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AN INVESTIGATION OF THE RELATIONSHIPS BETWEEN
MOTIVATION, WORKER ROLE CONFLICTS
AND WORKER OUTCOMES

by

ROBERT C. KENNEDY
B.S. University of the State of New York, 1997
M.B.A. University of Phoenix, 2001
M.S. University of Central Florida, 2005

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Major Professor: Robert D. Pritchard, Ph.D.

ABSTRACT

This study investigated the relationships between several work motivational process variables and work-life-conflict (WLC) and how these variables contribute to job related outcomes such as work performance, job satisfaction and life satisfaction. This survey study identified several correlations which suggest that a more comprehensive model of motivation should include variables such as energy pool and direction toward organizational objectives. Results also suggest that WLC contributes to the amount of energy pool available to workers and the amount of motivation exhibited by workers. WLC also impacts important job and life attitudes directly and through the above mentioned motivation process variables. The basis for a comprehensive work motivation model will be posited and theoretical and practical implications will be discussed.

This dissertation is dedicated to my wife Dawn and to my Lord Jesus.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS/ABBREVIATIONS

AR	Actions-to-results Connection
EO	Evaluations-to-outcomes Connection
ERG	Existence, Relatedness, and Growth
FIW	Family Interference with Work
JS	Job Satisfaction
MAS	Motivation Assessment System
NPI	Naylor, Pritchard and Ilgen Motivation Theory
ONS	Outcomes-to-need satisfaction Connection
PAModel	Pritchard and Ashwood Motivation Model
RE	Results-to-evaluation Connection
SWLS	Satisfaction with Life Scale
TAT	Thematic Apperception Test
VIE	Valence, instrumentality, expectancy
WFB	Work Family Balance
WFC	Work Family Conflict
WFF	Work Family Facilitation
WIF	Work Interference with Family
WLB	Work Life Balance
WLC	Work-Life-Conflict

CHAPTER ONE: INTRODUCTION

Organizations by definition thrive on their most valuable resource, human capital. Human Resources and other organizational managers are tasked with managing and motivating workers to perform in ways that will maximize important organizational outcomes to the company. Understanding what motivates workers and how that motivation can be measured and ultimately manipulated is of paramount importance to researchers and practitioners alike. Management of human capital is key to organizational productivity and success and is only accomplished through effective management of motivation and thus performance of the worker.

Human motivation has been evaluated from many perspectives and from many theoretical viewpoints but, in order to manage motivation, it is necessary to understand the process by which it occurs and the factors that affect its quality. Contemporary researchers have defined work motivation as a "set of processes that determine a person's intentions to allocate personal resources across a range of possible actions" (Kanfer, Chen, & Pritchard, 2008, p. 3). This definition of work motivation includes aspects of directionality or attention, intensity or effort, and also presumes that there are sufficient personal resources available for allocation. Organizations effectively manage worker motivation through the understanding of this potentially complex process, and through the application of interventions based on a comprehensive model of motivation which includes each of the above mentioned aspects.

The study of work motivation has been addressed for decades and has transitioned from an organizational focus on worker performance to include a more individual focus on the needs and desires of individuals constituting the workforce. Organizations are increasingly focusing more attention on providing a workplace and jobs that are challenging and satisfying and doing so with the perspective that meeting the individual worker's needs eventually translates into

positive organizational outcomes. Therefore, it is imperative that research in this area focus on explaining the motivational process within individuals as well as the process as it applies to groups and organizational levels as they relate to meeting these needs. An integrated motivational process model is necessary in order to connect worker resources to satisfying individual and organizational objectives. Pritchard and Ashwood (2008) have developed such a model which was one of the primary concepts for this dissertation.

The work motivation process is affected by many factors including individual worker beliefs and attitudes as well as organizational and environmental variables that are independent of the individual. Because workers spend a large proportion of their lives at work, they are continuously integrating their work and non-work lives. One potential source of motivation interference in individuals is the conflict that occurs when work and non-work roles compete with one another. One area of research which is seldom evaluated in motivational terms is that of the potential conflicting roles between one's work life and non-work life (Kossek & Misra, 2008). Employees identify with their roles and respective functions within the work setting, but at the same time also functioning in non-work roles. Often these two or more roles can conflict in their purpose or functionality resulting in stress to the worker and potential performance consequences at work. Work-life-conflict (WLC) research has addressed this stressful inconsistency between roles of the worker and how it impacts individual outcomes of interest; however, it is not clear as to how such conflict would impact the process of motivation. It is possible that competing roles vie for worker energy. It is also feasible that for a given amount of worker energy, the responsibilities associated with such roles compete for the attention of the worker. This conflict could be evaluated and potentially mitigated if the motivational mechanisms were understood.

Performance and other worker outcomes are directly affected by worker motivation and WLC issues are likely to impact the motivational process.

Given the rapidly diversifying workplace, both across gender and culture, it is necessary to understand the potential issues that can occur when one seeks to reinforce important work roles and those outside the workplace. Western culture has historically viewed work as being one of the primary roles for individuals. As this culture rapidly diversifies, it is imperative that differing views are considered as to how central work is and perhaps more importantly the significance of non-work roles. For workers to function optimally within organizations, with optimal motivation levels, it is crucial for organizations to implement policies and procedures that are conducive to managing both non-work roles and work related roles. Currently there is no program or paradigm which provides an integrated approach to evaluating the motivational process in terms of worker effort, energy and attention and in the context of worker role conflicts which may exist competing between work and non-work.

The purpose of this study is to evaluate a comprehensive work motivation model as it relates to outcomes such as worker performance, job satisfaction and life satisfaction. Furthermore, this study will analyze how WLC affects components of the motivational process and consequently worker outcomes. The Pritchard and Ashwood (2008) motivational model suggests that workers behave in a manner which satisfies needs, including the need to do well on the job. People generally have a need to be effective and productive at work and also desire some level of control over their activities in order to satisfy this need. Pritchard and Ashwood describe a process based resource allocation model which presumes maximum motivation when there is strong perceived connection strength between several motivational process variables.

The significance of this dissertation research lies in the benefits associated with further understanding the complexity of work motivation and its processes. Through this study, the goal is to provide organizational researchers and practitioners with a validated model of motivation which will include dimensions such as work effort, worker direction and energy to do the job. Each of these dimensions of motivation was evaluated in terms of individual outcomes such as performance, job satisfaction and life satisfaction while also investigating the potential role of WLC in the interplay between motivation and outcomes.

The following section provides a review of the literature on motivation and WLC, as well as sections on work performance, job satisfaction and life satisfaction. Hypotheses will then be presented regarding the relationship between work motivation and the above outcomes as well as diagnostic assessment of WLC and its impact on the motivational process.

CHAPTER TWO: LITERATURE REVIEW AND HYPOTHESES

To provide an appropriate backdrop to current process models and the focal model of this study, evaluation of the work motivation process will begin with a historical review of motivation theory. Contemporary work motivation theories will then be discussed including needs theories, personality theories, goal theories, and expectancy theories. A detailed description of the Pritchard and Ashwood (2008) motivation model will then be provided, followed by a review of work-life-balance literature. Next, research on relevant outcome variables such as work performance, job satisfaction and life satisfaction will be examined. Finally, hypotheses will be presented based on a comprehensive model for work motivation and its relationship with work-life-balance.

Motivation

History of Motivation Theory

This work will approach work motivation from a process perspective. Kanfer et al. aptly describe motivation as "the set of processes that determine a person's intentions to allocate personal resources across a range of possible actions" (2008, p. 3). The construct of motivation has an expansive coverage and approaching this family of theories requires a historical review of the foundational theories. This work reviews a selected segment of some of the more notable philosophical and psychological works which have either directly or indirectly influenced modern motivation theory.

Interest in human motivation stems back well into pre-historic times when humans studied and attempted to predict behavior of animals and other humans. One of the earliest doctrines connecting the person to behavior is *animism*. Troland (1928) called animism the

"earliest of all philosophical theories" (p. 17), which describes behavior in terms of some "force" or "entity" that serves as cause to a person, animal, or even inanimate object to become motivated to action. It is from this basis that *dualism* evolved, and eventually the mind-body problem. Feelings were thought to interact with spirits and the resultant feelings acted on motivation resulting in behavior.

Rationalism became formalized as a philosophical system in Germany during the Sixteenth and Seventeenth centuries, and Bolles (1967) extends its roots to the early Greek philosophers. Plato, Democritus, and Epicurus would hold to the notion that motivational determinants of behavior are influenced by rationale. The Greeks saw humans as subject to the laws of the universe. For instance, Heraclites felt that fire was the source of all change, and so the source of all human behavior. Leucippus and Democritus were atomists, who along with the Epicureans were early teachers of what later became known as hedonism, which is the quest for pleasure and absence of pain. The Cyreniacs were also teachers of hedonism, but their brand was more exclusively the quest for pleasure. They felt that the only true goal of the will was to seek pleasure, and reaching self-control was the greatest level of pleasure.

Socrates, Plato and Aristotle were more idealistic. Socrates held that happiness is only achieved through goodness and the knowledge of such virtues is all that is required to motivate one to behave in a manner consistent with these virtues. He felt that knowledge and virtue were in effect synonymous and that the pursuit of knowledge was the same as the pursuit of good. Plato believed similarly, in that the soul had three parts. However, his view was that there was one reasoning part and two passionate parts (willing and sensual appetites) which were located in the head, above the midriff, and below it (Cofer & Appley, 1964). His notion was that "good acts…spring automatically from acquaintance with ideas or ideals" (Troland, 1928, p. 20).

Plato's four good acts or "virtues" were: wisdom, fortitude, temperance and justice. With the pursuit of happiness, or pleasure, these held that knowledge of what is virtuous results in behaving with virtue. Aristotle taught that there were three grades of souls: a) vegetative- involved in propagation and other functions; b) sensitive soul- possessed by animals and humans and responsible for locomotion and appetite; and c) the rational soul, which allowed for reason and was only possessed by humans. This contrast of body and soul is still prevalent in religion and in many schools of philosophy and psychology.

Religion has a similar contribution to the foundation of future motivation theories in that it often further connects the person to the behavior. Troland (1928) stated that "religion is a practical device for creating or for directing human motives in the interests of the social group" (p. 18). Early Christian philosophers borrowed ideals from the Greeks and combined them with animistic roots. Most sects of Christianity hold that one is created a free creature and is accountable for one's behavior, whether one chooses to commit one of the deadly sins or to adhere to the saintly virtues. Augustine was a significant early figure in the Christian religion, who advocated a free will to behave, and that one is born into a sinful nature. He prescribed redemption from this sinful nature through God's grace. The resulting virtues of one redeemed through grace are faith, hope, love and the like. Thomas Aquinas was a similar figure and taught that all action is directed toward a purpose of pleasure, but that only God could satisfy or reach that need for pleasure.

The Greeks focused on the pursuit of knowledge and virtue and controlling passion by knowledge and rationality. Early Christians were influenced by the Greeks, particularly Aristotle, but the Christians were interested more on purity of the heart and less on knowledge and its pursuit.

During this time behavior was rationalized, whether the reference point is knowledge of ideal virtues of the Greeks or the salvific guidelines from The Bible.

Contemporary Work Motivation Theory

Contemporary motivation theorists have built on some of the early philosophical work, explaining motivated behavior as being the result of arousal and the subsequent actions producing some explicit effects (Atkinson, 1958). In later work, Atkinson expands by making some recommendations on how the term *motivation* should be used. He suggests the word itself should be used in reference to:

(a) the behavioral problem identified by the early 'purposivists,' viz., the tendency for the direction of selectivity of behavior to be governed in some way by its relation to objectively definable consequences, and the tendency of behavior to persist until the end or goal is attained; and (b) a theoretical conception of the contemporaneous determinants of these purposive characteristics of behavior (Atkinson, 1964, p. 274).

Campbell and Pritchard (1976) described motivated behavior as having amplitude (intensity), direction (attentional) and persistence, and which occur in the context of numerous independent and dependent variables. Brown (1961) suggested that a *variable* is motivational,

(1) if it tends to facilitate or energize several different responses, (2) if its termination or removal following a new response leads to the learning of that response, (3) if sudden increases in the strength of the variable leads to the abandonment of responses, and (4) if its effects on behavior cannot be attributed to other processes such as learning, sensation, innate capacities, and sets" (p. 55).

Maslow (1954) also addressed the breadth of the motivation construct in general such that, "motivation is constant, never ending, fluctuating and complex, and that it is an almost

universal characteristic of practically every organismic state of affairs" (p. 69). In terms of motivation in the workplace, Pinder (1998) defined motivation as "a set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behavior and to determine its form, direction, intensity, and duration" (p. 11) and he includes with this definition the notion that actually getting the job, keeping the job, doing well on the job, and retraining and reentering the job as applicable settings where work motivation is applied.

Kanfer's (1990) perspective suggests that work motivation operates through two cognitive resource allocation processes called "distal" and "proximal". Distal processes set volitional limits on available resources and proximal processes consist of determinants of effort allocation between on-task, off-task and self-regulatory activities. Based on that stance, workers are continually seeking the best use of their attention, and are in effect, miniature project managers allocating valuable resources to the necessary tasks at hand. Katzell and Thompson (1990) classify work motivation as resulting from either exogenous causes or endogenous processes. Exogenous causes relate to devices employed by organizations to invoke motivation, and rely on need theory, incentive/reward theory, reinforcement theory, goal theory, personal and material resource theory, group theory, and sociotechnical system theory. Endogenous theories describe those components internal to the worker and incorporate arousal theory, expectancy theory, equity theory, attitude theory, goal theory, and self-efficacy theory.

Recent reviews of work motivation (e.g., Ambrose & Kulik, 1999; Kanfer, 1990; Kanfer et al, 2008; Latham, 2007; Mitchell, 1997; Mitchell & Daniels, 2003; Pinder, 1998) vary slightly in how they classify the numerous theoretical approaches. Considering these reviews, motivation theories may be generally classified into the following categories: *Needs, Personality, Goal, Social/Cognitive, and Expectancy.*

Needs theories. Needs-based motivational theories suggest that the drive to behave is rooted in the perpetual effort to satisfy a countless collection of physiological and psychological needs. Workers vary in strength of different needs and different workers vary in the strength of the same need. At any given time, one experiences a transition in the intensity of satisfaction of various needs and energy is shifted according to the most critical and stress inducing discrepancy between a need and its associated satisfaction level.

One of the earliest and best known needs theories is that of Abraham Maslow (1943), which describes human motivation in terms of a general hierarchy of five basic needs: *physiological, safety, love, esteem, and self-actualization*. *Physiological* needs are at the root of the hierarchy and consist of homeostatic variables such as nourishment, water, sleep, and sex. These are the most central and salient needs and therefore remain the focus of one's motivation until they are addressed and satisfied. As *physiological* needs are satisfied, the focus begins to shift to the next most potent set of needs, called *safety*. While *physiological* needs persist, one would be less focused on *safety* and may even put oneself into dangerous situations in order to meet the *physiological* requirements. As the *physiological* and *safety* needs are satisfied, one continues to shift focus up the hierarchy to the need for *love* and affection from others, and then on to *esteem* and *self-actualization* respectively. He suggested that it is rare that one ever achieves *self-actualization* as most of life is spent attending to the subordinate needs (Maslow, 1943). Though this approach has some popularity, the hierarchy lacks empirical data linking needs to behavior and has suffered criticism for the construct validity of necessity for lower level needs to be satisfied prior to attending to higher level needs (Mitchell & Daniels, 2003).

Alderfer (1969, 1972) developed an alternative needs classification approach based in part on Maslow's hierarchy, which showed some empirical support for three categories called

10

Existence, Relatedness, and Growth (ERG). Existence needs encompassed the safety and physiological needs and relatedness relates to self-esteem and social needs. Growth needs relate to those described as Maslow's self-actualization. Though very similar to the Maslow hierarchy, this approach did not suppose satisfaction of lower level needs to be prerequisite to attending to higher level needs, though the importance of each order of needs could still be influenced by satisfaction at other levels. Maslow's approach has waned somewhat in popularity though some suggest the importance of continuing with validation efforts (Kluger & Tikochinsky, 2001) and others suggest an already existing resurgence (Ajila, 1997; Latham & Pinder, 2005), and there is even recent work which contributed new support for a factor structure of a Maslow taxonomy (Ronen, 1994; 2001).

Another approach at explaining needs-based motivation evolved around the same time as Maslow's through work by Murray (1938) and later by McClelland and colleagues (McClelland 1951, 1961, 1971; McClelland, Atkinson, Clark, & Lowell, 1953). Murray developed a large list of over twenty *psychogenic* needs such as affiliation, achievement, dominance, order, and sex. McClelland's work focused on a much smaller set of needs including affiliation, autonomy, power and achievement, each of which may simultaneously compete for an individual's attention in directing behavior. McClelland is best known for work on the need for achievement, which is a desire to perform well relative to others, as in competitive situations. Need for achievement is measured using a projective test called the Thematic Apperception Test (TAT). Generally, achievement needs motivate behavior in some organizational contexts in which there is some opportunity to perform well on a challenging task, but is less likely to activate with less challenging or more routine tasks. Atkinson (1958), a student and colleague of McClelland, added work which demonstrated the relationship between task difficulty and performance. His

studies suggest a curvilinear relationship between difficulty and performance such that the highest efforts of those with high needs for achievement are expended during moderate difficulty tasks.

McClelland (1985) summarizes findings of TAT scores and their relationships to various variables including basic laboratory tasks to career choices and success and others continue to improve its validity through empirically derived scoring systems (Heyns, Veroff, & Atkinson, 1992; McAdams, 1992; Winter, 1992). More recent work on achievements has been done by Kanfer and Heggestad (1997; 1999; Heggestad & Kanfer, 2001) which resulted in a unique motivational scale linking high achievement with self-regulatory behaviors. Though needs theories and specifically the Maslow hierarchy have arguably exhibited practical significance (Ajila, 1997; Kamalanabhan, Uma, & Vasanthi, 1999) in explaining why one must do certain things, they fall short of explaining why one chooses certain behaviors given situational and outcome variables (Latham & Pinder, 2005). Recent work has been accomplished on a process-based work motivation model which addresses satisfying such needs while considering situational variables and specific outcomes (Pritchard & Ashwood, 2008) which is the primary focus of this work.

Personality. Personalities or traits can be compared to needs. Personality theories explain motivation at work in terms of behavioral or attitudinal predispositions. Personality assessment is quite popular in organizations and is used for selection and placement of employees, as well as for leadership and career development and is currently one of the fastest growing areas of motivational research (Mitchell & Daniels, 2003). In fact, human resources personnel have indicated that they place nearly as much importance on personality assessment as they do cognitive or aptitude measures when making hiring decisions (Dunn, Mount, Barrick, &

Ones, 1995). Individual differences in personality were considered by some to have little impact on work motivation, and suggesting situational variables and worker ability levels to be more significant factors (Mitchell, 1979).

However, recent meta-analytic work has provided further explication of the broad construct of personality and indicating important performance relationships with some dimensions (e.g., Barrick & Mount, 1991; Barrick, Mount, & Judge, 2001; Day, Schleicher, Unckless, & Hiller, 2002; Hogan & Holland, 2003; Judge, Bono, Ilies, & Gerhardt, 2002; Judge & Ilies, 2002; Tett, Jackson, & Rothstein, 1991). Popular personality models include the Hogan Personality Inventory (Hogan & Hogan, 1992), the 16 Personality Factor Questionnaire (Cattell, 1945; Cattell, Eber, & Tatsuoka, 1970), and especially five factor models based in part on Cattell's factors. Judge and Ilies (2002) suggest that early work by Tupes & Christal (1961) and Norman (1963) resulted in the Big Five, and work by Goldberg (1992) is well known for its contribution on the same.

The Big Five and the NEO-PI-R (Costa & McCrea, 1992) dimensions are generally expressed as Extraversion, Agreeableness, Openness to Experience, Conscientiousness, and Emotional Stability and much work has found relationships between these dimensions and workplace variables. Conscientiousness is one of the more commonly studied dimensions and can be described as dependability and orientation toward achievement (Barrick & Mount, 1991) and a tendency to be orderly and deliberate (Costa & McCrae, 1992). Research has linked conscientiousness to motivational variables such as self-efficacy, goal setting and expectancy (Judge & Ilies, 2002) and work performance (Gellatly, 1996; Hurtz & Donovan, 2000; Witt & Ferris, 2003). Schmidt and Hunter (1992) concluded from their work on causal modeling that there is a direct effect from conscientiousness on work performance. Extraversion is the tendency

to be positive and sociable (Watson & Clark, 1997) and has also been found to predict job performance particularly in positions that involve interacting with others (Barrick et al., 2001). However, construct validity of five factor models has been criticized due to deficient representations of a larger number of traits (Hough, 1997; Paunonen & Jackson, 2000) and as such, it is particularly questionable as to how these factors relate to work-related variables.

