (P-M)	6
11) Work Quality / High Standards	17) Fairness	12) q62, Team, Belonging	12) q22, Relationship-Sup	12. Group Feelings, Isolation-Skill, (I-W)	4
11) Job Security	18) Self-Esteem	13) q50, Co. Policy / Admin	13) q5, Lack of Recognition	13. Group Feelings, Isolation, Social (I-F)	0
12) Advancement	18) Personal Life	14) q60, Advancement	14) q13, Hygiene, Co. Fitness Plan		
13) Loyalty-Company	6) Recognition	15) q8, Responsibility ($M=4.26$)	15) q12, Hygiene, Retirement Benefits ($M=3.74$)		

Appendix C (cont'd) Research Instrument Comparison Interview, Survey, and Observation					
Interviews		Surveys		Observation	
Satisfiers	Dissatisfiers	Satisfiers	Dissatisfiers	Factor	# Positive Behavior Interactions
14) Growth-Personal	9) Relationship-Customer				
14) Salary	15) Relationship-Personal Bond				
15) Responsibility	1) Relationship-Company Culture				
15) Initiative	15) Leadership-Self				
15) Trust	13) Loyalty-Company				
15) Perspective / Understanding	16) Loyalty-Team				
15) Leadership-Self	18) Control				
15) Tolerance / Patience	16) Autonomy				
15) Relationship-Personal Bond	15) Tolerance / Patience				
16) Loyalty-Team	15) Perspective / Understanding				
16) Autonomy	16) Work Ethic				
16) Work Ethic	10) Work Itself-Challenging / Varied				
17) Work Environment-Safety	9) Work Itself				
17) Fairness	18) Work Obstacles-Customer				
18) Physical / Mental Health / Anxiety / Worry	5) Team-Belonging				
18) Control	17) Respect				
18) Workload	15) Trust				
18) Company Policy / Administration	2) Achievement				
18) Work Obstacles-Customer	14) Growth-Personal				
18) Work Obstacles-Equipment	12) Advancement				
18) Self-Esteem	18) Communication				
18) Communication	15) Initiative				
18) Personal Life	15) Responsibility				
18) Stress	14) Salary				

Appendix D Factor Comparison Interview, Survey, and Observation					
Satisfiers		Dissatisfiers		Observation	
Interview	Survey	Interview	Survey	Factor	# Positive Behavior Interactions
1) Relationship- Co. Culture	1) q27, Achievement-Co. ($M=4.66$)	11) Work Quality / High Standards	1) q14, Hygiene, Childcare ($M=2.76$)	1) Relationship-Peer (R-P)	28
2) Achievement	2) q2, Achievement-Self	18) Company Policy / Administration	2) q19, Hygiene, Lounge Facilities	2) Pride Feelings, Work (P-W)	26
3) Relationship-Supervisor	3) q53, Work Itself-Attitude	8) Leadership-Support	3) q46, Salary, Rel-Peer	3) Work Itself, Performance(W-P)	26
4) Relationship-Peer	4) q36, Work Itself-Attitude	18) Workload	4) q42, Workload	4) Relationship, Team (R-T)	24
5) Team-Belonging	5) q29, Growth-Personal (Co.)	3) Relationship-Supervisor	5) q43, Workload	5) Work Itself-Attitude (W-A)	24
6) Recognition	6) q25, Loyalty, Co.	17) Work Environment-Safety	6) q55, Relationship-Sup	6) Group Feelings, Belonging-Skill (B-W)	18
7) Work Itself-Pride	7) q59, Achievement-Self	18) Stress	7) q20, Relationship-Sup (Delegation/Micro)	7) Group Feelings, Belonging-Social (B-F)	12
8) Leadership-Support	8) q28, Relationship-Peer	18) Physical / Mental Health / Anxiety / Worry	8) q11, Hygiene, Disability Benefits	8) Pride Feelings, Organization, (P-O)	10
9) Work Itself	9) q26, Relationship-Peer	18) Work Obstacles-Equipment	9) q15, Co. Policy / Admin	9) Relationship-Sup, (R-S)	10
9) Relationship-Customer	10) q32, Relationship-Sup, Responsibility, Autonomy	11) Job Security	10) q41, Co. Policy / Admin	10) Pride Feelings, Team (T)	8
10) Work Itself-Challenging / Varied	11) q1, Achievement-Co.	4) Relationship-Peer	11) q21, Co. Policy / Admin	11) Pride Feelings, Self (P-M)	6
11) Work Quality / High Standards	12) q62, Team, Belonging	17) Fairness	12) q22, Relationship-Sup	12) Group Feelings, Isolation-Skill, (I-W)	4
11) Job Security	13) q50, Co. Policy / Admin	18) Self-Esteem	13) q5, Lack of Recognition	13) Group Feelings, Isolation, Social (I-F)	0
12) Advancement	14) q60, Advancement	18) Personal Life	14) q13, Hygiene, Co. Fitness Plan		
13) Loyalty-Company	15) q8, Responsibility ($M=4.26$)	6) Recognition	15) q12, Hygiene, Retirement Benefits ($M=3.74$)		