Others have approached individual differences in terms of self-regulation or motivational skills, which are thought to be more proximal influences on behavior than enduring personality traits (Heggestad & Kanfer, 2001; Kanfer & Heggestad, 1997; 1999). Motivational skills are the abilities and tendencies to persist and to set goals effectively in strategizing behavior. A similar area of research has focused on goal orientation (Dweck, 1986, 1999), which rather than skills, assumes the existence of traits predisposing persons to approach or avoidance behaviors. Goal orientation predicts self-efficacy (Phillips & Gully, 1997), optimism (VandeWalle, 1996), effort and sales performance (VandeWalle, Brown, Cron, & Slocum, 1999). However, there is some evidence that goal orientation contributes to performance primarily due to the content of the goals (Brett & VandeWalle, 1999), which challenges the validity of disposition and necessitates further explication of goal-setting models.

Like needs, personality traits tend to explain general dispositions independent of situational variables and outcomes (Locke & Latham, 2004). Baum, Locke and Smith (2001) showed a mediatory relationship between personality and performance, suggesting that causal roles of traits should be investigated using complex modeling. There is recent progress in developing an international public-domain personality measure (cf. Goldberg et al., 2006). However, considering the vast array of possibly "thousands of trait measures" (Hogan & Roberts, 2001, p. 6) and the often inconsistent research connecting personality traits to

14

motivation (Gellatly, 1996) personality theory is not optimal for studying motivation as a manipulable process. Other approaches are more appropriate which will be discussed later.

Goal-setting theories. Goal-setting is related to goal orientation and is one area of work motivation which has received a large amount of attention and centers on the use of goals to motivate work activities. Locke and Latham (1990) suggested that work performance will be higher when challenging goals are sought, especially when workers are aware and committed to these goals and when they are established through participative efforts (i.e. group goals; Latham, Winters & Locke, 1994). The interest is on setting high expectations and that incentives are only effective in motivating workers to the extent that they involve setting challenging goals. Goals that are too difficult or impossible are likely to reduce motivation (Lee, Locke, & Phan, 1997). Incorporating goals allows the worker to define objectives so as to direct attention and energy toward a targeted set of valued outcomes.

When implemented with some method of feedback (Ashford & Black, 1996; Erez, 1977; Locke & Latham, 2002), goal setting has critical implications to individual performance and other outcomes at work (Cascio, 1998; Donovan, 2001; Locke & Latham, 1990; Mitchell & Daniels, 2003). For example, one study showed telecommunications operators had higher performance appraisal scores and higher levels of job satisfaction when difficult goals were used (Brown & Latham, 2000). One meta-analysis showed that when negotiators adopted well specified and difficult goals, they generally experience more profitable results than those with either no goals or less optimal goals (Zetik & Stuhlmacher, 2002).

Other levels of performance have been linked to goal setting such as group (O'Leary-Kelly, Martocchio & Frink, 1994; Weingart, 1992), work teams (Durham, Knight, & Locke, 1997) and various organizational level metrics (Lock & Latham, 1984) such as improved logging

capacity by truck drivers (Latham & Yukl, 1975), safety (Cooper, Phillips, Sutherland, & Makin, 1994) and organizational outcomes such as profits (Terpstra & Rozell, 1994).

Goal setting theories pose very interesting and useful notions which are often linked to individual and organizational benefits. However, the motivational process within work settings clearly involves important factors in addition to goal saliency and difficulty. Even with well defined, difficult and participatively established goals, organizational variables such as resource availability, rating fairness, methods of evaluating outcomes and individual reward preferences can undermine their effectiveness or even relevance. Recent efforts by Locke and Latham (2002) have resulted in an expanded model of their high-performance cycle, which suggests the link between goal setting and performance can be connected to rewards, work satisfaction and subsequent self-efficacy to achieve even more difficult goals. Pritchard and Ashwood (2008) provide a structured process which incorporates the benefits of goals with critical organizational and environmental factors, which will be addressed in a later section of this work.

Expectancy theories. Expectancy theories have been described in numerous reviews and texts (e.g., Campbell & Pritchard, 1976; Heckhausen, 1991; Kanfer, 1990; Latham & Pinder, 2005; Mitchell & Daniels, 2003; Naylor, Pritchard, & Ilgen, 1980) and are commonly referred to as VIE (valence, instrumentality, expectancy; Locke, 1975) and generally approach work motivation in terms of the anticipation that efforts will be effective in achieving some valued outcome. Building on early work (e.g. Atkinson, 1958; Georgopoulos, Mahoney, & Jones, 1957; Lewin, 1938; Tolman, 1959), Vroom's (1964) work theorized that behavior occurs as a result of choices made by the worker based on the perceived likelihood that efforts will lead to desired outcomes which will be satisfying enough to justify the efforts. Valance is the affective or attitudinal perspective one holds toward some outcome, while instrumentality is the strength of

the connection between work activities and outcomes. Expectancy is the perceived likelihood that the valued outcomes will result from the work activities. Vroom explains that valence, instrumentality and expectancy combine to form a functional product in the form of *motivational force*. Mitchell and Daniels (2003) indicate that the large amount of research that has been conducted on validating expectancy theories often has methodological concerns.

Some have suggested that little progress has been made in expectancy research beyond the 1980s (Ambrose & Kulik, 1999), although there have been several relevant efforts in advancing its validity. Porter and Lawler (1968) developed a model which incorporated valence, instrumentality and expectancy components with individual abilities and traits as factors in whether VIE beliefs would result in performance. One may have strong beliefs as to the value and instrumentality of one's efforts and their outcomes, but if there are limitations in the ability or knowledge of how to succeed, performance may still be deficient. Their model also incorporated intrinsic and extrinsic rewards as possible moderators of performance on job attitudes. Their work provided some limited validation and improved upon Vroom's model by providing a more process based representation and by including important employee characteristics that could impact performance. Pinder (1998) suggests the most widely criticized issue of VIE theory is the between/within issue, the argument that VIE predicts only within person beliefs and performance, rather than between. Campbell and Pritchard (1976) provided a critical review of several methodological issues which helped guide further development of expectancy research.

The Naylor, Pritchard and Ilgen (NPI; 1980) model suggested an overall organizational behavior process incorporating aspects of expectancy motivational theories with other motivational domains such as needs. This work has been recognized as the most comprehensive

17

representation of expectancy theory (Dalal & Hulin, 2008) and though Kanfer (1990) acknowledged concerns with the validity of some expectancy research, she suggests great promise in the developments of the NPI approach. She describes the NPI as a resource allocation approach which focuses on the proportion of personal resources one is willing to dedicate to a given task, rather than simply addressing whether or not one is motivated to perform it (Kanfer, 1990). NPI also provided a more comprehensive model of decision making which included contingencies of perceived relationships between numerous variables including the acts themselves, the products or consequences of the acts, how those products are evaluated (often by multiple persons), and outcomes or rewards (Naylor, et al, 1980). Thus, the expectancy approach was expanded to consider various possible functions between such variables, rather than simply assuming their linearity.

Early empirical work using the NPI theory showed promise for application in reducing role stress (Dougherty & Pritchard, 1985) and it is the basis for a substantial amount of work in productivity management (see Pritchard, 1990; 1992; 1995; Pritchard, Harrell, DiazGrenados, & Guzman, 2008). Work on the most recent form of the NPI model, called the Pritchard and Ashwood Model (2008; detailed discussion in following section) has investigated the relationships between work motivation and other variables such as gender discrimination (Cornejo, 2007) leadership behaviors (Harrell, 2008) and training motivation and performance (DeRouin-Jessen, 2008).

Pritchard and Ashwood Motivation Model

The motivation theory which was the foundation of this dissertation is the Pritchard and Ashwood (2008) motivational model (PAModel). It has its theoretical origins in NPI and assumes that workers behave in a manner which satisfies needs, one of the most important of

18

which is to do well on the job. People generally need to be effective and productive at work and they desire some level of control over their activities in order to affect this need. The PAmodel relates to needs theories (e.g., Alderfer; Maslow; Murray) in describing the motivational process as it directs available sources of energy and resources with the expectation of meeting important needs. As such, this model also integrates components of expectancy theories (e.g., Vroom, 1964; Campbell & Pritchard, 1976; Naylor, et al., 1980; Porter & Lawler, 1968), as the motivational process is explained in terms of expected need satisfaction rather than explicit actual satisfaction. Often there is a difference between one's expectations and the actual likelihood that some future behavior will result in satisfying needs. It is the perceived likelihood of need satisfaction that drives the motivational process and focuses efforts toward a behavior or set of behaviors.

Work behavior is about utilizing available energy and resources in satisfying needs and motivation is the process by which this occurs. The PAModel (see Figure 1 below) describes the motivation process in this context and consists of five primary components: *Actions, Results, Evaluations, Outcomes, and Need Satisfaction*.
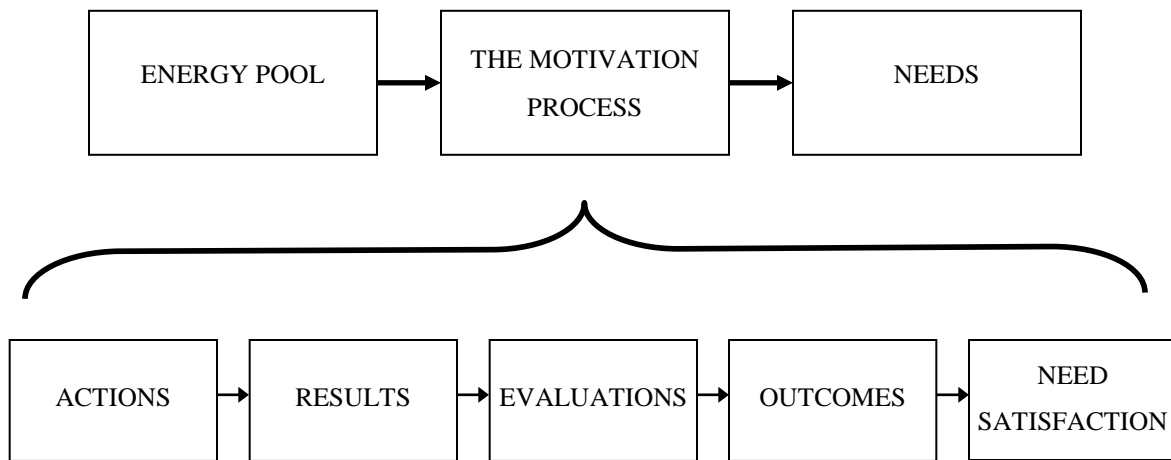
Figure 1. Pritchard and Ashwood's (2008) Theory of Motivation

Actions are activities, behaviors, tasks or thoughts toward which one chooses to direct energy such as entering data, talking, lifting, or listening. One makes choices as to activities, not just in the direction of energy, but the level of intensity of that energy allocation (motivational force) and the duration of time (persistence) for which efforts will continue on the *action*. So, effort is the intensity with which one chooses to direct energy and is similar to attention.

Applying energy to *actions* produces *results*, which are the products or effects that accumulate, which may or may not have some value to the organization. For example, an *action* such as data entry may produce a tangible, explicit *result* such as a data file. Some *actions* may produce less explicit *results.* For example, the *action* of listening would yield the finished *result* of transferred information from the speaker to the listener, an intangible result.

Each *result* has some level of value to the organization, which can be measured or assessed during *evaluation*. Unless the value of a *result* is measured, it cannot be *evaluated.* *Results* that have high significance in the organization are much more likely to be measured and then *evaluated*. Furthermore, there are often multiple *evaluators*, who potentially may have different measurement methods and consequently, different evaluative interpretations. Using the earlier example, the *action* of data entry *resulted* in a data file which has some value to the organization. Results may be measured in terms of volume by one person (i.e., 1000 data points) or it could be measured in terms of quality by another (i.e., 1% error). Both measures are quantifiable and can be interpreted as evaluations when they are assessed on a continuum of good to bad in terms of value to the organization.

Outcomes are consequences produced from the *evaluation* process. As *actions* yield *results* which are *evaluated* by given players, *outcomes* such as pay raises, bonuses, promotions, and positive or negative emotions occur. These are the things that become important in *satisfying*

needs. It is typically not the *results* of effort, nor their *evaluations* that ultimately *satisfy needs*, but those *outcomes* that result from the *evaluations*. Continuing with the earlier example, putting effort toward data entry *actions* yields *results* in the form of a data file, which may be *evaluated* by the supervisor as very high quality. This *evaluation* then produces possible *outcomes* such as praise of the data entry worker, which in turn will tend to have some level of *need satisfaction* in the form of self-esteem or job satisfaction.

Each of the five components are integral parts of the motivational process and the key to high levels of work motivation is in strong connections between each of them (Pritchard & Ashwood, 2008). That is, there must be a strong connection between *actions to results*, *results to evaluations*, *evaluations to outcomes* and *outcomes to need satisfaction*.

Actions to Results Connections can be described in terms of the perceived strength of the relationship between the amount of energy applied to actions to the results that follow from that effort allocation. It is based on how the actor believes her efforts will yield results. This perception depends on considerations such as whether she possesses the necessary knowledge and abilities to perform a given task, whether or not sufficient tools and resources are available, and the extent that there is opportunity and sufficient time and energy to complete the task.

Results to Evaluations Connections refer to the perceived relationship between the level of result created and the favorableness of the resulting evaluation. In most cases, there is potential for several or even many evaluators within and even outside an organization. Therefore, there is potential for conflicting evaluations between evaluators which can threaten the strength of this connection. Optimum connection strength depends on well defined expectations as to which results are most important and how they are valued by the organization.

Consistency across raters and levels within the organization is also critical and can be communicated best when effective feedback mechanisms are in place.

Evaluations to Outcomes Connections refer to the perceived relationship between the favorableness of the evaluation and the level of the outcomes that are provided. Since there are potentially multiple evaluators, it is logical that there will be variations in how strongly the different evaluators provide outcomes. When there is ambiguity as to whether outcomes such as promotions are linked to actual performance, this connection strength will be limited, and thus the entire motivation process is jeopardized. Therefore, this connection is determined by identifying the level of clarity and consistency of the outcomes as they occur and whether they tend to be appropriately and fairly appropriated.

Outcomes to Need Satisfaction Connections refer to the extent that outcome levels and frequencies are expected to fulfill needs. As with all connections, it is the person's perception of the connection that matters, not the "true" connection. If one anticipates a given outcome will accommodate a personal need, this connection will be strong. It is possible that one may anticipate need satisfaction at a level that is different from what actually occurs. Indeed, one may overanticipate or underanticipate and some error is likely in many cases. Anticipation of satisfaction is based on information from experience, as well as other sources and this connection strength may change based on new data, as well as variation in the strength of the target needs. This study will focus on measuring these connections and how they are influenced by variables within and outside of the work environment. Figure 1 above provides a graphical representation of the model.

The PAModel illustrates the process which is key in translating energy and resources of the worker into satisfaction of needs, which thus requires a description of what is meant by

22

energy itself. Energy can be defined as a feeling and belief that one is eager and capable of performing some task or behavior (Quinn & Dutton, 2005). It has been referred to as psychic energy (Freud, 1938), psychophysical energy (McDougall, 1923), energetic arousal (Thayer, 1987), subjective vitality (Ryan & Fredrick, 1997), subjective energy (Marks, 1977), emotional energy (Collins, 1993), and zest (Miller & Stiver, 1997). In order to apply effort to completing work behaviors, the performer must have the internal resources necessary to accomplish the work, as well as the belief that those resources are available.

Energy is an indicator of subjective well-being and life satisfaction (Ryan & Fredrick, 1997) and is necessary in order to successfully deal with stress (Selye, 1975). Recent work has connected energy to need satisfaction (Ryan & Deci, 2008), suggesting that when needs such as competence, relatedness and autonomy are satisfied, energy should be enhanced. In the context of the Pritchard and Ashwood (2008) model, energy must be maximized in order to maximize work motivation and though it is an important part in motivation theory in general (Hogan, 1997), little has been done in making this connection. Early work in expectancy theory has made the connection suggesting that energy increases expectancy (Vroom, 1964), which provides foundation for the most recent expectancy related work.

As previously explained, motivation should be discussed in terms of amplitude (intensity), direction (attentional) and persistence (Campbell & Pritchard, 1976). With a given energy level, one is motivated toward some behavior. At work, there are many activities from which to chose and work tasks compete for attention with non-work tasks and activities. It is therefore important to understand the role of direction in the motivational process (Campbell & Pritchard, 1976; Naylor et al., 1980). Direction refers to the employee's choice of behaviors to which one applies energy. Several factors influence one's choice to direct energy and resources

toward activities at work. First, in order to consciously allocate energy toward organizational

tasks, one must be familiar with organizational priorities and objectives. Direction of energy

toward these objectives also requires that the worker commits to the objectives to which he or

she is tasked. Accordingly, direction is the extent that the individual can understand and adopt

objectives as targets for his or her efforts. This is evidenced by the extent that one's work

behaviors are consistent with these objectives as well as the tendency to find innovative ways to

accomplish objectives.

Research on direction has specifically investigated the connection to performance at work

in terms of operational costs (DeCotiis & Summers, 1987), sales volume (Bashaw & Grant,

1994), listings and sales commissions (Katerberg & Blau, 1983) and supervisor ratings

(Moorman, Niehoff, & Organ, 1993). One meta-analysis has found significant connections

between commitment to organizational objectives and organizational variables such as

attendance and performance, as well as individual level variables such as stress and work-family-

conflict (Meyer, Stanley, Herscovitch, & Topulnyutsky, 2002). Little has been done to

investigate direction in the context of motivation as it relates to performance and attitudes toward

work. Further work is necessary to explicate this aspect of motivation in a comprehensive model.

Strengths of the PAModel

There is no question that research in the area of motivation and specifically work

motivation has been broad and expansive. Many perspectives have been proposed and evaluated

but there remains a considerable need to tie the important components of motivation research

together in a comprehensive model. Locke and Latham (2004) provided several key

considerations necessary for future research in motivation. Perhaps most importantly, they

suggest that future research should use boundaryless science, expanding outcomes beyond

merely task performance and including components of decision making and situational variables. Needs theories have been investigated often, but have drawn criticism for their validity and lack of empirical support (Mitchell & Daniels, 2003) and insufficient consideration of situational variables (Latham & Pinder, 2005). Personality theories have demonstrated some utility in explaining performance, but are often criticized for their deficiency or oversimplification (Hough, 1997; Paunonen & Jackson, 2000) and again, for insufficiently considering context and situation (Locke & Latham, 2004). Goal setting is well researched and is even considered by some to be one of the best supported perspectives (Mitchell & Daniels, 2003). However, goal research typically does not address non-performance outcomes such as attitudes and it assumes a static approach to motivation (Donovan, 2001).

The PAModel is a process theory which provides a foundation to investigate motivation taking the aforementioned boundaryless approach. The four process variables are well defined and explain motivation as a dynamic process which is manipulable. As such, it is an appropriate approach to use in developing diagnostics and subsequent interventions for enhancing motivation. This is particularly critical if motivation is to be investigated in the context of situational variables and outcomes beyond only task performance (e.g., attitudes) which makes this approach superior to goal based approaches. Furthermore, the PAModel is not subject to the construct validity issues associated with personality theories as it does not attempt to delimit some taxonomy of traits. This is also the only comprehensive model which incorporates aspects of energy and resources of the worker as well as the directionality of worker efforts. This dissertation will incorporate the PAModel and will expand its functionality beyond the boundaries of motivation to bring into context multiple outcomes such as performance and attitudes, as well as conflict and its role in the motivational process.

Because of the advantages of the PAModel, this approach will be used in the conceptualization of motivation for this dissertation. The PAModel will be a key part of the integrated model to be presented later and be the foundation of several of the hypotheses to be tested in this study.

Work Life Conflict

Work-life Conflict (WLC) is a type of stressful inconsistency between an individual's work roles non-work roles. WLC research has been conducted from many perspectives and under other titles such as Work-Family Conflict (WFC), Work-Family Balance (WFB), and Work-Life Balance (WLB). Though there are some distinctions in the operationalizations of these conflicts, they share much in common. The following is a review of the most common conceptual representations of the conflict and balance between work and non-work roles.

The most common approach to operationalizing worker related inter-role conflict is WFC, which results from incompatibility between the work and family domains (Greenhaus & Beutell, 1985). This incompatibility has been defined as interference that can be a single dimension (Bacharach, Bamberger, & Conley, 1991) or bi-directional (Frone, Russell, & Cooper, 1992; Frone, Yardley, & Markel, 1997, Netemeyer, Boles, & McMurrian, 1996; Spector, et. al., 2007), such that work interferes with family (WIF) and family interferes with work (FIW), both of which have unique antecedents (Spector, et. al., 2007). WFC has not surprisingly been found to be negatively associated with work performance (Allen, Herst, Bruck, & Sutton, 2000; Gilboa, Shirom, Fried & Cooper, 2008; Yardley, 1994) and job satisfaction (Boles & Babin, 1996; Boles, Johnston, & Hair, 1997; Carlson & Perrewé, 1999; Good, Sisler, & Gentry, 1988; Kossek & Ozeki, 1998) and positively with employee turnover (Allen, et. al, 2000).

WFC has also been linked to lower levels of life and family satisfaction (Beutell & Wittig-Berman, 1999). Emotions such as guilt and hostility can also be affected by WFC, and these emotions have been found to be positively associated with both WIF and FIW (Judge, Ilies, & Scott, 2006). This study also found that these emotions mediate the relationship between WFC and marital satisfaction. They determined that lowered marital satisfaction can occur with higher levels of conflict, the effect of which was stronger in those with increased guilt and frustration. There are also cross-cultural differences in how work and life roles conflict. Spector et al.'s (2007) research showed a stronger relationship between work demands and WIF in individualistic Anglo countries than collectivistic regions such as Asia, Eastern Europe and Latin America.

Frone (2003) approaches role relations in terms of balance (i.e., Work-family Balance; WFB), suggesting WFC and work-family facilitation (WFF) together influence an overall balance between work and family roles. His concept of WFF suggests that experiences in life can make work easier, while those at work can similarly make life easier. Earlier work supported the consideration of facilitation in the form of enhancement or positive spillover as important parts of the general balance between work and family roles (Grzywacz & Marks, 2000; Kirchmeyer, 1992).

Messersmith (2007) describes WLC as the general interference that work life tends to have on an employee's personal life . This concept considers not just issues associated with work and family, but includes other non-work roles and influences. Some work has attempted to organize the general construct of WLC in terms of family and other non-work roles. Rice, Frone and McFarlin (1992) measured WLC in terms of work-non-work conflict using scales for both work-family conflict and work-leisure conflict. Their results supported the bi-directionality of

the influence of job and non-work roles on one another, specifically that variables such as job satisfaction are affected by non-work issues and that life quality variables such as non-work satisfaction are impacted by work issues (Rice et al., 1992).

Others have used the WLC term, but have defined it in terms of family issues. In a study of military personnel, Sachau et al. (2008) uses the term WLC interchangeably with WFC. Their findings show that satisfaction and turnover intentions are related to WFC, supporting that schedule flexibility for personnel assignments can alleviate some of those conflicts. Messersmith (2007) states that at least for certain types of organizations (e.g. IT workers), the negative effects of WLC can be mitigated through employer policies which provide workers with some flexibility and control of their own schedules and job environments. Huffman, Youngcourt, Payne and Castro (2008) included a work-non-work measure modified by Bonebright, Clay, & Ankenmann. (2000) and the Netemeyer et al. (1996) WFC measure, concluding that work-family conflict and work-non-work conflict can be distinguished in that the former is the more generalized domain of the two.

Frone (2003) suggested a distinction between work and life domains; work domain implies employment related and life (non-employment) domain includes family, religious, leisure, community, and student aspects. When the roles associated with these domains conflict, WLB is low. Although there is a great deal of research addressing family roles as they relate to WLC and WLB, there is a need for further investigation and analysis of these variables as they relate to the more broad life domain roles.

Work and life role conflicts have been investigated in terms of outcomes and consequences to the worker and the organization. One study examined how WLB related to varying work-week schedules (Lingard, Brown, Bradley, Bailey & Townsend, 2007). Their

findings indicated that when shifting from a six (6) day work-week to a five (5) day work-week, participants experienced less WLB as well as higher levels of motivation, physical health and with no decrements in performance. In a related study, Bambra, Whitehead, Sowden, Akers and Petticrew (2008) examined the impact of rotating shift-work on role balance, finding that slow-to-fast rotation and backward-to-forward rotation have less negative impact on WLB than other combinations.

Others have found that flexibility and permeability across role boundaries were relevant to how workers balance their work and non-work lives (Bulger, Matthews & Hoffman, 2007). In their study, they showed that lower levels of flexibility and higher levels of permeability related to higher levels of interference between work and personal life, suggesting the same would relate to higher levels of WLB. This would suggest that there may be benefits to flexible schedules with controlled job boundaries. On the other hand, it has been suggested that too much flexibility exacerbates permeability and could eventually collapse role boundaries at the extreme (MacEachen, Polzer & Clarke, 2008).

It is likely that WLB varies with different cultural perspectives, particularly in how WLB and LWB issues vary. One study conducted in Taiwan showed that spillover of work issues into personal life was viewed more negatively than the converse suggesting a cultural tolerance for LWB issues (Hsieh, Pearson, Chang & Uen, 2004).

WLB has also been investigated in terms of gender differences. Charles and Harris (2007) report that the gap between men and women in paid and unpaid work is closing and results from their study on job insecurity showed that men are participating more in domestic tasks while women are increasing in their likelihood of being primary income sources.

Most WLC research centers on conflict in married employees with children (Casper, Eby, Bordeaux, Lockwood, & Burnett, 2007), but there is a need to better understand the role conflict issues experienced beyond just those associated with the family. Though family roles are significant to most people, there are many other life roles which have the potential for conflict in the context of work. Thus, for the purposes of this research, role conflict in the work context was viewed as WLC as defined by Messersmith (2007), which is describes it as a general interference that work life tends to have on an employee's personal life. As mentioned previously, WLC has two dimensions: work interfering with life and life interfering with work (Rice et al., 1992).

The literature in this section has demonstrated a relationship between WLC and outcomes such as performance as well as worker attitudinal variables such as job and life satisfaction. The relationship between WLC and motivation has also been reviewed, though it is unclear as to how work motivation is impacted by WLC. It is possible that when the worker experiences conflict between his or her life and work related roles, disruption of the motivation process results. Work outcomes are highly sensitive to motivational factors and it is also likely that specific components of the motivation process are especially sensitive to these conflicts. The PAModel will provide a theoretical basis for investigating this process in the study. Specific hypotheses will be presented in a later section which address the relationship between these variables.

Work Performance

Worker performance is important in organizations in that high performance usually leads to positive organizational outcomes. Motowidlo (2003) defines performance as the "total expected value to the organization of the discrete behavioral episodes that an individual carries out over a standard period of time" (p. 39). Therefore, performance is not just behavior, but the

30

evaluation of behavior and should be distinguished from effectiveness, which is an outcome of performance interacting with the environment (Campbell, Dunnette, Lawler, & Weick, 1970).

Useful measures of performance must first be relevant, which is "correspondence between criteria and the actual performance requirements of the job" (Borman, 2000, p. 280). Additionally, performance measures must be reliable. However, the process of defining and measuring performance can be quite challenging and is aptly labeled the criterion problem (Austin & Villanova, 1992).

A criterion is defined as a standard useful in measuring employee success (Guion, 1965). It is an operational statement of the goals or desired outcomes (Astin, 1964). The criterion problem encompasses the difficulties involved in the process of conceptualizing and measuring performance constructs that are multidimensional, dynamic, and appropriate for different purposes. A criterion measure must include behaviors which can be seen by experts capable of judging whether they are effective and success factors are often numerous and can vary from individual to individual. It is difficult to determine which factors of success are behavioral and which are environmental, and thus this poses a substantial criterion problem.

Performance is quite complex with multiple dimensions. One theory suggests there are eight factors: job specific task proficiency, non-job specific task proficiency, communication tasks, effort, personal discipline, facilitating performance, supervision, and management (Campbell, 1990). In order to assess these and other aspects of performance, it is necessary to define these and other relevant dimensions of performance which can best be determined through performing an evaluation called a job analysis, which can provide necessary data for distinguishing between job relevant and job irrelevant behavior (Motowidlo, 2003). Performance can be assessed utilizing a multitude of approaches, each of which exhibits strengths and

liabilities. One approach is in using objective measures such as absenteeism or sales volume. As described earlier, these measures often suffer from deficiency in that they do not measure a sufficient representation of work behaviors. Furthermore, they may be contaminated with influences from the environment which may be beyond the control of the worker. It can be quite challenging to develop and implement objective measures. Some organizations conduct exercises in which a worker is provided a sample of work and is scored objectively or subjectively. This approach tends to elicit a kind of maximum performance rather than typical on the job behavior (Borman & Motowidlo, 1993; Campbell, 1990).

The most common measures of performance are ratings (Borman, 2000; Landy & Farr, 1980), typically conducted by a supervisor or manager. This approach is valid to the extent that the supervisor is familiar with the worker's performance and understands the requirements for the job. Supervisors often have a useful reference point and are familiar with performance requirements. Since supervisor ratings are often based on observations, it is important that typical performance be observed, as opposed to some maximum performance exhibited by the worker due to the knowledge of the fact that they are being observed. This hazard is sometimes addressed by utilizing peer ratings either instead of or in addition to supervisor ratings of performance. Rater accuracy can be enhanced by utilizing frame-of-reference training (Smith, 1986), which instructs the rater as to which criteria are key and how they relate to behavior.

There are numerous approaches to defining and measuring worker performance. Day-to-day behaviors describe one aspect of what workers do and these behaviors are sometimes explicitly relevant to organizational objectives, while others are less explicitly relevant. This research will use supervisory ratings of performance. That is, worker behavior is that which is observed and evaluated by a direct supervisor. This perspective is one the most common

definitions of performance (Borman, 2000; Landy & Farr, 1980), partially due to the validity, and partially due to the convenience of associated measurement. This research will evaluate performance as an important outcome of work motivation and as it is impacted in the context of WLC. It is expected that work performance is adversely impacted by WLC through the motivational process. This will be discussed further in subsequent hypotheses.

<center>**Job Satisfaction**</center>

Job satisfaction (JS) is an attitude or set of attitudes that one holds toward one's work with respect to the environment, infrastructure, actual tasks, other employees, and anything else one must interact with in relation to one's job. Hulin and Judge (2003) posit that job satisfaction is a complex series of psychological experiences consisting of cognitive, affective and behavioral components. One of the earliest theories of job satisfaction was the Herzberg two factor theory (Herzberg, Mausner, & Snyderman, 1959), which suggests that job satisfaction results from intrinsic characteristics of the job such as how interesting the job is or how challenging the job is and which satisfy "motivation" needs. The second factor is job dissatisfaction which results from extrinsic factors like pay or work conditions, and which satisfy "hygiene" needs. Though this theory was largely discredited (Ewen, Smith, Hulin, & Locke, 1966), it was nonetheless considered to be important to the subsequent theories evolving from this initial work.

Value/percept theory (Locke, 1976) presumes that workers each exhibit some level of value or importance placed on various components of a job, such as type of work, noise level, pay, and level of interaction.

Person-environment fit theory has its origins from Patterson and Darley (1936) and Dawis (1992) and suggests that different job environments have different characteristics. Additionally, workers all have unique needs as individuals and each has his or her own

<center>33</center>

combination of needs. Job environments address each combination of needs based on how the individual appraises the characteristics/environment of the job.

The Cornell Model (Smith, Kendall, & Hulin, 1969) describes job satisfaction as resulting from frames of reference of the worker, resulting from individual experiences and perceptions of economic conditions. People have different levels of satisfaction for the same position, in some cases, which implies that the differences are based on different evaluations of the job.

The Thibaut and Kelley (1959) Model suggests that workers have two different comparison levels when evaluating their jobs. The first comparison level is indicated by CL and refers to current role outcomes. This means that workers compare information gathered from previous role outcomes with outcomes from the current role. If the current outcomes exceed those from previous conditions, the role is considered to be satisfying.

Job satisfaction has also been theorized from a dispositional approach. Disposition refers to traits unique to individuals which influence job attitudes through mediation by the cognitive, affective and/or behavioral components. One approach to explaining job attitudes is that traits or dispositions explain individual job satisfaction (Brief & Weiss, 2002; George, 1992, 1996). Arvey, Bouchard, Segal, and Abraham (1989) conducted twin studies in which genetic predisposition to job satisfaction was examined. They found that job satisfaction had a significant genetic component. Weiss and Cropanzano (1996) further showed that as one's trait dispositions tend to influence one's experiences at work, through consistent experience of such events, one tends to form attitudes by appraisal of these events in context.

In their comprehensive review, Locke and Henne (1986) identified numerous significant antecedents of job satisfaction such as how challenging the work is, level of physical demand

and conditions, personal interest, and reward structure. Organizations are particularly interested in job satisfaction since it is likely to influence important outcomes such as work safety (Barling, Kelloway, & Iverson, 2003), task performance (Judge, Thoreson, Bono, Patton, 2001) and other business outcomes such as customer satisfaction, productivity, profits and retention (Harter, Schmidt, & Hayes, 2002). As was discussed in a previous section, job satisfaction has also been related to work family conflict in sales personnel (Boles et al., 1997; Carlson & Perrewé, 1999; Kossek & Ozeki, 1998) and in workers from other jobs such as police officers (Burke, 1988), nurses and engineers (Bacharach, et al., 1991) and health care workers (Thomas & Ganster, 1995).

Brief and Weiss (2002) have suggested that much of the variation in job satisfaction research has resulted from viewing such in terms of cognitive evaluations of discrepancies between what a worker wants from a job and what a worker actually gets from the job. This dissertation will approach job satisfaction as a general affective assessment of the job rather than facet based assessment as facets tend to exhibit intercorrelations (Judge & Hulin, 1993) and thus may not pose any substantial advantages over general satisfaction and tend to be much more time consuming to measure. This study will investigate job satisfaction as it is influenced by role conflict of the worker. Issues such as WLC are likely to impact job related attitudes through the motivational process. This relationship was investigated as well and will be discussed below in the hypothesis section.

<center>**Life Satisfaction**</center>

Life satisfaction can be described as a general self-evaluation of one's life situation when compared to some set of criteria (Shin & Johnson, 1978). It is a cognitive perspective which when combined with positive and negative affect comprises a broader attitudinal perspective

<center>35</center>

called subjective well-being (Andrews & Withey, 1976). Diener (1984) suggests that subjective well-being is life satisfaction and is a global assessment of one's entire life and all associated facets. Extensive work has been done with subjective well-being and specifically the affective components. But relatively little work has been done on life satisfaction as it relates to the workplace and specifically work motivation.

Subjective well-being has cognitive and affective dimensions, thus there is potential for measures of such to be subject to mood effects (Schwarz & Clore, 1983) although the cognitive component of subjective well-being (i.e., life satisfaction) is generally stable over time (Diener & Larsen, 1984; Eid & Diener, 2004) and especially when measured using the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985), which has demonstrated relatively strong psychometric properties (Pavot & Diener, 2008). It is not surprising that life satisfaction tends to be higher with those who report high standard of living and a satisfying family life (Campbell, 1981). Those with good health and happy marriages tend to report higher levels and life satisfaction tends to improve with age (Diener, 1984). Furthermore, unemployed workers have reported low levels of life satisfaction (Lucas, Clark, Georgellis, & Diener, 2003). Like job satisfaction, research has found that those experiencing WLC tend to report lower levels of life satisfaction (Beutell & Wittig-Berman, 1999; Higgins & Duxbury, 1992; Wiley, 1987).

For this research, life satisfaction was viewed as that cognitive assessment of one's life relative to some subjective standard. Workers exist in the greater context of life, with work being a significant part of life. Thus, it is logical that issues at work will impact not only job related attitudes, but also general attitudes of satisfaction, and such attitudes are formed as a result of the motivational process of connecting energy with satisfying needs. When workers experience conflict between their work and non-work responsibilities, it is expected that life satisfaction will

36

be impacted through the motivational process. This work will investigate the importance of these relationships and hypotheses will be presented in a subsequent section

Conceptual Model and Hypotheses

As discussed previously, it is imperative to understand the motivational process in the workplace and how motivation is influenced by conflicted roles as they are experienced by the worker. The above review has included an overview of general motivation theory and contemporary work motivation perspectives. WLC was discussed in general and specific research was presented which placed it in the context of work motivation. This research will investigate the complex relationships between WLC, worker energy, and motivational force and how they combine to affect worker performance and worker attitudes about the job and life in general.

Figure 2 below shows the conceptual model that relates these variables to each other and serves as the basis of the hypotheses. The conceptual model represents a motivational process based largely on the PAModel where work motivation includes direction and motivational force, as shown in the two boxes in the middle of the figure.

Motivational force is the box in the top middle of Figure 2 and represents the driving mechanism that translates energy into effort and ultimately to meaningful outcomes which satisfy personal needs. It is high when one's efforts produce important results which have value to the organization, these results lead to clear evaluations followed by outcomes that satisfy important needs. Motivational force is strong when the worker expects his or her efforts to translate through this process to satisfying their general needs. When motivational force is high, we expect the person to exert high levels of effort on the job. When it is low, lower effort is
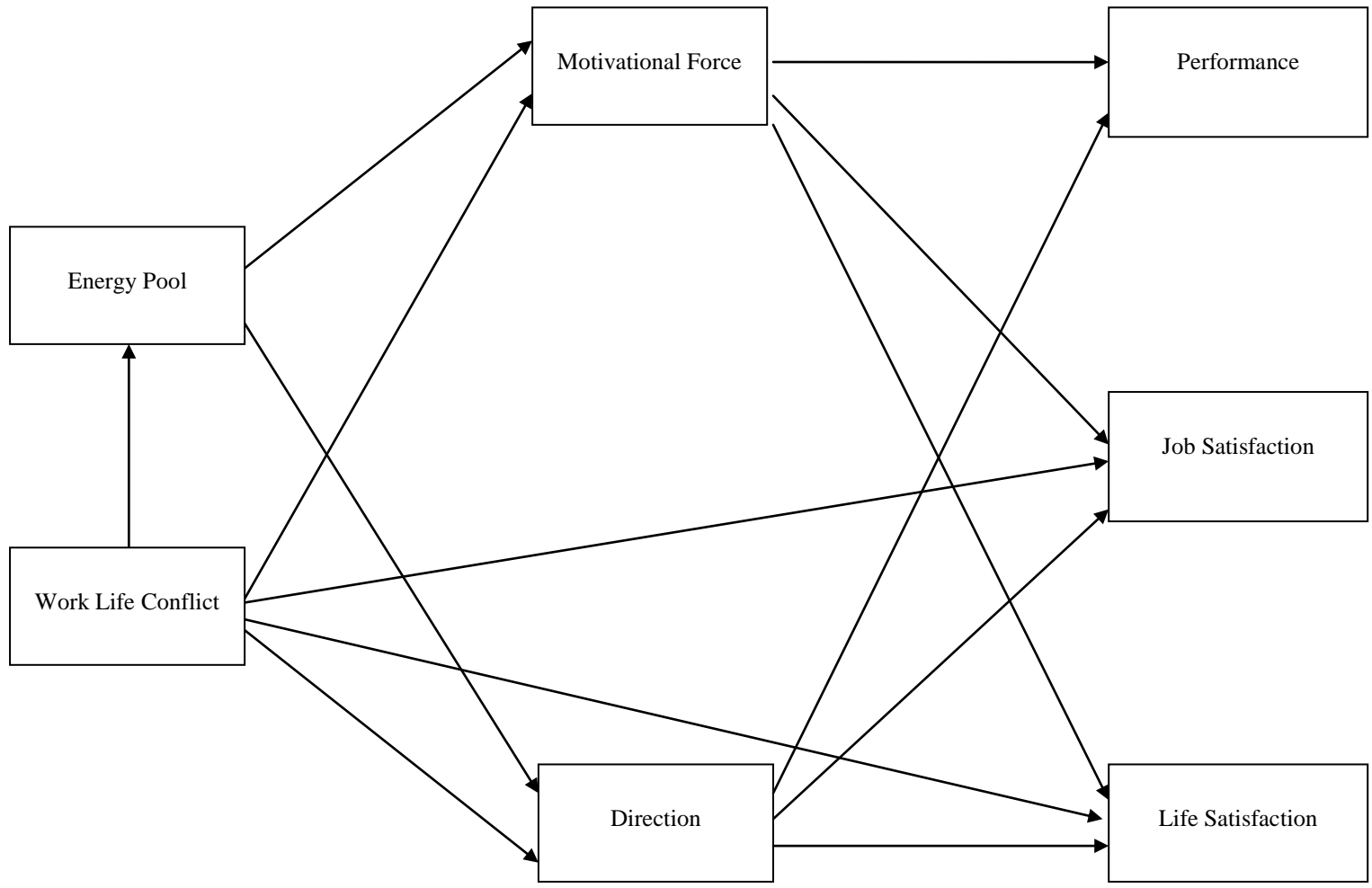
Figure 2. Conceptual Model of Variable Relationships

expected. Motivational force is applied to organizational behavior through a channeling process or direction, which requires an understanding of and commitment to the organization's objectives.

Direction is the box in the bottom middle of Figure 2 and refers to the choices involved with the expending of effort. The worker has some given energy or resources available for work and chooses to allocate that energy into effort applied to the actions through understanding and adopting objectives that are organizationally relevant.

The Energy Pool is the box in the top left of Figure 2 and represents the amount of energy available to the person at any point in time. It influences the ability to perform some task or behavior (Quinn & Dutton, 2005). Some refer to energy as vitality which is that substance available to the self for purposive activity (Ryan & Deci, 2008). Energy is channeled toward both effort and direction.   The higher the energy pool, the more effort is available to allocate to the job. The higher the energy pool, the more the person can allocate effort in the optimal direction, i.e. in ways that benefit the organization the most.   As the figure shows, both motivational force and direction are expected to ultimately impact measurable performance and influence job and life satisfaction . Specific connections between variables shown in the figure will be explained in the following sections.

Energy pool and motivational force.