Appendix D (cont'd) Factor Comparison Interview, Survey, and Observation					
Satisfiers		Dissatisfiers		Observation	
Interview	Survey	Interview	Survey	Factor	# Positive Behavior Interactions
14) Growth-Personal		9) Relationship-Customer			
14) Salary		15) Relationship-Personal Bond			
15) Responsibility		1) Relationship-Company Culture			
15) Initiative		15) Leadership-Self			
15) Trust		13) Loyalty-Company			
15) Perspective / Understanding		16) Loyalty-Team			
15) Leadership-Self		18) Control			
15) Tolerance / Patience		16) Autonomy			
15) Relationship-Personal Bond		15) Tolerance / Patience			
16) Loyalty-Team		15) Perspective / Understanding			
16) Autonomy		16) Work Ethic			
16) Work Ethic		10) Work Itself-Challenging / Varied			
17) Work Environment- Safety		9) Work Itself			
17) Fairness		18) Work Obstacles-Customer			
18) Physical / Mental Health / Anxiety / Worry		5) Team-Belonging			
18) Control		17) Respect			
18) Workload		15) Trust			
18) Company Policy / Administration		2) Achievement			
18) Work Obstacles-Customer		14) Growth-Personal			
18) Work Obstacles-Equipment		12) Advancement			
18) Self-Esteem		18) Communication			
18) Communication		15) Initiative			
18) Personal Life		15) Responsibility			
18) Stress		14) Salary			

Appendix E

WORKER MOTIVATION SURVEY					
Motivation at Work					
Completion of this survey implies your informed consent to voluntarily participate in this research.					
1. MOTIVATORS. Please select from Strongly Agree to Strongly Disagree to the following:					
"I am motivated by..."					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The achievements of the company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. My personal achievements at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. My co-workers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. My position of leadership.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. The recognition that I receive at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. My Boss.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The work itself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. My level of responsibility.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Competitive salary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Health care benefits.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Disability benefits.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Retirement benefits.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. The company's fitness / wellness program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Childcare accommodations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Company policies and administration.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Company emphasis on personal growth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. The family atmosphere of the Company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. The company's fairness in policies and personal relations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Good break room and lounge facilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

WORKER MOTIVATION SURVEY

2. THE CULTURE OF YOUR WORK ENVIRONMENT.

Please select the degree to which you agree, or disagree, with the following statements:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
20. The company's leaders delegate tasks well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. I have opportunity for professional advancement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. My boss is inspirational.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. I am motivated to come to work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. The people that I work with are like an extended family to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. I am loyal to my company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. I am loyal to my co-worker.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. I care if my company succeeds.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. I care if my co-worker succeeds.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. The company encourages and assists with continued education.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. My supervisor listens to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. My supervisor responds to my suggestions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. I am given the freedom to try new ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. I am kept informed of important issues within our company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. I am kept informed of changes within our company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. People here are willing to give extra effort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. I have a positive attitude.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. I am involved in decisions that impact my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. People are encouraged to balance their work life and personal life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

WORKER MOTIVATION SURVEY

3. NATURE OF WORK. Please select from Strongly Agree to Strongly Disagree:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
39. My workload is manageable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. I have sufficient time to complete my responsibilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. I do not encounter administrative constraints at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. I am not asked to work extra or changing shifts due to staff turnover.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. Staffing levels are appropriate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. Salary is a better motivator than strong leadership.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. Personal relationships are more motivating than personal achievement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. I would take a pay cut to save a co-worker's job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. My leaders are likeable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
48. My work is interesting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
49. My work is challenging.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
50. I understand what is expected of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
51. I am offered training to improve my performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
52. My work has special meaning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
53. I look for ways to do a better job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
54. I am given the resources and equipment to perform my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
55. I am asked to participate in decision-making committees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
56. I feel safe working here.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
57. I am encouraged to be self-sufficient.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

WORKER MOTIVATION SURVEY

4. SELF-SACRIFICE. Please select from Strongly Agree to Strongly Disagree.

"I am willing to put forth extra effort, or work extended hours, for..."

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
58. Money.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
59. Personal Achievement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
60. Personal Advancement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
61. Personal Recognition.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
62. My team.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
63. My co-worker.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
64. Personal Growth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
65. The Work Itself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. OVERALL. Please select from Strongly Agree to Strongly Disagree.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
66. I am satisfied with my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
67. I enjoy my co-workers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
68. I earn a fair wage.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. GENDER.

- Female.
- Male.

THANK YOU for your participation in this research!

Endnotes

¹ From an *advocacy, political, or transformative* perspective, one could make an argument regarding the relevancy of the “Practical for What?” question where *pragmatism* is used to support the use of a mixed methods approach. However, this study on *worker motivation* was conducted in compliance with the highest standards of ethical research, and in no way marginalized or disenfranchised any of the study’s participants or other *workers* in the larger, general population.

² The sentiments of the United Nations Secretary General, Kofi Annan, "Access to safe water is a fundamental human need and therefore a basic human right," were affirmed with the passage of United Nations Resolution, A/HRC/15/L.14, *Human Rights and Access to Safe Drinking Water and Sanitation* (UNHRC, 2010).

³ Comparison based upon the author’s visit to the Swarovski Crystal factory in Wattens, Austria, Summer 2006.