The first motivational link in the figure is between Energy Pool and Motivational Force. Motivation can only cause behavior when energy is available. Research has linked energy levels with performance outcomes (e.g., Welbourne, Andrews, & Andrews, 2005), but there has been little attempt to formally explain the motivational connection. Others (e.g. Earley, Wojnaroski, & Prest, 1987) have described energy in terms of motivation, however, they are describing the

effects of goal setting on the amount of energy expended. Early research connected energy with motivation (McDougall, 1923; Toates & Jensen, 1991), although the connection with motivational force as described above has not been investigated. In order for motivational force to be high, all the connections within the process must be high, and there must be sufficient energy to supply the motivational process. It is therefore expected that high levels of energy pool available to work will be related to high levels of motivational force. Thus, the following hypothesis is posed:

> *Hypothesis 1a – The level of energy pool will be positively related to the level of*
>
> *motivational force.*

Energy pool and direction.

Direction is the second important facet of motivation. It is the tendency to choose to channel energy into work behaviors that are consistent with unit and organizational objectives. Put another way, it is the degree to which the person intends to allocate energy in a way that is optimal for the unit and organization's objectives. The model suggests that performance and attitudes are influenced by the process of converting available energy pool and this conversion occurs in part from the level of motivational force and the extent one allocates energy to the optimal behaviors. One chooses to allocate that energy based on a clear understanding of the unit's and the organization's objectives and the extent that one commits to these activities. Allen and Myer (1990) linked direction in the form of affective commitment to employee energy and its investment in work activities. I expect the level of energy should be related to direction for the same reasons energy is related to motivational force. The more the energy pool available, the better the person can allocate that energy pool optimally.

When energy is low, there may not be enough to do everything that is important. Thus the following hypothesis is posed:

> *Hypothesis 1b – The level of energy pool available will be positively related to the level of direction.*

Work Life Conflict and the Motivation Process. Work-life conflict (WLC) is the box in the bottom left corner of Figure 2 and represents the interference experienced by a worker due to conflicting work and non-work roles. Some research suggests that interference is experienced in two dimensions: work interfering with life and life interfering with work (Rice et al., 1992) and when such conflict occurs, it is likely there will be resultant adverse consequences in one's work experience including performance and work attitudes. WLC occurs as a result of conflicting availability of a limited amount of human, psychological, and physical resources and thus, both types of conflict should result from closely related sources. Furthermore, this conflict is perceived and thus is interpreted by the individual and based in large part on individual differences such as cognitive ability and personality. This is evidenced by an often high correlation between measures of the two directions (Mesmer-Magnus & Viswesvaran, 2005). Therefore, WLC was approached from a single dimension for this dissertation. The process by which these consequences occur may be through the motivational process.

Generally, conflict is thought to drain energy (Freud, 1938) and energy in the form of subjective vitality is considered essential in the coping with life challenges (Rozanski, Blumenthal, Davidson, Saab, & Kubzansky, 2005). Greenhaus & Beutell (1985) suggested that the more important a role is to an individual, the more energy will be invested in that role and less energy pool will be available for other roles. Conflict between work and personal life was found to negatively predict energy in the form of vitality among expatriate workers in Europe

41

(Grant-Vallone & Ensher, 2001). Thus, when WLC occurs, it is likely to affect several

motivational facets, beginning with the energy pool. Specifically, it is expected that higher levels

of WLC will result in lower levels of energy pool available to work behaviors. Therefore, the

following hypothesis is posed:

Hypothesis 2a – The level of WLC will be negatively related to the level of energy pool

available.

WLC may also impact the extent one focuses on work. When a worker is conflicted, it is

likely that the extent one commits to the objectives of an organization will be impacted. The

extent one directs activities toward organizational objectives relies not just on understanding

objectives, but the extent the individual adopts and is committed to those objectives. Research on

work conflict has specifically found connection between role conflict and direction to the extent

that workers exhibited affective commitment to the organization (Mathieu & Zajac, 1990).

Though this is a broader concept than direction, it is related such that the extent one is committed

to objectives and tasks is a component of affective commitment to an organization. This research

also linked role ambiguity and role overload with commitment to the organization. Again, this

form of commitment relates to directionality such that one directs efforts based in part on how

well objectives are understood and committed to.

Thus, role conflict research suggests that to the extent one understands his or her role in

the organization and commits to the role, he or she will exhibit higher levels of direction of

activities toward meeting those objectives. Others have found similar relationships between

WLC, specifically work-family role conflict and the affective commitment aspect of

directionality in Nigerian industrial workers (Akintayo, 2010). It is not likely that WLC will have

much influence on general awareness of organizational objectives and requirements; however it

is likely that when one is experiencing WLC, the level of commitment to those objectives is likely to waiver. It is also therefore expected that work behaviors will be less consistent with organizational requirements due to the competition with non-work issues. Therefore, it is expected that lower levels of direction toward work activities will occur when there are high levels of WLC. The following is therefore hypothesized:

Hypothesis 2b – The level of WLC will be negatively related to the level of direction toward work activities.

Work-life conflict (WLC) has been linked to job satisfaction (Boles et al., 1997; Carlson & Perrewé, 1999; Kossek & Ozeki, 1998), and life satisfaction (Beutell & Wittig-Berman, 1999), but the motivational role on this effect has not been investigated. This type of conflict has been found to be prevalent in university employees (Doyle & Hind, 1998; Winefield et al., 2003),. In order for high levels of need satisfaction to occur, overall motivational force must be high, and thus all connections in the motivational process must be high (Pritchard & Ashwood, 2008). Work-life conflict is likely to affect the extent that motivation levels result in outcomes, particularly job and life satisfaction. When work-life conflict is high, conflicts exist between work roles and life roles, which are likely to interfere with the motivational process as it causes needs to be met. The specific components of motivational force will be discussed in a later section. However, some research has investigated the relationship between WLC and motivation.

WLC clearly impacts work performance (Allen et al, 2000; Gilboa, Shirom, Fried & Cooper, 2008; Yardley, 1994) and attitudinal variables and it is likely that the motivation process is the mechanism by which WLC has its effect. Evidence has been demonstrated by Kinman and Jones (2008), who linked WLC to motivation in the form of reward expectancies of university

employees. Lingard et al. (2007) conducted research on the effects of varying work schedules on levels of WLB, which is low when WLC is high, and showed that a shorter work week improved WLB, reducing the associated conflict. Their research also demonstrated that motivation improved as WLB improved. This suggests that with higher levels of WLC, motivation would have been lower. In a large study of Fortune 500 employees, Tenbrunsel, Brett, Maoz, Stroh, and Reilly (1995) showed a significant negative relationship between WLC and expectancy motivation. Earlier work showed that when insurance sales people experienced general organizational role conflict, expectancy motivation was diminished (Tyagi, 1985). Though organizational role conflict can be distinguished from WLC, a different type of role conflict, it is likely that there will be similar effects on motivational force when workers experience WLC. Therefore, higher levels of WLC should result in diminished motivational force and this relationship is expected to be a direct effect. Thus, the following hypothesis is presented:

Hypothesis 2c – Level of WLC will be negatively related to the level of motivational force.

As mentioned previously, the motivation process has several important connections which must all be strong in order for work motivation to be strong and it is hypothesized that the interference between work and non-work roles will impact some of these connections which are part of motivational force. In order to better understand the impact WLC has on the motivation process it is important to determine the impact on the connection level. As was discussed earlier, each of the motivational process connections (i.e. actions-results, results-evaluation, evaluation-outcomes, outcomes-need satisfaction) is impacted by different factors.

One connection that is likely to be effected by high levels of WLC is the results-to-evaluation connection. Results-evaluation connection is the perceived relationship between the

level of result created from work activities and the favorableness of the resulting evaluation. As a

worker in the context of the organization and non-work, it is likely that when conflict exists

between the two settings, there is potential for inconsistent evaluations of results. For example, a

supervisor could evaluate some amount of time spent on a task in a favorable manner, while a

spouse evaluates that same amount of time spent on a task in a much less favorable manner. In

this example, WLC would negatively influence the results-evaluation connection by introducing

inconsistency in the rating process and thus causing a weaker connection. This type of

inconsistency is particularly likely when WLC exists. Naylor et al. (1980) suggested that when a

worker experiences work related role conflict, the result-to-evaluation contingencies are

incompatible for different evaluators. This NPI connection is the predecessor to the PA results-

to-evaluation connection of motivational force. Therefore, it is suggested that when WLC occurs,

the results-to-evaluation connection will be reduced. Thus, it is expected that there will be a

negative relationship between levels of WLC and levels of the results-evaluation connection.

Therefore, the following hypotheses are posed:

> *Hypothesis 2d – There will be a negative relationship between level of WLC and level of*
>
> *results to evaluation connection strength.*

It is also possible that WLC interferes with another of the motivational force connections:

outcomes-need satisfaction connections. Outcomes-need satisfaction is the extent that one

believes the outcomes associated with work satisfy his or her needs. Outcomes are things like

paychecks, pay raises, and promotions. When higher levels of WLC exist, it is likely that work

motivation is affected and specifically due to its impact on how satisfying work outcomes are in

meeting needs. Research has found that diverse roles generally tend to satisfy needs such as

affiliation and even autonomy (Barnett & Hyde, 2001; Grzywacz & Marks, 2000) and thus when

those roles conflict, satisfaction with those needs should logically be hindered. Others have found that when workers felt valued and autonomous, they experienced less WLC in the form of work-family conflict, though it is not clear in this case whether this WLC impacted needs satisfaction or the opposite was true (Senecal, Vallerand & Guay, 2001).

When non-work influences cause conflict with work, and work influences cause conflict with non-work, it is expected that the conflict will impact the perceived satisfaction of work outcomes such as pay. The work motivation process ties work related actions, results, evaluations and outcomes to human needs which may or may not be work related. The earlier mentioned work by Kinman and Jones (2008) found a negative relationship between WLC and expectancy motivation. Their work focused on a connection called effort-reward-imbalance, which is similar to the outcomes-need satisfaction component of motivational force. It is likely that there would be a similar negative relationship with outcomes-need satisfaction. It is therefore expected that when workers experience higher levels of WLC, there will be lower levels of the outcomes-need satisfaction connection.

Therefore, the following hypotheses are posed:

Hypothesis 2e – There will be a negative relationship between level of WLC and level of outcomes to need satisfaction connection strength.

Work Life Conflict and Attitudes. WLC results from interference between life roles and work roles. When non-work roles interfere with work roles, there is likely to be an effect on how satisfied one is with one's job. Job satisfaction is a general affective assessment of the job rather than facet based assessment. When problems from home or social activities are competing for attention to job activities, workers should be less satisfied with their jobs. Research has supported the link between WLC and job satisfaction (Boles et al.,1997; Carlson & Perrewé,

1999; Kossek & Ozeki, 1998) and specifically with WFC (Perrewé, Hochwarter, & Kiewitz, 1999). One study showed that police officers with high WLC tended to have lower job satisfaction (Burke, 1988). Other work showed a similar relationship for nurses and engineers (Bacharach et al, 1991), and other health care workers (Thomas & Ganster, 1995). Consistent with previous studies, it is expected that higher levels of WLC will be negatively related to reports of job satisfaction and the following hypothesis is posed:

Hypothesis 3a – Level of WLC will be negatively related to level of job satisfaction.

The extent one is committed to organizational goals and objectives should cause stronger feelings of satisfaction with that organization. When workers are familiar with and understand what is expected of them, and simultaneously direct their efforts in a manner that is consistent with those objectives, it is likely that their attitudes about the job will be stronger. Workers tend to desire to do well on the job (Pritchard & Ashwood, 2008) and thus when they are successful at allocating their energy in the form of meeting organizational objectives, they will tend to be more satisfied with their efforts and ultimately with the job as a whole. Some research has connected the direction of effort toward work tend to result in higher levels of job satisfaction (Brown & Peterson, 1994) although other work (Christen, Iyer, & Soberman, 2006) suggested that high levels of effort directed toward work can relate to lower levels of satisfaction. These inconsistencies are likely due to different conceptualizations of both direction and job satisfaction. In her extensive work in conceptualizing direction as a dimension of "discretionary work effort", Morris (2009) demonstrated strong relationships with multiple facets of job perks and "directed effort", which suggested that when workers direct their efforts toward work activities, they tend to demonstrate high satisfaction with their jobs. When considering direction in terms of how extensively workers understand and commit to organizational objectives and

subsequently channel their efforts consistent with those objectives, it is expected that level of

direction toward work will be positively related to job satisfaction and the following hypothesis

is suggested:

>   *Hypothesis 3b– Level of direction toward work will be positively related to level of job*
>
>   *satisfaction.*

Motivational force is also a likely contributor to job and life attitudes. Higher

motivational force levels indicate a stronger connection between effort expenditure and need

satisfaction and it is logical that the strength of these connections will result in part in job

satisfaction to the extent that those needs are job or company related. As discussed previously,

job satisfaction is a general affective assessment of the job which involves a complex series of

psychological experiences including cognitive, affective and behavioral components (Hulin &

Judge, 2003). Motivational force translates energy into meaningful outcomes which satisfy

personal needs and this occurs in part from evaluation of one's work efforts in terms of self and

in terms of other evaluators. When results are evaluated highly, motivation is more likely to be

high and attitudes about the job should also be high. Little work has made this connection in the

literature, although one study showed that corporate executives exhibiting high effort to

performance showed a strong connection between motivation and job satisfaction (Pool & Pool,

2007). Thus, it is expected that there will be a positive relationship between level of motivational

force and job satisfaction and the following hypothesis is posed:

>   *Hypothesis 3c – Level of motivational force will be positively related to the level of job*
>
>   *satisfaction.*

Previous hypotheses have addressed the likely direct effects that WLC has on direction

and motivational force. Furthermore, hypotheses have been presented suggesting direct effects of

direction and motivational force on job satisfaction. However, as was mentioned previously, it is likely that WLC impacts job attitudes in part directly and in part indirectly through each of these motivational process variables. WLC occurs when work roles and responsibilities conflict with those outside of the job and as hypothesized previously, it is likely to directly impact the energy pool available to do the job. It has also been hypothesized that this conflict will impact the level one optimally directs effort and the level of effort expended. The direct connection to job satisfaction has also been suggested. Since conflict is likely to affect energy and motivational variables directly, and motivational variables are expected to affect job attitudes directly, it is expected that some of the affect of WLC on job satisfaction will be though its affect on motivational variables. Thus, it is expected that the relationship between level of WLC and level of job satisfaction will be partially mediated by direction and motivational force and the following hypothesis is suggested:

> *Hypothesis 3d – The relationship between level of WLC and level of job satisfaction will be partially mediated by level of direction and level of motivational force.*

When work roles interfere with non-work or life roles, it is likely that individuals will be less satisfied with their lives in general due to the mismatch of work and life priorities. It is also likely that life roles interfering with work will impact the general well-being of the worker since work life is a component of one's life as a whole. Thus, when that aspect of one's life is encroached upon, it should also impact the overall perception of satisfaction with one's life. Research has found WLC to be negatively associated with life satisfaction (Beutell & Wittig-Berman, 1999) and specifically with WFC (Perrewé, Hochwarter, & Kiewitz, 1999). Others have demonstrated a negative effect on life satisfaction from both work interfering with family (Higgins & Duxbury, 1992) and family interfering with work (Wiley, 1987). This relationship is

well established and thus it is expected that levels of WLC will be negatively related to levels of life satisfaction. Therefore, the following hypothesis is posed:

Hypothesis 3e – Level of WLC will be negatively related to level of life satisfaction.

Life satisfaction is a general self-evaluation of one's life and it results from a continual comparison to predetermined success criteria. One's job and associated behavior are important components of general satisfaction. When one appraises one's job in the context of one's life, there should be consistency. As mentioned previously, workers generally desire to do a good job and most prefer to function as a productive member of their organization. When organizational priorities make sense to the worker, he or she will tend to direct energy toward these tasks and this process should be generally satisfying to the conscientious worker. This should contribute to a positive assessment of oneself in general and should thus contribute to life satisfaction. Little research has been done to address this, though direction has been shown to be an important antecedent to life satisfaction as was evidenced by a study of correctional officers (Lambert et al., 2009). Thus it is expected that level of direction toward work activities will be related to life satisfaction and the following hypothesis is posed:

Hypothesis 3f– Level of direction toward work activities will be positively related to life satisfaction.

Finally, motivational force should also be an important input to attitudes of general well-being. Motivation is the process of connecting energy to meeting needs and those needs are not just work related. Work behavior occurs in the context of life and motivation is about behaving in a manner which satisfies personal (i.e. life) needs. Motivation can only be high when there is a strong connection between behaviors and the extent that they meet personal needs. As one experiences strong connections between one's activities and their efficacy in meeting

organizational objectives and satisfying personal needs, one should be more satisfied with one's life. This is a likely component which explains how WLC impacts life satisfaction. In one study researchers showed that manual workers indicated high levels of total life satisfaction when they had high intrinsic job motivation (Warr, Cook, & Wall, 1979). Therefore, it is expected that higher levels of motivational force will be positively related to levels of life satisfaction. The following hypothesis is suggested:

> *Hypothesis 3g– Level of motivational force will be positively related to the level of life satisfaction.*

The above hypotheses have been presented suggesting direct effects of direction and motivational force on life satisfaction. As was the case with job satisfaction, it is likely that WLC impacts life attitudes in part directly and in part through each of these motivational process variables. As stated previously, WLC is likely to directly impact the energy pool available to do the job as well as the level one directs efforts toward work activities and the level that one is motivated to work hard. The direct connection to life satisfaction has also been suggested. Since conflict is likely to affect energy and motivational variables directly, and motivational variables are expected to affect life satisfaction directly, it is expected that some of the affect of WLC on life satisfaction will be though its affect on motivational variables. Thus, it is expected that the relationship between level of WLC and level of life satisfaction will be partially mediated by energy, direction and motivational force and the following hypothesis is suggested:

> *Hypothesis 3h.– The relationship between level of WLC and level of life satisfaction will be partially mediated by level of energy, level of direction and level of motivational force.*

Performance

      Performance is worker behavior relevant to the organization in the context of doing organizational tasks. It can be include a summation of all the work and non-work related activities conducted by a worker. However, this research will specifically define worker performance as a general representation of worker behavior as compared to job assignments and as compared to that of other workers. A comprehensive model of motivation is necessary which connects work energy with directionality in supplying effort and the motivational force necessary for work performance and other outcomes. Energy is a vital component of the process resulting in work performance. It is expected that energy contributes to work performance through the process of exhibiting direction toward organizational objectives and demonstrating motivational force. Energy in the form of vitality has been related to productivity (Penninx et al., 2000) and specifically human performance (Welbourne, 1997; Welbourne et al., 2005) but without recognizing the mediatory role of the motivational process. It is likely the energy impacts performance by providing inputs to the level of direction and motivational force experienced at work. This relationship is established by first demonstrating a relationship between these variables and performance itself.

      A worker is directed toward work activities when objectives are understood and subscribed to. The better a worker understands his or her responsibilities and how they relate to the organization, the more likely he or she will perform in a manner consistent with those objectives. Logically then, when one allocates a high amount of energy toward work activities which are consistent with organizational requirements, resulting work performance should be high. Early work has linked direction to general performance (Lawler & Suttle, 1973; Porter & Lawler, 1968) and Klehe and Anderson (2007) showed a connection between direction as time

spent on tasks and minimum and maximum performance. Mowday, Porter, and Steers(1982) also

found a connection between direction toward organizational objectives and performance and

others have found similar relationships (DeCotiis & Summers, 1987; Meyer, Paunonen, Gellatly,

Goffin, & Jackson, 1989; Meyer et al., 2002; Somers & Birnbaum, 1998). This study

hypothesizes a more general relationship between direction and performance and it is expected

that high levels of direction of the worker will be related to level of performance. The following

hypothesis is therefore posed:

> *Hypothesis 4a – The level of direction toward work activities will be positively related to*
>
> *the level of work performance.*

Motivation is also a key component in the conversion of energy to work outcomes. One

must be motivated to perform in order for results to occur. Much research has investigated the

connection between motivation and performance. Using goals as motivators, early studies of

various approaches to motivational interventions showed links to performance, especially at high

ability levels of the performer (Fleishman, 1958; French, 1957; Locke, 1965; Vroom, 1964).

Kanfer and Ackerman (1989) found that introducing goals, as a form of motivation during early

training periods showed positive effects on performance. There is substantial evidence as to the

performance effects from goal setting especially when feedback is provided to assess progress on

the goals (see Latham & Locke, 2007).

Expectancy theorists have also made the connection (Mitchell, 1997) and self-efficacy

studies tend to support a positive effect on performance as well, as was indicated in recent meta-

analyses on these variables (Hysong & Quinones, 1997; Stajkovic & Luthans, 1998; 2001).

Previous studies using the Pritchard and Ashwood (2008) model have also consistently supported

the relationship between motivation and worker performance (e.g., Cornejo, 2007; Harrell,

2008). Harrell (2008) demonstrated a significant relationship ($r = .17$, $p = .02$) between motivational force measured by average connection strength and supervisor ratings. It is well established that motivation tends to relate to performance and thus it is expected that motivational force will be positively related to work performance. The following hypothesis is presented:

> *Hypothesis 4b – Level of motivational force will be positively related to level of work*
>
> *performance.*

Energy is the basic resource that a worker brings to the job and the process of turning that energy into work performance is through putting forth effort and directing that energy to the job. I have hypothesized earlier that energy relates to direction and motivational force , and a relationship between each of these variables and performance has also been hypothesized. Therefore, the effect of energy on performance is not expected to be direct, but through these variables and thus a mediated relationship is expected. Therefore, the following hypothesis is posed:

> *Hypothesis 4c – The relationship between level of energy and level of performance will*
>
> *be mediated by level level of direction and level of motivational force.*

WLC has been hypothesized to impact energy and motivational variables and it is expected that through these relationships, performance will be impacted. When workers experience role conflict between work and non-work, it is likely that energy pool for work will be less available and the worker will have difficulty directing that energy, putting forth effort focused on work activities and maintaining strong motivational force. The importance of WLC and its impact on the motivational process should be integrated into a model of motivation which explains the relationships between variables and the mediatory nature of energy, direction and

motivational force in achieving performance. WLC has been established to be negatively

associated with work performance (Allen et al., 2000; Gilboa, Shirom, Fried & Cooper, 2008;

Yardley, 1994) and it is likely that the effect on work performance is through these mediatory

variables. Thus, the following hypothesis is posed:

Hypothesis 4d – The relationship between level of WLC and level of performance will be

mediated by level of energy, level of direction and level of motivational force.
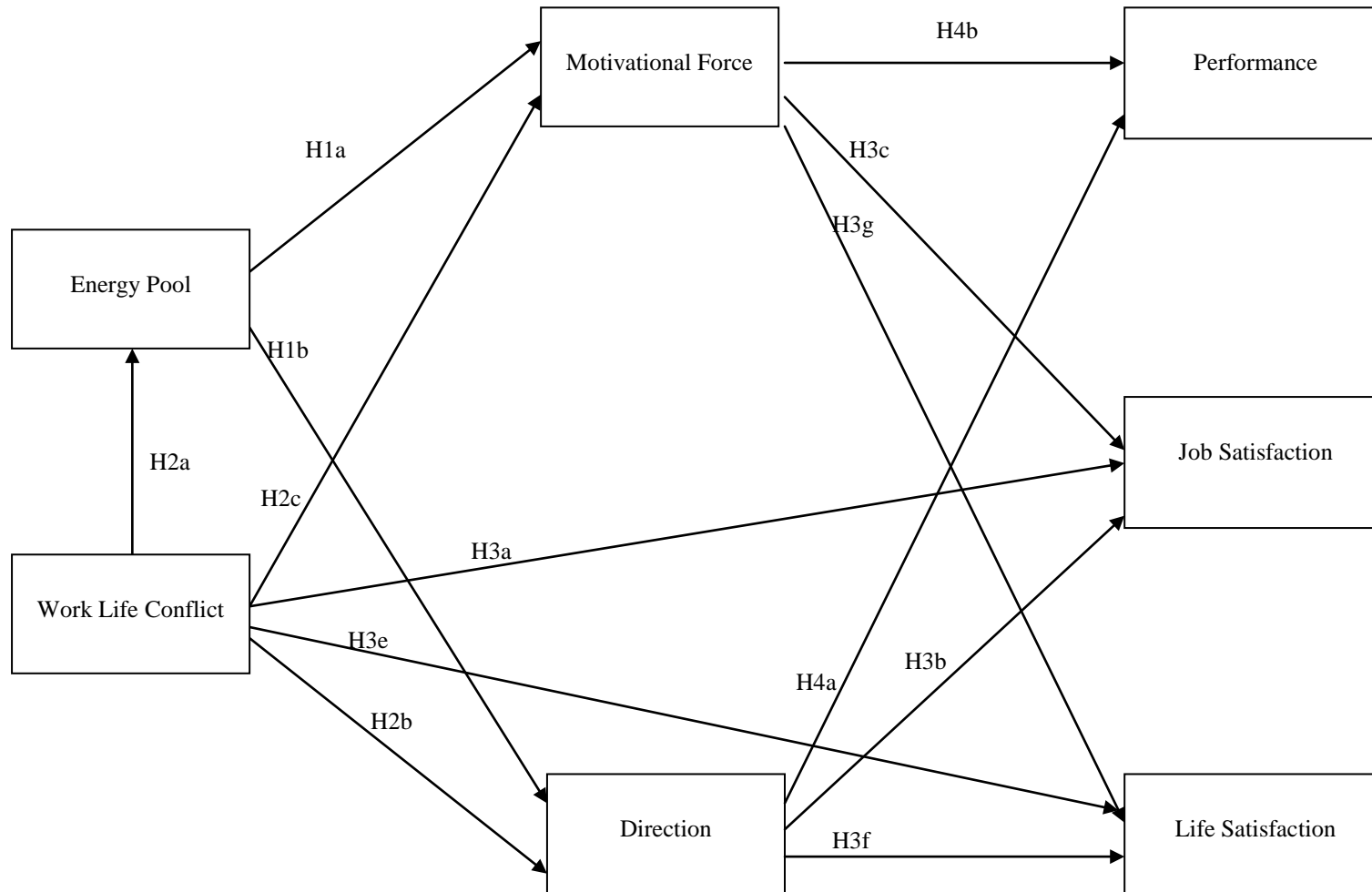
Figure 3. Model of Hypothesized Variable Relationships

CHAPTER THREE: DESIGN & METHODOLOGY

Participants

Participants were 223 full-time employee volunteers from nineteen different companies throughout the United States. Companies were solicited through phone calls to corporate executives. Organizations were selected based on their availability and familiarity to the researcher. Participants consisted of persons with various vocations including training professionals, who comprised approximately 25% of the sample. Computer programmers and mathematicians were about 10% of the sample and the remainder were administrative personnel, graphic artists, psychologists, project managers, nurses and others. Participants were from high level executive positions to administrative and custodial staffers. It was hoped to identify a broad sample of workers with a diverse work experience in order to examine general motivation attitudes and how they are affected by conflict. The study was announced during staff meetings and through a mass email to each department and employee. Participation was voluntary. Surveys were completed during scheduled work time and were conducted using online questionnaires. The Informed Consent forms used for employees and supervisors is shown in Appendix A.

A power analysis was conducted using G*Power (Faul, Erdfelder, Buchner & Lang, 2009). Based on a medium effect size for multiple correlation of .15 (Cohen, 1992), and eight predictors ($k = 8$), at a conventional significance level ($\alpha = .05$) and power level set at .95, the analysis indicated a minimum sample size of $n = 160$.

Design

This study was a quantitative survey which required the administration of several questionnaires to participants. The measures were administered through an online data collection system with 128 bit SSL encryption. Participants were informed through a corporate email and pamphlets. They were asked to complete the questionnaires on their company computers on company time. Before completing the surveys, participants were asked to complete the informed consent form. Once the participants were briefed on the process and purpose of the study, they completed measures for general demographics, worker motivation, WLC, worker energy, worker direction, life satisfaction and job satisfaction. The supervisors of the participants completed performance measures for each of their associated respondents. Upon completion of the questionnaires, the participants were debriefed. This included an explanation of the confidentiality and privacy of their responses and the researcher's contact information was provided.

Measures

Several variables were measured with the Motivation Assessment System (MAS, Pritchard, 2010) for use in testing the model and the associated hypotheses. MAS is a collection of self-report scales based on the PAmodel (Pritchard & Ashwood, 2008) and which have demonstrated good psychometric characteristics, to be discussed below.

The energy pool consists of the internal resources available to the worker and is converted to behaviors through motivational force. In order for motivational force to affect behavior, there has to be an energy pool available to the worker. The energy pool was measured using a self report scale consisting of three items (see Appendix C for the entire scale). A sample

58

item is, "I do not have enough energy to do what is expected of me at work" with responses ranging from strongly disagree to strongly agree. The scale score is the mean of the responses to the three items. This scale has demonstrated good internal consistency (α =.82) and fair test-retest reliability (r =.55).

Direction is the employee's awareness of and commitment to organizational objectives. It is the extent that a worker understands, knows, and accepts work priorities, as well as the extent that he or she behaves in a manner consistent with these priorities. Direction is the willingness of a worker to allocate effort and find innovative ways to accomplish objectives and this variable was measured using an eight item scale with items such as, "Priorities here change so often that I am not sure which tasks are most important" (see Appendix C for the entire scale). The scale score is the mean of the responses to the eight items. The scale has an internal consistency of α =.79 and a test-retest reliability of r =.76.

Motivational force is that which translates effort into outcomes which satisfy needs. It is comprised of four connections which include actions-to-results, results-to-evaluation, evaluation-to-outcomes, and outcomes-to-need satisfaction (see Figure 1). In order for motivational force to be strong, all four connections must be strong. Motivational force is strong when the worker expects his or her efforts to translate through this process to satisfying their general needs. The MAS measures motivation by the strength of the four connections.

Actions to Results Connection (AR) is how strongly the worker believes his or her efforts will yield results. A strong motivational force requires that the worker perceives a strong link between how hard one works on activities and how well those activities produce important results that are valued by the organization. This connection was measured by the 'action-results' scale in the MAS which has four items such as, "My level of effort determines the quantity and

quality of work I do" (see Appendix C for the entire scale). The scale score is the mean of the responses to the four items. Internal reliability (α =.76) and test-retest reliability (α =.60) were at acceptable levels.

Results to Evaluations Connection (RE) is the extent one understands how quantified results will be valued by various evaluators such as supervisors or colleagues. This connection is strong when a worker feels that more results consistently receive higher evaluations. Conversely, this connection is weak when a worker feels that regardless of how high the quality of one's results, evaluations will stay the same or will be inconsistent. This connection was measured using the 'results-evaluation' scale in the MAS, which includes three subscales with a total of eleven items. The three subscales were averaged for a total R-E score. The subscales include self-evaluations, formal evaluations, and informal evaluations. A sample item reads, "If the quantity and quality of my work went up a lot, my evaluations of my work would: decrease, stay the same, slightly increase, increase, greatly increase" (see Appendix C for the entire scale). The scale score is the mean of the responses to the five self-evaluation items. Internal reliabilities for these subscales ranged from .77-.82 and test-retest reliabilities ranged from .47-.56. See Table 1 for a complete list of reliabilities.

Evaluations to Outcomes Connection (EO) is the extent that the favorableness of evaluations determines the level of outcomes that are provided. It is the perceived relationship between how favorable the evaluations are and their associated outcomes. As with the other connections, this must be strong in order for motivational force to be strong. This connection was measured with the 'evaluations-outcomes' scale in the MAS, which includes three subscales with a total of ten items. The subscales include self-evaluations, formal evaluations and informal evaluations and the three subscales were averaged for a total E-O score. A sample item is, "If my

evaluations of my own work go up, the amount of job outcomes (like personal growth, pride, etc.) I give myself: get worse, stay the same, get slightly better, get better, or get much better" (see Appendix C for the entire scale). The scale score is the mean of the responses to the four self evaluation items. Internal consistencies for these subscales ranged from .78-.87 and test-retest reliabilities ranged from .46-.60. See Table 1 for a complete list of reliabilities.

Outcomes to Need Satisfaction Connections (ONS) refer to the perception that outcome levels are expected to satisfy needs. Anticipation of satisfaction is based on information from experience, as well as other sources and this connection strength may change based on new information. This is the fourth of four connections that constitute motivational force and it must be strong in order for motivational force to be strong. This variable was measured using the 'outcome-need satisfaction' scale in the MAS, which has three items such as, "The job outcomes (like raises, promotion, recognition, criticism, etc.) I can get on this job are: important to me, slightly important to me, somewhat important to me, important to me, or very important to me" (see Appendix C for the entire scale). The scale score is the mean of the responses to the three items. Internal consistency ($\alpha = .85$) and test-retest reliability ($r = .66$) were at acceptable levels. Motivational force score is the mean of the four connection scores.

Performance was measured by supervisory ratings, partially due to their validity, and partially due to the convenience of associated measurement. (Borman, 2000; Landy & Farr, 1980), Performance was measured using a short supervisor rating scale from the MAS which includes three items such as, "Overall this person's work is" with responses ranging from "very poor" to "excellent" (see Appendix C for the entire scale). The scale score is the mean of the responses to the three items. This scale has demonstrated good internal consistency ($\alpha = .86$). Supervisors were told that these ratings are for research purposes only and will not be reported to

anyone in the organization. The MAS has also demonstrated convergent and discriminant validity beginning with the early work of Pritchard and more recently in Cornejo's work in 2007.

Work-life conflict (WLC) is interference experienced by a worker due to conflicting work and non-work roles and was measured as a single dimension variable. WLC was measured utilizing a four item scale based on that of Bacharach et al. (1991). A sample item reads, "Do the demands of work interfere with your home, family, or social life?" with responses including, "Seldom or never", "rarely", "sometimes", and "almost always" add anchors (see Appendix D for the entire scale). The scale score is the mean of the responses to the four items. This scale also demonstrated acceptable internal consistency ($\alpha = .77$).

Job satisfaction is the general affective assessment of one's job and how satisfied one is based on that assessment. This variable was measured utilizing a three item scale from the MAS with items such as "How satisfied are you with your job in general?" with response options of "Very Dissatisfied", "Dissatisfied", "Moderately Satisfied", "Satisfied", or "Very Satisfied" (see Appendix C for the entire scale) which demonstrated acceptable internal consistency reliability as well ($\alpha = .94$). The scale score is the total of the responses to the three items.

Life satisfaction is the general affective assessment of one's life compared to some personally accepted set of criteria and was measured using the satisfaction with life scale (SWLS; Diener et al., 1985) which is a five item scale with items such as, "In most ways my life is close to my ideal" with seven response choices ranging from "Strongly agree" (7) to "Strongly disagree" (1) anchors (see Appendix E for the entire scale). The scale score is the mean of the responses to the five items. SWLS has strong internal consistency ($\alpha = .87$). See Table 1 for a complete representation of internal consistencies and test-retest reliabilities of the scales used in this study.

Table 1. Summary of Measured Alphas and Test-Retest Reliability

	Alpha	Test Retest
Direction	.79	.76
Dir Subscale 1: Knowledge of Organizational Priorities	.63	.44
Dir Subscale 2: Agreement with Organizational Priorities	.88	.60
Dir Subscale 3: Behaving According to Organizational Priorities	.52	.57
Dir Subscale 4: Willingness to Learn Better Strategies	.79	.55
Energy Level	.82	.55
A-R connections	.76	.60
R-E connections, Self	.77	.56
R-E connections, Formal	.82	.47
R-E connections, Informal	.82	.49
E-O connections, Self	.78	.53
E-O connections, Formal	.87	.60
E-O connections, Informal	.87	.46
O-NS connections	.85	.66
Supervisory Performance Ratings	.86	--
Satisfaction	.94	--
Work Life Conflict	.77	--
Satisfaction With Life Scale	.87	--

Procedure

All employees for each department were contacted and asked to complete the questionnaires and were informed that their participation was voluntary. Supervisors completed the performance measure for all employees, regardless of whether they completed the surveys for this study. Participants were treated in accordance with Ethical Principles (American Psychological Association, 2002) and were briefed, debriefed, and read and signed an informed consent form.

CHAPTER FOUR: RESULTS

Data Preparation

Data screening was conducted based on recommendations by Tabachnick and Fidell (2007). Note that because 17 of the employee surveys were missing large proportions of data (i.e., greater than 30% of the scales), they were eliminated from the final data set. Using the multivariate Mahalanobis (1936) distance index, six cases were identified as multivariate outliers and were removed from all subsequent analyses. Skewness and kurtosis tests revealed that direction was mildly leptokurtic and negatively skewed, and job satisfaction scores were mildly leptokurtic and also negatively skewed, but none significant enough to warrant exclusion from analyses.

Descriptive Statistics

Prior to testing hypotheses, internal consistency of the measures was assessed using Cronbach's alpha (1951). Descriptive statistics for all measured variables and a correlation matrix among all measured variables is shown in Table 2. Statistical tests on correlation coefficients shown in the table were two-tailed unless otherwise noted. In reporting the results of the hypothesis tests, direction was specified a priori, thus for the purposes of determining statistical significance, one-tailed tests were reported for hypotheses. Examination of the means and standard deviations show appropriate values for central tendency and adequate variability. Internal consistency reliability estimates (alphas) are shown in the diagonal and range from .73 to .91, all showing adequate reliability.

Energy Pool, Motivation and Direction

The first of the hypotheses addressed the relationship between energy pool and motivational force and direction toward work activities. Because the level of energy pool available was positively related to the level of motivational force ($r = .272$, $p < .01$), Hypothesis 1a was supported. Similarly, because energy pool available was positively related to level of direction ($r = .348$, $p < .01$), Hypothesis 1b was supported.

Work-life-conflict, Motivation, Energy and Direction

The next group of hypotheses focused on the relationship between the measure of WLC and motivational variables including motivational force, energy pool and direction toward work activities. WLC was negatively correlated to level of energy pool to work ($r = -.286$, $p < .01$), therefore Hypothesis 2a was supported. WLC was also negatively correlated with level of direction toward work activities ($r = -.284$, $p < .01$), thus supporting Hypothesis 2b. WLC was negatively correlated to motivational force ($r = -.134$, $p = .05$, one-tailed), thus Hypothesis 2c was also supported.

WLC did not negatively correlate with the motivational variable results to evaluation connection ($r = -.039$, $p = .63$), thus Hypothesis 2d was not supported. Hypothesis 2e was not supported either since WLC was not negatively correlated with the motivational variable of outcomes to need satisfaction connection ($r = -.065$, $p = .42$). Interestingly, there was a significant relationship between WLC and another motivation variable for which no hypothesis was made, evaluations to outcomes connection ($r = -.184$, $p = .02$).

Table 2. Means, Standard Deviations, and Intercorrelations Among Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Direction	4.08	.51	(.75)	.348**	.335**	.249**	.194*	.257**	.426**	.435**	-.284**	.151	.021
2. Energy Pool	4.18	.64		(.76)	.116	.200*	.222**	.247**	.272**	.324**	-.286**	.182*	-.024
3. Actions-Results	3.93	.66			(.78)	.511**	.373**	.211**	.576**	.213**	-.149	.068	-.016
4. Results-Evaluations	3.63	.64				(.74)	.511**	.344**	.774**	.158*	-.039	.123	.103
5. Evalutations-Outcomes	3.52	.63					(.76)	.256**	.677**	.155	-.184*	.125	.010
6. Outcomes-Need Sat	4.04	.71						(.81)	.485**	.319**	-.065	.040	.000
7. Motivational Force	3.51	.53							(.77)	.338**	-.134	.220**	.058
8. Job Satisfaction	8.80	1.83								(.73)	-.414**	.409**	.012
9. Work-life Conflict	2.48	.72									(.86)	-.256**	.097
10. Life Satisfaction	5.02	1.34										(.91)	.077
11. Performance	4.00	.70											(.88)

Note. Coefficient alpha reported in the diagonal. $N = 154-172$. *$p < .05$. **$p < .01$.

WLC, Direction, Motivation, Job and Life Satisfaction

This group of hypotheses was concerned with how WLC relates to attitudes about one's job and one's life in general. WLC was negatively correlated to job satisfaction ($r = -.414$, $p < .01$), thus Hypothesis 3a was strongly supported. Level of direction toward work was positively related to job satisfaction ($r = .435$, $p < .01$), therefore Hypothesis 3b was also strongly supported. Since motivational force was positively related to job satisfaction ($r = .338$, $p < .01$), Hypothesis 3c was also strongly supported.

Life satisfaction was negatively related to WLC ($r = -.256$, $p < .01$), so Hypothesis 3e was supported. Life satisfaction was significantly and positively correlated with level of direction toward work activities ($r = .15$, $p = .03$, one-tailed). As a result, Hypothesis 3f was also supported. Hypothesis 3g was also supported since motivational force was positively correlated with life satisfaction ($r = .22$, $p < .01$).

Work Performance

None of the correlational hypotheses regarding work performance were supported. The lack of support for the performance relationships was unexpected. Because previous research using this same measure for performance has indicated significant relationships with at least some of these motivational variables, further post hoc analyses were conducted to help understand these findings.

As indicated in Table 2 above, performance scores had a mean of 4.0, and while that was elevated, it was not so elevated to be a serious problem, especially given the standard deviation of .7. The scores varied from 1.67 to 5 in a scale that had a possibility of 0 to 5, thus there was sufficient variability. Cronbach's alpha was acceptable at .88. Skewness was determined to be -.395 with a standard error of skewness of .162, which resulted in a z of -2.44, less than the

suggested value of 3.3 (Tabachnick & Fidell, 2007) to be a problem. Similarly, kurtosis was determined to be -.259 and kurtosis standard error was .385, which resulted in a z of -.67, lower than the recommended value.

Descriptives for the direction variable were also inspected. The mean was 4.08 and a standard deviation of .51. The scores ranged from 2.0 to 5.0 in a scale that had a possibility of 1 to 5, thus there was sufficient variability. Cronbach's alpha was .75, which is close to the suggested .8 (Nunnally & Bernstein, 1994). Skewness was determined to be -.845 with a standard error of skewness of .184, which resulted in a z of -4.69, which is greater than the suggested value of 3.3 (Tabachnick & Fidell, 2007) which indicates excessive negative skewness. Similarly, kurtosis was determined to be 1.54 and kurtosis standard error was .365, which resulted in a z of 4.22, also exceeding the suggested 3.3. The direction data were transformed to adjust to normality using square root, logarithm and inverse (Tabachnick & Fidell, 2007), none of which improved skewness appreciably and none of which impacted the correlation matrix significantly (i.e. no additional significant correlations emerged).

Motivational force descriptives from Table 2 were inspected as well. The mean was 3.51 and a standard deviation of .53. The scores ranged from 1.98 to 4.85 in a scale that had a possibility of 1 to 5, thus variability was deemed sufficient. Cronbach's alpha was .77, which approached the recommended .8 (Nunnally & Bernstein, 1994). The skewness index was determined to be -.02 with a standard error of skewness of .192, which resulted in a z of -.09, which is less than the suggested value of 3.3 (Tabachnick & Fidell, 2007) which indicates there was not excessive skewness. Similarly, kurtosis was determined to be -.264 and kurtosis standard error was .381, which resulted in a z of .694, also less than the suggested 3.3. Thus, no transformations were attempted on the motivational force data.

An inspection of the scatterplots as indicated in Figures 4, 5 and 6 suggests that the relationships are not likely due to outliers, non-linearity, or heteroscedasticity. Thus, there is nothing in the descriptive statistics to suggest a problem with these measures.
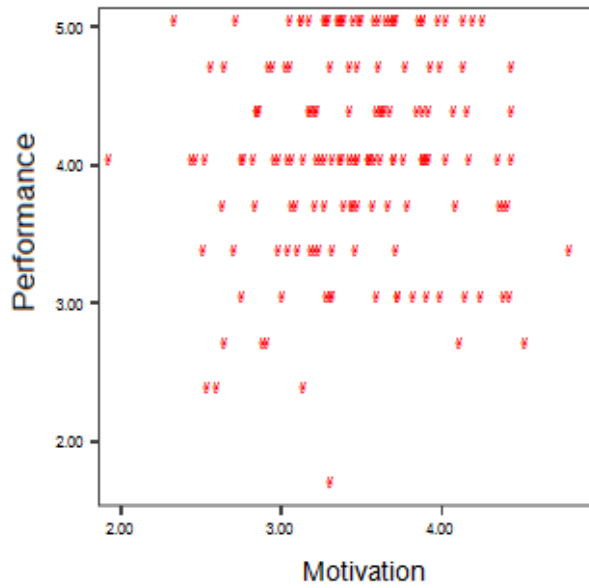
Figure 4. Scatterplot of Performance and Motivation
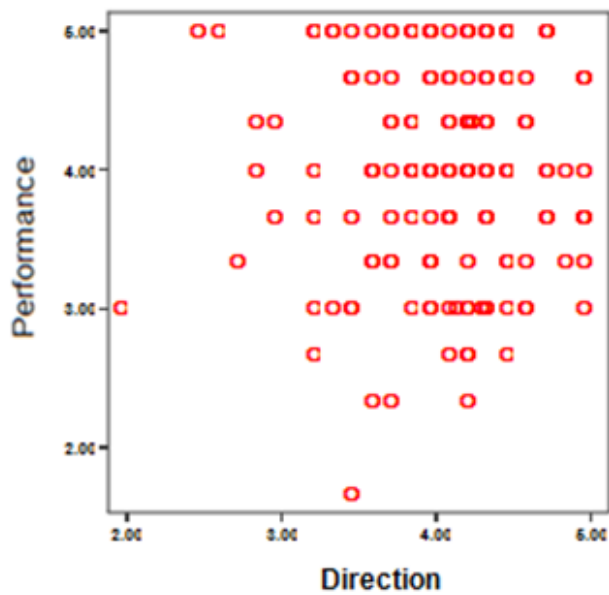
Figure 5. Scatterplot of Performance and Direction
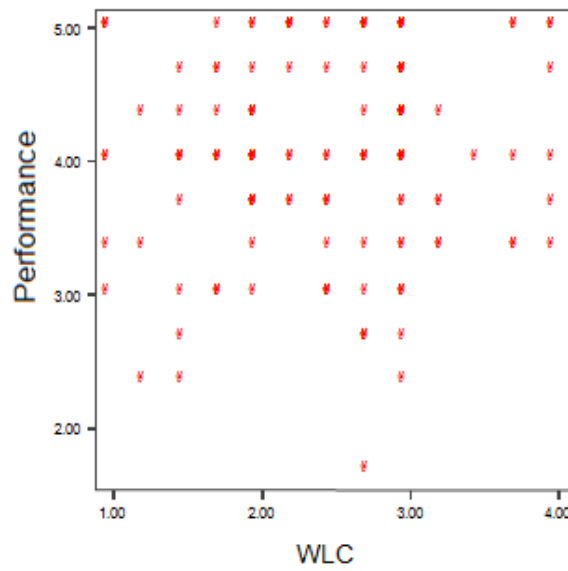
Figure 6. Scatterplot of Performance and WLC

Another possibility was the presence of moderators. One possible moderator was the

range of motivational force scores. It was possible that motivation predicts performance at some

levels of motivation but not others. It may be that at extreme levels of motivation, raters tend to

be more valid or less biased since they are thinking about problem workers or exceptional

workers more saliently than those that are medium or middle level workers. To assess this, the

data were divided into three subsets based on the range of the motivation scores: 1.98-3.28 ($n =$

53), 3.29-3.74 ($n = 54$) and 3.75-4.85 ($n = 53$) and separate correlations were calculated for each

subsample with the study variables. Tables 3-5 show the associated correlation matrices which

showed some differences in relationships, but no significant correlations with performance.

For the lower range of motivation scores (see Table 3), the correlation between direction

and performance did not reach significance ($r = -.12, p = .41$), and the same was the case for the

correlation between motivational force ($r = -.05, p = .60$), and energy pool ($r = -.14, p = .32$).

However, the correlation between performance and WLC ($r = .25, p = .04$), was significant at the

70

one-tailed level. This is contrary to the hypothesized relationship. For the middle range of motivation scores (see Table 4), correlations were not statistically significant between direction and performance ($r = .05$, $p = .71$), motivational force ($r = .21$, $p = .13$), energy pool ($r = -.001$, $p = .99$) or WLC ($r = -.09$, $p = .54$). For the highest range of motivation scores (see Table 5), the correlation between direction and performance did not reach significance ($r = -.09$, $p = .54$), and the same was the case for the correlation between energy pool ($r = -.15$, $p = .29$), and WLC ($r = .16$, $p = .28$). However, the correlation between performance and motivational force ($r = -.233$, $p = .05$), was significant at the one-tailed level. This is again contrary to the hypothesized direction of the relationship.

Additional analyses were conducted to determine if there were possibly moderating effects from membership in subgroups of the sample. I first looked at different supervisors. It may be that certain supervisors rate performance more validly and thus correlations of each study variable were inspected for each supervisor separately, but no statistically significant relationships occurred for individual supervisors between any of the study variables and performance. Next, correlations were inspected for each separate organization. All study variables were correlated with performance for each organization and still no statistically significant relationships emerged. Correlations between study variables and performance were also inspected for each department, which revealed nearly identical results as the supervisor level analyses. This was likely because in most cases the supervisors were the department heads.

It was also possible that those supervisors completing the performance measures immediately after being briefed about this study would be more valid than those who completed

71

Table 3. Means, Standard Deviations, and Intercorrelations Among Study Variables in Lowest 1/3 of Motivation Scores

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Direction	3.80	.48	(.75)	.300*	.009	-.265	-.132	.035	-.203	.491**	-.322**	.083	-.117
2. Energy Pool	3.94	.66		(.76)	-.067	-.061	.131	.283*	.066	.240	-.361**	.106	-.144
3. Actions-Results	3.51	.68			(.78)	.257	.284*	-.150	.329*	.118	-.193	.021	-.122
4. Results-Evaluations	3.08	.50				(.74)	.402**	-.076	.678**	-.355**	.144	-.054	.178
5.Evalutations-Outcomes	3.09	.66					(.76)	-.111	.625**	.006	-.193	.155	-.061
6. Outcomes-Need Sat	3.68	.68						(.81)	.057	.015	.164	-.205	-.112
7. Motivational Force	2.93	.27							(.77)	-.050	.037	.043	.075
8. Job Satisfaction	7.92	2.07								(.73)	-.459**	.448**	-.141
9. Work-life Conflict	2.60	.83									(.86)	-.409**	.245
10. Life Satisfaction	4.61	1.53										(.91)	.054
11. Performance	3.89	.74											(.88)

Note. Coefficient alpha reported in the diagonal. $N = 50\text{-}53$. $*p < .05$. $**p < .01$.

Table 4. Means, Standard Deviations, and Intercorrelations Among Study Variables in Middle 1/3 of Motivation Scores

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Direction	4.13	.35	(.75)	.507**	.098	-.036	-.112	.018	.248	.304*	-.162	.080	.052
2. Energy Pool	4.21	.53		(.76)	.050	.063	-.087	.011	.006	.284*	-.179	.078	-.001
3. Actions-Results	3.91	.56			(.78)	.389**	-.109	.031	.303*	-.006	-.132	-.133	-.131
4. Results-Evaluations	3.66	.44				(.74)	-.114	.036	.178	-.011	.144	-.158	.055
5. Evalutations-Outcomes	3.53	.44					(.76)	.227	.239	-.143	.044	-.162	.104
6. Outcomes-Need Sat	4.01	.69						(.81)	.252	.296*	-.144	-.155	.080
7. Motivational Force	3.50	.13							(.77)	.031	-.026	-.196	.207
8. Job Satisfaction	8.92	1.56								(.73)	-.482**	.036	-.060
9. Work-life Conflict	2.47	.70									(.86)	-.095	-.087
10. Life Satisfaction	5.03	1.23										(.91)	.076
11. Performance	4.15	.71											(.88)

Note. Coefficient alpha reported in the diagonal. $N = 51-54$. *$p < .05$. **$p < .01$.

Table 5. Means, Standard Deviations, and Intercorrelations Among Study Variables in Highest 1/3 of Motivation Scores

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Direction	4.34	.40	(.75)	.052	.343*	.001	.038	.206	.187	.031	-.238	-.056	-.088
2. Energy Pool	4.35	.62		(.76)	-.083	.096	.192	.125	.145	.235	-.204	.196	-.151
3. Actions-Results	4.32	.48			(.78)	.195	.162	.191	.439**	-.088	.150	-.143	.038
4. Results-Evaluations	4.13	.48				(.74)	.329*	.372**	.595**	.094	-.131	.054	-.102
5.Evalutations-Outcomes	3.93	.47					(.76)	.075	.526**	-.094	-.220	-.165	-.127
6. Outcomes-Need Sat	4.43	.54						(.81)	.556**	.394**	-.120	.278*	-.097
7. Motivational Force	4.09	.26							(.77)	.119	-.151	.062	-.233
8. Job Satisfaction	9.56	1.41								(.73)	-.153	.563**	.177
9. Work-life Conflict	2.36	.59									(.86)	-.071	.157
10. Life Satisfaction	5.40	1.11										(.91)	.048
11. Performance	4.03	.73											(.88)

Note. Coefficient alpha reported in the diagonal. $N = 50\text{-}53$. *$p < .05$. **$p < .01$

the surveys during the final week of data collection. Correlations were calculated for the group of supervisors who completed surveys within 1 week of being briefed on the study and 1 week from the end of the study, again revealing no statistically significant correlations between the study variables and performance.

Finally, correlations between study variables and performance were inspected for each separate occupation reported by the employees. There were no statistically significant correlations in the occupation groups identified. Thus, the data from all groups consistently demonstrated no statistically significant correlations between any of the study variables and performance and as such, there do not appear to be any moderating effects on performance ratings for these variables.

Mediation and Path Analysis

The remainder of the hypotheses was tested using path analysis (EQS; Bentler, 1995). After fitting the hypothesized model depicted in Figure 3, model fit was assessed using four indices suggested by Hu and Bentler (1999) (viz., Chi Square, Tucker Lewis Index, Comparative Fit Index, and Root Mean Square Error of Approximation). In the hypothesized model, individual path coefficients associated with a particular hypothesis were tested individually by dividing the estimated coefficient by its respective standard error. This statistic was then compared against the standard normal distribution for statistical significance ($\alpha = .05$). To test for hypothesized mediation in Hypotheses 3d, 3h, 4c, and 4d, procedures described by Taylor, MacKinnon, and Tein (2008) were used. In addition, the Lagrange multiplier test was used to evaluate whether the deletion or addition of particular paths would significantly improve overall model fit.

The measurement model was constructed using the employee and supervisor survey variables. Mediation was tested based on significance of the path coefficients in the measurement model. Model specification in EQS was accomplished by adding equations for each hypothesized path. Initially, all hypothesized variables were included in the model, though the lack of significant relationships with the performance variable was expected to hinder the model fit. Equations were added through graphic model building, which automatically included error terms. The resultant model is reflected in Figure 7 with associated path coefficients. Error and covariance terms are excluded to clarify the model.

Hypothesized relationships are indicated by lines connecting the boxes and no line indicates any hypothesized relationship. The path analysis was conducted using maximum likelihood estimation. The independence model was rejected, $\chi^2 = 162.97$ (21, $n = 152$, $p < .01$). The hypothesized model was only marginally supported, $\chi^2 = 42.03$ (8, $n = 152$, $p < .01$). Table 6 presents model fit indices.

Table 6. Model Fit Indices for Proposed Model

Bentler-Bonett Normed Fit Index (NFI)	0.742
Bentler-Bonett Non-Normed Fit Index	0.371
Comparative Fit Index (CFI)	0.760
Bollen's Fit Index (IFI)	0.780
McDonald's Fit Index (MFI)	0.894
Joreskog-Sorbom's Fit Index (GFI)	0.929
Joreskog-Sorbom's Fit Index (AGFI)	0.750
Root Mean-Square Residual (RMR)	0.127
Standardized RMR	0.088
Root Mean-Square Error of Approximation (RMSEA)	0.168
90% Confidence Interval of RMSEA	.120-.219

Hypothesis 3d states that the relationship between WLC and Job Satisfaction will be partially mediated by level of direction and level of motivation. This hypothesis was supported
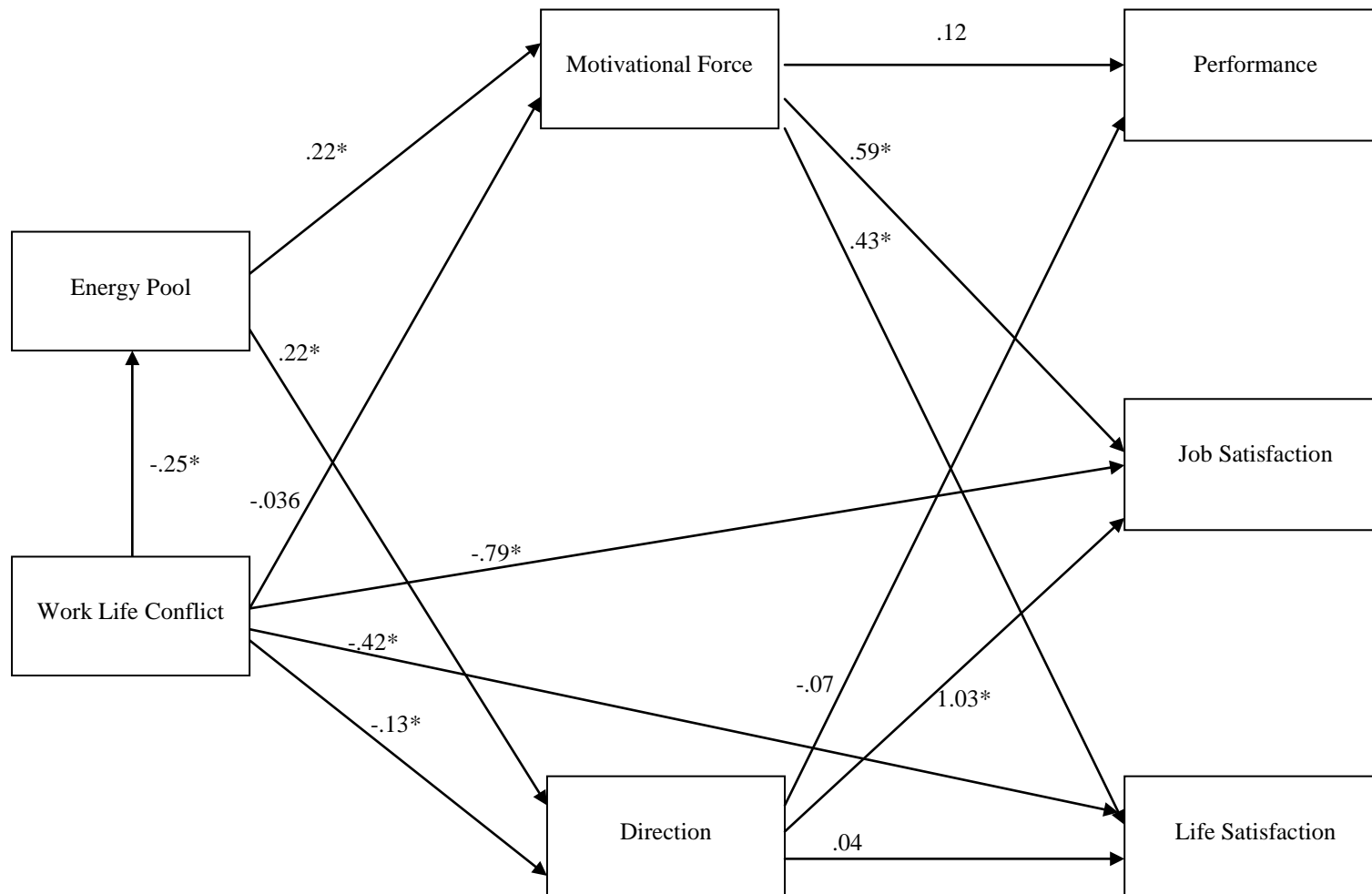
Figure 7. Hypothesized Model with Path Coefficients

* indicates significant at the .05 level.

as path analysis indicates a significant direct effect between WLC and Job Satisfaction (B = -.79, SE = .18, p < .05), and using the Sobel (1982) test for mediation, significant indirect effects were confirmed from direction (z = -2.1, SE = .06, p < .05) and motivational force (z = 1.99, SE = .07, p < .05). Thus, the partial mediation hypothesis was supported.

Hypothesis 3h states that the relationship between WLC and life satisfaction will be partially mediated by level of energy, level of direction and level of motivational force. This was not fully supported. However, there was a direct effect from WLC on Life Satisfaction (B = .42, SE = .15, p < .05). Direct effects of direction on life satisfaction were not significant, which precludes full hypothesis support. The mediation between WLC, energy, motivation and life satisfaction may still be tested using the joint analysis approach described in Taylor, MacKinnon, and Tein (2008), which is an extension of the Sobel (1982) approach. Using this method, the indirect effect is not calculated. However, significance is determined if each path in the indirect paths are all significantly different from zero. Analyses revealed that the path between WLC and energy was statistically significant (z = -3.62), as were that of energy and motivation (z = 3.31), and motivation and life satisfaction (z = 2.16), which suggests that these indirect effects are significantly nonzero. Thus, direct effects are indicated from WLC on life satisfaction and indirect effects are indicated through energy and motivation, but not through direction. Therefore, Hypothesis 3h is partially supported based on the significant mediation, but not fully supported since the direct effects from direction on life satisfaction were not statistically significant.

Hypothesis 4c stated that energy and performance was mediated by level of direction and motivational force. Though there were significant direct effects indicated between energy and motivational force (B = .22, SE = .07, p < .05), there was no significant direct effect from

motivation on performance. Additionally, there was a significant direct effect from energy on

direction ($B = .22$, $SE = .06$, $p < .05$), but there was no significant direct effect of direction on

performance, thus precluding indirect effects from any of the hypothesized variables. Therefore,

Hypothesis 4c was not supported.

Similarly, Hypothesis 4d stated that the relationship between WLC and performance was

mediated by energy, direction and motivational force. As described earlier, in order for three way

mediation to exist, there must be a z which was significantly different from zero between each of

the intervening variables. Though the path between WLC and energy was significantly different

from zero ($z = -3.62$), and the path between energy and motivation was also significantly

different from zero ($z = 3.31$), the path between motivation and performance was not

significantly different from zero ($z = 1.05$) and thus this mediation path was not supported based

on the Taylor et al. (2008) method. Similarly, the path between WLC and direction was

significantly different from zero ($z = -2.52$), but the path between direction and performance was

not significantly different from zero ($z = -.556$), again precluding the hypothesized mediation

relationships. Hypothesis 4d is therefore not supported as there were no direct or indirect effects

on performance.

CHAPTER FIVE: DISCUSSION

Study Findings

One objective of the study was to determine how workers experience motivational force and how motivation relates to energy and level of direction toward work tasks and procedures. Additionally, the study was meant to determine how conflict between one's work roles and roles outside of the work setting relate to the level of motivation experienced as well as how work energy and direction are impacted. Finally, I attempted to measure how these attitudes relate to general attitudes toward one's life and job, as well as how their work performance is affected.

I investigated the relationships between several facets of motivation at work including how motivation impacts the way people feel about their jobs, their lives and how well they perform those jobs. Additionally, it was hoped to determine how attitudes at work and aspects of motivation combine in causing these resultant attitudes and work behaviors. The results of this study suggest that motivation is an important part of the formation of attitudes about work and one's life in general. It also provided support that when employees experience conflict between their roles as workers and their roles outside of work, motivation of some workers can suffer as a result.

Energy, Motivation and Direction

The first group of hypotheses tested the relationship between how much energy pool is available for work activities and several motivational variables. The first hypothesis (1a) was supported, which suggested that energy pool would be positively related to motivational force. Because of the correlational nature of this study, one cannot be certain whether energy causes

motivational force, but these findings suggest that when energy levels of the worker are high, he or she is more likely to indicate higher levels of motivational force. The second hypothesis (1b) was also supported, indicating that energy is positively correlated with direction toward work activities. This supports the idea that when a worker's energy pool is high, the worker will also be more likely to understand and adhere to organizational objectives and is more likely to develop unique and innovative ways to accomplish such objectives.

Some research has generally associated energy with motivation (e.g., Toates & Jensen, 1991), however little has been done to understand energy in a comprehensive motivation model which views motivation as a process rather than as individual differences. This dissertation specifically investigated work energy with motivational force as a function of several expectancy based components. This research demonstrated correlative relationships between energy and motivational force and also energy and direction, which though causality cannot be inferred, it is important to know the magnitude and direction of the variable relations. It could be that energy causes direction and motivational force, or these variables could be causing energy. It could also be that there is a reciprocal relationship such that they partially cause each other. Implications of these findings will be discussed in a later section.

Work Life Conflict

The next area of hypotheses addressed WLC and its role in the motivational process. Hypothesis 2a was supported, showing that WLC would negatively correlate with energy pool for work. Those with higher levels of WLC indicated lower levels of energy pool to do their jobs. Again, correlation does not imply causality, but it is logical that when one is conflicted between work and non-work roles, one would also have competing activities for one's time and energy and thus would be less likely to indicate high levels of work energy pool. It is also

81

possible that lower levels of energy cause WLC or that a third causal variable is responsible for fluctuations in both. However, it is thought that conflict tends to drain energy (Freud, 1938) and people tend to direct their energy to the roles that are the most important to them (Greenhaus & Beutell, 1985).

WLC was also significantly negatively related to direction toward work activities, supporting hypothesis 2b. Those experiencing high levels of conflict between their work and life roles are less likely to effectively understand and commit to their work goals and objectives and are less likely to process novel solutions for work challenges. WLC may not cause reduced awareness or understanding of work objectives and activities, but it is likely that the commitment to these activities will be hindered as a result of competing roles. Hypothesis 2c was also supported, which predicted there would be a significant negative relationship between WLC and motivational force. Those that reported elevated levels of conflict between their work and life roles tended to experience less motivational force overall.

It was anticipated that WLC would negatively relate to motivation and two a priori hypotheses were posed in order to investigate the specific motivational connections that were most affected. Hypotheses 2d and 2e were not supported either, which suggested a negative correlation between WLC and the motivational dimensions of results-to-evaluation connections and with outcomes-to-need satisfaction connections. However, there was a significant negative correlation between WLC and the motivational dimension of evaluations-to-outcomes connections, which was not hypothesized. It was expected that when workers experienced high levels of work and non-work role conflict, they would subsequently suffer in their motivation at work, and specifically with the extent that they believe that there is a strong connection between the results of their work efforts and the way various associates of the worker (e.g., supervisor,

82

self, and spouse) evaluate these results. For example, in some ways a spouse may informally evaluate a worker's performance. Suppose the employee spends 12 hours on a work project and she evaluates her results favorably, but her spouse deems the result unfavorable because it took more time away from home activities. In this example, there are inconsistent evaluations, which should be reflected in lower results-to-evaluation connection levels. The results of the study did not support a negative relationship between WLC and results-to-evaluation connection levels nor did they support the above described example. The results suggest that when people experience conflict, the extent that they feel their work results are precisely and consistently rated is not affected. It also suggests that when they do experience diminished levels of the belief that the results of their efforts are rated precisely and consistently, that they do not have resultant conflict between their lives and their work roles.

The lack of support for the negative relationship between WLC and outcomes-to-need satisfaction was surprising. Based on the results, it appears that those experiencing conflict between life and work roles are not affected in the way they believe that their needs are satisfied by work outcomes. It is also appears that those experiencing concerns about how well their needs are satisfied by the outcomes received at work do not reflect that in conflict between life and work roles. However, the significant negative relationship between WLC and evaluations-to-outcomes appears to be the primary explanation as to how WLC impacts motivational force. This relationship suggests that higher levels of role conflict coincide with lower levels of the belief that favorable evaluations of one's work efforts result in consistent outcomes like pay and time off. This could imply that conflict causes inconsistent associations between how well one does and how one is rewarded, or it could imply that inconsistent work outcomes cause more conflict.

Job Satisfaction

Several hypotheses were posed to investigate how WLC and the motivational process variables correlate with job related attitudes. Hypothesis 3a was supported which showed that when workers are highly conflicted between their work and life roles, they tend to experience less satisfaction with their jobs. It may be that when these roles cause conflict in the worker, the worker tends to be less satisfied with the job due to the resultant stress. It may also be that when one is less satisfied with his job, conflict is introduced between work and life roles. This is consistent with previous research (Boles et al., 1997; Carlson & Perrewé, 1999; Koseck & Ozeki, 1998) and reinforces the importance that balancing work and life roles has in forming attitudes about one's job.

In addition to the role of WLC, it was also hypothesized that motivation and direction would be related to job satisfaction. Support was not found for Hypothesis 3b, which predicted that level of direction toward work activities would correlate with job satisfaction. This suggests that when workers have an unclear understanding of corporate objectives and lack commitment to accomplishing those objectives, there appears to be no effect on how satisfied they are with the job. Similarly, if a worker is dissatisfied with the job, they are not any more likely to lack understanding of organizational objectives and commit to those objectives.

Motivational force did correlate with job satisfaction, supporting Hypothesis 3c. This suggests that higher levels of work motivation occur with higher levels of job satisfaction and it is likely that motivation contributes to satisfaction directly and through other processes as well. Motivational force consists in part of the belief that the outcomes at work are satisfying to the worker's needs. It is possible that when personal needs are satisfied from job related outcomes,

84

that satisfaction then causes an overall attitude of satisfaction with the job. It is also possible that when one feels pleased with the general attributes of one's job, their attitudes about how satisfying work outcomes are is affected. Though it was not hypothesized, job satisfaction significantly correlated with three of the motivational force dimensions including actions-to-results connection ($r = .213$, $p < .01$), results to evaluation ($r = .158$, $p < .05$), and outcomes-to-need satisfaction ($r = .319$, $p < .01$). Job satisfaction did not correlate with evaluations-to-outcomes connection ($r = .155$, $p = $ ns). This supports the above notion; especially since the correlation with outcome-to-need satisfaction is particularly strong. Correlation does not substantiate causal inferences, but it is likely that those with high levels of motivation will only sustain such high levels when there are generally satisfying consequences. Thus, it is possible that motivation causes satisfaction. It may also be the case that satisfaction causes motivation (e.g., through strengthening the outcomes-to-need satisfaction connection), or a third variable or set of variables may cause both. Other variables are likely to at least contribute, which is why the next hypotheses were formulated.

The relationship between WLC and job satisfaction was established as significant and it is likely that this relationship is mediated by the extent that we are directed toward work activities and the extent that we are motivated at work. Hypothesis 3d proposed this mediational process and it was supported. Specifically, there was a significant direct effect of WLC on job satisfaction, but there was also a significant indirect effect through mediator variables, which suggests that those with higher levels of WLC are less satisfied with their jobs, but that effect is partially due to the effect of WLC on direction and motivation. These results suggest that when conflict is experienced, it not only results in reduced job attitudes directly, but it also results in

motivational degradation and reduced direction and allocation of energy to work activities, which subsequently also impact job satisfaction.

Life Satisfaction

The hypothesized relationship between WLC and life satisfaction (3e) was also supported such that those with higher levels of conflict expressed lower levels of life satisfaction. This is consistent with similar research (Beutell & Wittig-Berman, 1999) and similar to the effect on job satisfaction, it suggests that conflict impacts the self-assessment of how pleased on is with one's life. When we are conflicted between job roles and life roles, at least one of the roles is likely to have deficiency and based on the current findings, both suffer. It is possible that job satisfaction is influenced by life satisfaction and vice versa, but this study only investigated the extent that these two attitudes are influenced by WLC.

Hypothesis 3f predicted a positive relationship between direction and life satisfaction, which was supported ($r = .15$, $p = .03$) based on an a priori specified one-tailed probability. This suggests that when one has clear understanding of organizational objectives and is strongly committed to meeting those objectives, they tend to be more satisfied with their lives. It could also be that people that are strongly satisfied with where they are in life tend to better understand organizational objectives and exhibit more commitment to those objectives. It could also be that some other variable causes them both. This relationship was predicted as part of the mediated model which is discussed later. Previous research has found direction to be an important antecedent to life satisfaction (Lambert et al., 2009), but more research is necessary to determine more specifically the relationship between these variables.

A positive relationship between motivation and life satisfaction was also hypothesized (3g), which was supported. This suggests more precisely that those that demonstrate high levels of motivational force will tend to express more satisfaction with their life overall. As mentioned previously, this is consistent with the relationship with job satisfaction and there is likely to be a similar mechanism at play. Since workers with high motivation on the job are likely to be sustained in part due to meeting work-related and personal needs, it is logical to infer that the motivation process will directly impact life satisfaction as it did for job satisfaction. Again, because correlation can not substantiate causal inferences, alternative explanations must still be considered. Thus, it is possible that life satisfaction contributes to the overall motivational force experienced by a worker, and it is possible that other variables are causing both motivation and life satisfaction. Previous work has demonstrated that intrinsic motivation leads to more satisfaction with life (Warr, Cook, & Wall, 1979), but more research is necessary to more precisely identify the direction of causality.

Life satisfaction, like most attitudes, is formed through numerous processes and work and life role conflicts are likely contributors. The amount of motivational force and direction are arguably contributors as well and the role of conflict is likely to have some of its effect on life satisfaction through motivational mechanisms, as has been hypothesized in 3h. This was not fully supported, as there was no direct effect indicated from direction on life satisfaction, nor was the correlation significant. However, partial support for the hypothesis was indicated since there were significant direct effects detected from WLC on life satisfaction and there were indirect effects from energy and motivation. This partially explains the complex roles of each of these variables in the establishment of attitudes toward one's life. It is logical that each of these contributes to how one perceives the effectiveness and the completeness of one's life, and this

87

research suggests that conflicting roles in and outside of work not only affect these attitudes, but they also influence these life assessments through the motivational process first through energy availability to the worker and subsequently as that affects the motivational force exhibited by the worker. Since direction did not have a direct impact on life satisfaction, the question still remains as to whether or not, or how direction matters in forming this attitude. It is likely that this construct needs further explication, as there has been some support for its impact on life satisfaction (Lambert et al., 2009) and given the significant correlation revealed in the current study.

Performance

Performance was also investigated in this research and none of the associated hypotheses were supported. It was predicted in Hypothesis 4a that work performance would be positively related to direction toward work activities, and it is likely that the nonsignificant statistical support was methodological. Although little research has investigated the connection between direction and performance and other work outcomes, several studies have suggested there should be a causal connection (Klehe & Anderson, 2007; Lawler & Suttle, 1973), but this construct has not been consistently described and operationalized. It is possible that direction was poorly conceptualized and it is also possible that the operationalization in this research was inadequate. This may be evidenced by the limited support of this variable in life and job satisfaction formation. However, there were reasonable conceptual links with motivational variables, which suggests that direction is an important component in the motivational process. Furthermore, performance did not relate to other variables, including those that have demonstrated correlations in substantial previous research. Thus, the validity of performance is the more likely suspect.

88

Nonetheless, future research is necessary to more precisely conceptualize and test the direction construct and its role, if any, in work behavior and associated attitudes.

Performance was not related to motivational force either, which was counter-intuitive given the early research which has demonstrated a positive relationship between performance and motivation (Fleishmann, 1958; French, 1957; Locke, 1965; Vroom, 1964) and more recent studies have expanded this relationship to various motivation theories supporting a relationship with performance (Stajkovic & Luthans, 2001). Of more concern is the fact that previous research using the same measures for motivation and performance has demonstrated a relationship (Cornejo, 2007; Harrell, 2008). Thus, it is highly likely that there were some methodological issues which precluded demonstration of correlation between these variables.

The performance data were investigated for such potential problems and several concerns surfaced. The scale consisted of 3 items, which again have successfully been used previously. The psychometric properties were acceptable. Internal consistency was .88 and the mean was 4 out of a possible 5. This indicates a slight negative skewness, but not severely. The range was appropriate and consistent with previous research as well. The data were extensively inspected and retested in order to determine if there was a coding error with no problems detected. Scatterplots did not indicate outliers or heteroscedasticity. Performance did not correlate with any of the hypothesized variables even when moderators were controlled for such as organization, rater, department, and even range of the responses.

There are several possible explanations. First, it is possible that the method by which the surveys were administered caused rater error. Each supervisor was briefed as to the importance of rating subordinates validly. It was noted that a large portion of the ratings were completed

within a few days of briefing. The investigator called the supervisors several times throughout the survey period and it was also noted that a large portion of the supervisor scales were completed within just a few days of the deadline. An attempt was made to determine if date of completion was a factor. As was mentioned in the results section, it was considered that supervisors completing the performance scales quickly after the briefing of the study were differently attentive to the process than those completing the scale just prior to the study was completed. It may have been the case that when supervisors were rushed, but still felt obligated to complete the surveys, they completed them with less precision. However, when correlations were calculated for the group of supervisors who completed surveys within 1 week of being briefed on the study and 1 week from the end of the study, there were no statistically significant results for either group. This investigator suspects that supervisors were not adequately trained in the importance and the process of providing valid responses.

The performance data were obtained from 30 different supervisors, which means that the average supervisor completed about 8 scales. It is possible that the raters were not motivated to provide precise evaluations. Additionally, although the supervisors were briefed as to the confidentiality and the encrypted nature of the data, it is possible that the raters were not adequately convinced that the data would be protected. Because of this they might have been compelled to either rate highly, as evidenced by the slight negative skew, and possibly to rate randomly or using some other systematic error. Performance is a very important outcome in most work related research and these results should be viewed skeptically given the previous research. Future studies should be conducted with more consideration as to the method of administering the surveys and controlling for moderators more precisely.

Given the aforementioned evidence that performance should correlate with at least the motivational variables, it would be worthwhile to investigate the importance of supervisor training and education background, as their knowledge and work experiences may be important in helping them formulate precise assessments of their subordinates' performance. It is also likely that the tenure of the supervisor (i.e., length of time on job) would affect validity of performance assessment. Those that are new or recently promoted may have less experience in observing and appraising subordinates, and may also be limited as to the extent they are able to observe and recall performance of their current direct reports. That was not considered in this study and it is quite possible that supervisors that volunteered for this study were relatively junior.

There were no significant correlations with performance and none of the tests indicated direct or indirect effects on performance. Thus, hypotheses 4a-4d were not supported. Mediation hypotheses were tested using path analysis, and the specific mediation tests involved a series of calculations requiring the combination of path coefficients. Since there were no statistically significant path coefficients regarding performance, none of the mediation hypotheses were confirmed. Though there was no formal hypothesis beyond the mediational relationships, the proposed model (see Figure 3) was tested for fit using several indices (Hu & Bentler, 1999) to assess for model fit. The model was determined to be a better fit than random, such that the independence model was rejected. However, the fit indices indicated that the prescribed model was not a good fit.

Lagrange multiplier tests suggested that removal of the performance variable slightly improved model fit. However, since the performance variable did not behave consistent with existing research, it is not considered feasible to exclude the performance variable from the

overall model. Thus, since performance was determined to be uncorrelated with any of the model variables and there were no direct or indirect effects on performance, no further configurations of the model were considered.

Thus, results indicated that the specified model was not validated. This could be due to construct validity problems such that the model was not sufficiently explicated at the theoretical level. It is also possible that the measures did not sufficiently tap the constructs of interest. It may also be the case that the measures were administered in a manner which restricted the validity. It is likely that there were methodological issues, discussed below, which precluded the detection of the actual role of energy, motivation, direction and WLC on performance. It is likely that each of these issues contributed to the poor support of the model overall. Model fit should be reassessed in future research when the construct, operationalization, performance method issues and other non-normality issues can be addressed.

Study Limitations

This study has several limitations. Nonexperimental studies cannot readily test for causal connections between variables (Rosopa & Stone-Romero, 2008). Thus, the survey design limited causal inferences accordingly. That is, in each of the hypothesized relationships, it is possible that variable A caused variable B, variable B caused variable A, or a third variable(s) caused both. Thus, high levels of WLC may cause lower work energy, or low work energy could cause high levels of conflict between work and life roles. Similarly, low levels of energy could cause lower levels of motivational force or low work motivation could actually cause lower energy. It was determined that WLC was negatively related to job satisfaction, which suggests it could be the cause, or job satisfaction may actually produce higher levels of conflict.

Though this correlational study is not capable of demonstrating causality, one of the objectives of research was to establish a theoretical model representing a comprehensive set of motivational dimensions. Future research must extend the theoretical connections as well as identify causal connections through experimentation. Thus, this type of research is appropriate for describing relationships between important motivational variables and will serve as a foundation for future experimental work.

Additionally, mono-method bias is another concern for the validity of this research. Since most of the measures consisted of self-report questionnaires, there is potential for response bias of the respondents. This effect was partially addressed by having supervisors complete the performance measures, but the remainder of the surveys were self-report and were completed by one person during the same session. It is likely that the correlations were influenced by this bias. It is also possible that participants responded in socially desirable ways for certain items. There is also the potential for response sets in which the respondent tends to rate items either high, low, or centrally. Self report issues are addressed during the development of the primary measures and involved extensive consideration in devising items that minimize these potential results. Furthermore, there were several dimensions that were measured using unique item formats, which can sometimes improve upon this bias by acting as different methods (Campbell & Fiske, 1959). The assurance of anonymity is expected to minimize the effects as well.

Another limitation of this study was the sample. A large proportion of the participants were from the same organization which consisted of highly technical trainers, programmers, graphic artists, etc. This poses a threat to external validity such that these relationships may not hold in other samples or in the population as a whole. It may be that the members of that organization are motivated and experience conflict in a unique manner due to their training, their

work environment, or other factors. It is also possible that those participants process job and life attitudes in a manner unique to that vocational genre. There were no statistically significant indications that the organization had any impact on these findings, but since such a large proportion of data came from that organization, it is not likely that this effect would be statistically significant for other organizations.

Another significant concern for this study was the lack of performance relationships. There are several potential explanations for this. First, it may be that performance simply was not related to WLC, motivational force, direction or energy. It may be that performance is not influenced by the motivational process, and not affected by WLC. It may be that previous research findings do not generalize to the people, places or time of this study. It is also possible that the method by which the measures were administered to supervisors was flawed, causing internal validity problems, as there is ample evidence that several of these correlations should emerge. As was discussed earlier, the mean performance level was approximately 4 out of a possible score of 5, and a standard deviation of .7, which suggests that supervisors tended to rate the subordinates systematically high. This may be because subordinates tended to be high performers, which limits the variability of performance, or it may be that raters tended to be biased such that they inflated their assessments of the employee (i.e. halo effect). As was discussed previously, it is suspected that the supervisors were briefed in a manner which did not communicate the importance of valid responses or the number of responses from each supervisor possibly caused a majority of the respondents to lose interest after the first couple surveys. Since each supervisor had an average of 8 employees to rate, this may have affected the response validity.

Causal inferences including mediation are strongest in experimental designs and weakest in nonexperimental designs (Rosopa & Stone-Romero, 2008), and thus any inferences regarding causal direction should be guarded. As was discussed above, the intent of this study was to determine the relationships of direct and indirect connections between motivation and WLC variables and work outcomes. Experimental work is necessary to better understand cause.

Implications for Theory and Practice

This research contributes to theoretical understanding of several concepts. The process by which workers are motivated and the how that motivation is sustained and enhanced is likely to be complex. Employees certainly have personal attributes and experiences that influence how they are driven to perform at work, but it is important to understand the process that influences motivation at work. This work extended the validity of the Pritchard and Ashwood motivational model such that the dimensions exhibited very similar psychometric characteristics and intercorrelations.

Campbell and Pritchard (1976) explained that direction is an important part of the motivational process, but little has been done to investigate this component as it relates to motivational force. The results of this study indicated, as hypothesized, that workers who have a thorough understanding of organizational objectives, are eager to achieve those objectives and are likely to adapt methods to meet these objectives, are also likely to exhibit high levels of motivational force. In fact, there was a positive correlation between level of direction and each of the four connections that comprise motivational force.

This research also investigated the role of the workers' energy pool in how it related to motivation and work outcomes. As was expected, energy was positively correlated with

95

motivational force, and it was also correlated with three of the connections that comprise

motivational force, which suggests that it is an important part of motivation in several ways.

The results of this study also have implications for practice. Part of what managers and

leaders do is manage the motivational process. This can be more effectively accomplished with

an understanding of how workers are motivated (i.e., understanding the connections), but also

how energy and direction play a role in that process. Managers are often able to sense motivation

problems or deficits, but it is much more challenging to troubleshoot what the problem is so that

an intervention can be formulated and executed.

This approach to explaining the motivation process is not only more parsimonious than

competing theories, but it can be applied at the work-level. Managers could actually administer

surveys to their teams and thus measure with some degree of precision, how motivated the team

is and specifically which aspects of motivation are suffering. The direction and energy surveys

were short enough that these few items could be included in a ready-for-work instrument which

could provide valid assessment of the overall motivation, the strength of each dimension of

motivation, while also determining whether or to what extent the workers have the necessary

personal resources and wherewithal to get the job done.

This is also the first study to specifically investigate how WLC fits within the

motivational process at work. Previous research has connected WLC with performance and job

attitudes, but very little has attempted to explain how these outcomes are influenced. The results

of this study suggest that not only does WLC negatively correlate with motivation, as was

anticipated, but it also provided some explanation as to how motivation is affected. Though

WLC did not correlate with the hypothesized motivational connections, there was a significant

negative correlation between WLC and outcomes-need satisfaction. This suggests that those

experiencing WLC are likely to experience diminished satisfaction with the things they get from the work experience such as pay and social interaction. It also suggests that WLC does not have a detectable impact on the other components of motivational force.

However, WLC did demonstrate a strong negative relationship with the direction and energy pool levels. So there was little detected influence on three of the four motivational connections, but there was a distinct impact on how much energy a worker is likely to allocate to work efforts and to motivation, and there was a distinct impact on how likely the worker is able to interpret and adopt organizational objectives.

These results also have important practical implications. It is not certain whether WLC causes any of these motivational variables, but for workers experiencing these issues, a manager could definitely investigate whether or not direction or the energy pool are also suffering. In such cases, it may be that the effect of WLC on work outcomes and attitudes could be mitigated by facilitating a better understanding of organizational objectives or by providing process or schedule changes that improve worker energy.

This research also provided a better understanding of how motivational variables, and WLC, combine to cause performance and attitudes about one's life and job. The results did not conclusively confirm an overall representative model that explains each of these variables and their roles. But there was evidence that they work together. There was evidence that WLC relates to life and job satisfaction and that there is a direct effect on both, and there are indirect effects on at least job satisfaction through energy, direction and motivation. WLC also affects life satisfaction indirectly through energy and motivation.

There are also practical implications to be considered regarding these findings. It appears that these attitudes are impacted by WLC and managers could possibly mitigate these effects

through assessing worker energy, motivation and direction, and subsequently formulating interventions addressing these issues.

Empirical findings did not extend the understanding of how performance is affected by WLC and how motivation is involved. However, previous research suggests that performance is likely impacted similar to how work and life satisfaction were impacted. This will be discussed further in the next section.

Future Research

There are several areas of future research that emerge as a result of this study. First, it was determined that direction is positively correlated with motivation and several of its components. It is possible that these constructs are related because they are measuring some of the same things. For example, the extent that people are committed to organizational objectives could be part of their belief that their work efforts result in successful completion and evaluation of these results. It would be helpful to evaluate the constructs more precisely and to empirically investigate the overlap. Similarly, the energy pool appears to be distinct from direction and from motivational force, but the consistently significant correlations could indicate that there is some overlap between the constructs. As with all theories, there is a degree of deficiency in specifying direction and energy and there is also some degree of contamination with other variables. Further validation of these constructs is warranted. This could be accomplished through larger scale studies which could include confirmatory factor analysis.

There is a similar opportunity for expanding research on the motivational process and how it affects job and life satisfaction. Specifically, it appears that outcomes-to-need satisfaction is the dimension most important to these attitudes and it may be that there is some overlap in these constructs. It is likely that beliefs about need satisfaction are related to life and job

satisfaction because they are comprised of some of the same information or they use some of the same personal assessments. It would be useful to theoretically and empirically investigate the extent that these constructs are overlapping, if at all. Again, confirmatory studies could extend the understanding of both concepts.   This study was unsuccessful at establishing a relationship with performance. As was discussed earlier, it is likely that there were some methodological issues and future research should be conducted with clear rational as to the potential pitfalls. Psychometric properties were adequate even for the 3-item scale in this study. Future attempts at utilizing this scale or in measuring performance in general should consider a more detailed briefing of supervisors. It is important that they understand how the items are to be completed and they must commit to providing valid assessment of their subordinates. They may tend to respond with bias due to their attitudes about confidentiality, or personal biases. Briefs should include a discussion on potential rater biases and how to avoid such biases. Other concerns about confidentiality or privacy can be addressed through design of the study and reinforcing of the process with the supervisors.

The major limitation of correlational studies is that causal inferences are extremely limited in their validity. Thus, experimental research is desired to confirm some of these hypothesized effects. There are several potential approaches to conducting experimental and quasi-experimental research so that causal inferences may be more validly made. First, a laboratory study should be conducted in which participants are provided with a contrived job over a period of time. Initial motivation levels could be assessed, as well as direction and energy. Outcome variables such as performance, life satisfaction and job satisfaction could be measured as well. The experimenter could systematically provide interventions designed to improve direction, energy pool, and motivational force connections and then determine their impact on

99

changing outcomes. As with all research, there would certainly be validity limitations, but this approach or some version of such could provide steps toward understanding the causal nature of each process variable. Ideally, a longitudinal field study with real workers with real jobs could be assessed similarly and interventions could be provided to detect improvements in the motivational variables, as well as the outcome variables. Of course, this approach has a different set of validity constraints, and funding for such research could be exorbitant. However, such an approach would likely provide better evidence of causality than nonexperimental studies.

APPENDIX A: INFORMED CONSENT

AN INVESTIGATION OF THE RELATIONSHIPS BETWEEN
MOTIVATION, WORKER ROLE CONFLICTS
AND WORKER OUTCOMES

Informed Consent (Employee)

Principal Investigator(s):   **Robert C. Kennedy, MS, MBA**

Faculty Supervisor: **Robert D. Pritchard, Ph.D.**

Investigational Site(s):   **University of Central Florida, Department**

Introduction: Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You are being invited to take part in a research study which will include about *220* people in the Orlando, Florida area. You have been asked to take part in this research study because you are a full-time employee. You must be 18 years of age or older to be included in the research study.

The person doing this research is Robert C. Kennedy, MS, MBA of the University of Central Florida. Because the researcher is a graduate student, he is being guided by Robert D. Pritchard, PhD, a UCF faculty supervisor in the Department of Psychology.

What you should know about a research study:
- Someone will explain this research study to you.
- A research study is something you volunteer for.
- Whether or not you take part is up to you.
- You should take part in this study only because you want to.
- You can choose not to take part in the research study.
- You can agree to take part now and later change your mind.
- Whatever you decide it will not be held against you.
- Feel free to ask all the questions you want before you decide.
- Your data will be password protected.
- Your data will never be linked back to you once the data are published.

Purpose of the research study: The purpose of this study is to better understand how workers are motivated to do their jobs. There are many considerations in determining how motivated workers are, such as how strongly they feel their efforts will result in desired outcomes. This research is also focused on determining whether balance between roles in and outside the workplace contributes to the motivation levels of the worker. It is expected that by better understanding motivation and worker role balance, organizations will be better informed as to

how they may structure their policies and procedures in order to maximize productivity and job related attitudes.

What you will be asked to do in the study:
- You will be briefed as to the purpose and procedure of the study.
- You will be asked to complete a questionnaire via Survey Monkey, an electronic data collection website.
- Once you complete the questionnaire, you will be debriefed.
- Your supervisor will be asked to complete a brief questionnaire about your work performance. This information will be kept confidential and will not be retained by your organization and will not be shared with anyone besides the researchers.
- It is important that you respond to the items honestly. You need not respond to every item and you may withdraw from participation at any time.

Risks: This study involves minimal risk, as you will be asked to provide information about your attitudes toward work and life roles. The survey material could evoke some emotional response as it relates to your life and your work.

Benefits: There are no expected benefits to this study. However, the results of the study may benefit researchers and practitioners in motivating workers.

Location: Completion of the questionnaires will be done at a computer with Internet access.

Time required: We expect that you will be in this research study for approximately one hour.

Compensation or payment:
Participation in this study is strictly voluntary and there is no compensation or other payment to you for taking part.

Confidentiality: None of your responses will be viewed by personnel in your organization. Your supervisor will complete several questions about your performance which will be coded so that once the data are recorded, personal identifying information will be destroyed. We will limit your personal data collected in this study to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of UCF.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints, or think the research has hurt you, talk to Robert C. Kennedy, Graduate Student, I/O Psychology Ph.D. Program, Department of Psychology at UCF, 321-230-7015 or rckennedy@earthlink.net. You may also contact Dr. Robert D. Pritchard, Faculty Supervisor in the Department of Psychology at UCF, 407-823-2560.

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. You may also talk to them for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You want to get information or provide input about this research.

Your digital signature (web based) indicates your permission to take part in this research.

AN INVESTIGATION OF THE RELATIONSHIPS BETWEEN
MOTIVATION, WORKER ROLE CONFLICTS
AND WORKER OUTCOMES

Informed Consent (Supervisor)

Principal Investigator(s):   **Robert C. Kennedy, MS, MBA**

Faculty Supervisor: **Robert D. Pritchard, Ph.D.**

Investigational Site(s):   **University of Central Florida, Department**

Introduction: Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You are being invited to take part in a research study which will include about *220* people in the Orlando, Florida area. You have been asked to take part in this research study because you are a supervisor of a full-time employee. You must be 18 years of age or older to be included in the research study.

The person doing this research is Robert C. Kennedy, MS, MBA of the University of Central Florida. Because the researcher is a graduate student, he is being guided by Robert D. Pritchard, PhD, a UCF faculty supervisor in the Department of Psychology.

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- You can agree to take part now and later change your mind.
- Whatever you decide it will not be held against you.
- Feel free to ask all the questions you want before you decide.
- Your data will be password protected.
- Your data will never be linked back to you once the data are published.

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how they may structure their policies and procedures in order to maximize productivity and job related attitudes.

What you will be asked to do in the study:
- You will be briefed as to the purpose and procedure of the study.
- You will be asked to complete a questionnaire via Survey Monkey, an electronic data collection website.
- Once you complete the questionnaire, you will be debriefed.
- You will be asked to complete a brief questionnaire about one or more of your employees' work performance. This information will be kept confidential and will not be retained by your organization and will not be shared with anyone besides the researchers.
- It is important that you respond to the items honestly. You need not respond to every item and you may withdraw from participation at any time.

Risks: This study involves minimal risk, as you will be asked to provide information about your employees' performance. The survey material could evoke some emotional response as it relates to your workers.

Benefits: There are no expected benefits to the participants. However, the results of the study may benefit researchers and practitioners in motivating workers.

Location: Completion of the questionnaires will be done at a computer with Internet access.

Time required: We expect that you will be in this research study for approximately 10 minutes per employee.

Compensation or payment:
Participation in this study is strictly voluntary and there is no compensation or other payment to you for taking part.

Confidentiality: None of your responses will be viewed by personnel in your organization. The responses to the survey questions will be coded so that once the data are recorded, personal identifying information will be destroyed. We will limit personal data collected in this study to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of UCF.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints, or think the research has hurt you, talk to Robert C. Kennedy, Graduate Student, I/O Psychology Ph.D. Program, Department of Psychology at UCF, 321-230-7015 or rckennedy@earthlink.net. You may also contact Dr. Robert D. Pritchard, Faculty Supervisor in the Department of Psychology at UCF, 407-823-2560.

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. You may also talk to them for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You want to get information or provide input about this research.

Your digital signature (web based) indicates your permission to take part in this research.

APPENDIX B: MOTIVATION ASSESSMENT SYSTEM

MOTIVATION ASSESSMENT SYSTEM

Final Items – 07/29/10

Instructions: In the following pages, we are asking about your job. Please answer each question by marking the box that best gives your opinion.

DIRECTION

Instructions: Please answer each question by marking the most accurate answer.

Subscale I. Knowledge of Organizational Priorities:					
1. Priorities here change so often that I am not sure which tasks are most important.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
2. It is not clear to me how much effort to put into different parts of my job.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
Subscale II. Agreement with Organizational Priorities:					
1. My supervisor and I agree on the way my tasks should be prioritized.	Never	Rarely	Sometimes	Usually	Always
2. My supervisor and I agree on what tasks are most and least important for me to do.	Never	Rarely	Sometimes	Usually	Always
Subscale III. Behaving According to Organizational Priorities:					
1. I match how I spend my time with what my supervisor wants from me.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
2. I divide my time across tasks in the way that is most helpful to the organization.	Never	Rarely	Sometimes	Usually	Always
Subscale IV. Willingness to Learn Better Strategies:					
1. Trying to find better ways of doing the job is a waste of time.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
2. Looking for better work strategies is not a good use of my time.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree

ENERGY LEVEL

Instructions: Please answer the following questions about your energy level by marking the most accurate answer.

1. I do not have enough energy to do what is expected of me at work.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2. My energy level is too low to do the job right.	Never	Rarely	Sometimes	Often	Always
3. This job requires more energy than I have.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

ACTION-RESULTS

Instructions: In this section, we want to know how much your effort on the job influences the quantity and quality of your work.

1. My level of effort determines the quantity and quality of work I do.	Never	Rarely	Sometimes	Usually	Always
2. If I increase the amount of effort I put into this job, the quantity and quality of my work:	Get Worse	Stay the Same	Improve Slightly	Improve	Improve Greatly
3. How much of the quantity and quality of your work is due to your own efforts?	None	Very Little	Some	Almost All	All
4. When I put more effort into this job, the quantity and quality of my work go up.	Never	Rarely	Sometimes	Usually	Always

A-R Determinants

INSTRUCTIONS: This section asks about job factors that influence the Effort to Productivity Link. For each of the following statements, please indicate how strongly you agree or disagree with the statement (SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree).

Other Work Issues:

1	I do not have some of the key abilities to do my job.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2	I have the training to do my job.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
3	I have a good strategy for doing my work.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4	I have plenty of chances to try out better ways of doing the job.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

5	**I have the authority to make the decisions needed to do my**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6	**I often do not have the information I need to do my**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
7	**I have enough time to do my job.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
8	**I have all of the tools and equipment I need to do my**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
9	**I have all of the supplies and materials I need to do my job.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10	**Sometimes the work is not done right because we are**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
11	**My work suffers because I get held up by others.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
12	**Deadlines are reasonable enough for me to do my job.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
13	**My time management system works well.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

RESULTS-EVALUATIONS
There are three scales for R-E and E-O connections: self, formal and informal. Not all three need to be used if questionnaire length is an issue.

SECTION 1: R-E SELF EVALUATIONS
Instructions: In this section, we want to know about evaluations of your work. This first section deals with *__self evaluations__* which you do for your own work. Later sections deal with evaluations from others.

1a. If the quantity and quality of my work went up a lot, my evaluations of my work would:	Decrease	Stay the Same	Slightly Increase	Increase	Greatly Increase
2a. The quantity and quality of my work have no effect on my evaluations of my work.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
3a. The higher the quantity and quality of my work, the more highly I evaluate my work.	Never	Rarely	Sometimes	Usually	Always
4a. The most important factors in how I evaluate my work are the quantity and quality of my work.	Never	Rarely	Sometimes	Usually	Always
5a. The quantity and quality of my	Never	Rarely	Sometimes	Usually	Always

work determine how favorably I evaluate my work.					

SECTION 2: R-E FORMAL EVALUATIONS

Instructions: In this section we want to know how the quantity and quality of your work are related to the ***formal evaluations*** you receive at work, like a formal performance review done by your supervisor or a feedback system where you regularly receive information about the quantity and/or quality of your work.

Do you have formal evaluations on your job? ☐ NO ☐ YES If NO, skip the next set of questions; go to question 1c.

1b. If the quantity and quality of my work went up a lot, my formal evaluations would:	Decrease	Stay the Same	Slightly Increase	Increase	Greatly Increase
2b. The higher the quantity and quality of my work, the higher my formal evaluations.	Never	Rarely	Sometimes	Usually	Always
3b. The quantity and quality of my work determine how favorable my formal evaluations are.	Never	Rarely	Sometimes	Usually	Always

SECTION 3: R-E INFORMAL EVALUATIONS

Instructions: Now we want to know how the quantity and quality of your work are related to the ***informal evaluations*** you receive at work. Examples of informal evaluations are coworkers' comments about your work or your supervisor saying such things as saying "nice job" or "that needs improvement" on work you have recently done.

1c. The higher the quantity and quality of my work, the higher my informal evaluations.	Never	Rarely	Sometimes	Usually	Always
2c. The most important factors in how my work is informally evaluated are the quantity and quality of my work.	Never	Rarely	Sometimes	Usually	Always
3c. The quantity and quality of my work determine how favorable my informal evaluations from others are.	Never	Rarely	Sometimes	Usually	Always

R-E Determinants

INSTRUCTIONS: This next section asks about job factors that influence the Productivity to Evaluations Link. For each of the following statements, please indicate how strongly you agree or disagree with the statement (SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree).

Other Work Issues:

1	**All the important parts of my work are measured.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2	**The measures of my work output are accurate.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
3	**Many of the things I am measured on are not important to the overall**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4	**It is not clear to me which parts of this job are the most**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
5	**I know what is considered good and bad performance on**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6	**My supervisor and I agree on what is important and not important on my job.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
7	**I am evaluated on all the important parts of my job.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
8	**I do not believe my evaluations measure how well**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
9	**I know how good or bad my supervisor thinks my overall performance is.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10	**I get the same evaluation from everyone who evaluates my**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
11	**I get clear information on how well I am doing my job.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
12	**I do not get information about my job performance often**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
13	**Feedback about my work is so delayed, it often has little**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
14	**The formal feedback system stays the same over time.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
15	**The informal feedback system stays the same over time.**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

EVALUATIONS-OUTCOMES

SECTION 1: E-O SELF EVALUATIONS

Instructions: In this section, we want to know about job outcomes. The first section asks about job outcomes *you give yourself* such as feelings of accomplishment, personal growth, pride, or disappointment.

1a. If my evaluations of my own work go up, the amount of job outcomes (like personal growth, pride, etc.) I give myself:	Get Worse	Stay the Same	Get Slightly Better	Get Better	Get Much Better
2a. If my evaluations of my work go down, the job outcomes I give myself will be worse.	Never	Rarely	Sometimes	Usually	Always
3a. The better my evaluations of my own work are, the better the job outcomes I give myself.	Never	Rarely	Sometimes	Usually	Always
4a. If my evaluation of my own work improved a lot, the job outcomes I gave myself would:	Decrease	Stay the Same	Slightly Increase	Increase	Greatly Increase

SECTION 2: E-O FORMAL EVALUATIONS

Instructions: We now want to know how the ***formal evaluations*** of your work (e.g., formal feedback or performance reviews) affect the job outcomes you get such as raises, work space, criticisms, recognition, promotion opportunities, type of work assignments, feelings of achievement, personal growth, and other job outcomes.

Do you have formal evaluations on your job?　　☐　NO　　　☐　YES

If NO, skip this page; go to item 1c.

1b. If my formal evaluations go up, the amount of job outcomes (like raises, promotions, recognition, criticism, feelings of achievement, etc.) I get:	Get Worse	Stay the Same	Get Slightly Better	Get Better	Get Much Better
2b. The better the formal evaluations of my work are, the better the job outcomes I will get.	Never	Rarely	Sometimes	Usually	Always
3b. If my formal evaluations improved a lot, my job outcomes would:	Decrease	Stay the Same	Slightly Increase	Increase	Greatly Increase

SECTION 3: E-O INFORMAL EVALUATIONS

Instructions: We now want to know how the ***informal evaluations*** of your work (e.g., coworkers' comments, informal verbal feedback from your supervisor) affect the job outcomes you get such as raises, work space, friendships, criticisms, recognition, promotion opportunities, type of work assignments, feelings of achievement, personal growth, and other job outcomes.

1c. If my informal evaluations from others go up, the amount of job outcomes (like raises, promotions, recognition, criticism, feelings of achievement, etc.) I get:	Get Worse	Stay the Same	Get Slightly Better	Get Better	Get Much Better

2c. The better the informal evaluations of my work are, the better the job outcomes I will get.	Never	Rarely	Sometimes	Usually	Always
3c. If my informal evaluations improved a lot, my job outcomes would:	Decrease	Stay the Same	Slightly Increase	Increase	Greatly Increase

E-O Determinants

INSTRUCTIONS: This next section asks about job factors that influence the Evaluations to Outcomes Link. For each of the following statements, please indicate how strongly you agree or disagree with the statement (SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree).

Other Work Issues:

1	I believe I will receive the job outcomes that my organization promises.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2	The way job outcomes are given here seems fair.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
3	People who get the same evaluations here do not get the same level of job	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4	It is not clear what all the job outcomes are on this job.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
5	Different evaluators give me different levels of job outcomes even when their evaluations of me are the	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6	If my evaluation does not change, I get the same amount of job outcomes each time.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

OUTCOMES-NEED SATISFACTION

Instructions: In this section, we want to know how satisfied you are with job outcomes you can get on your job. As before, these job outcomes include raises, work space, friendships, feelings of accomplishment, criticisms, type of work assignments, and other job outcomes.

1. The job outcomes (like raises, promotions, recognition, criticism, etc.) I can get on this job are:	Not Important to Me	Slightly Important to Me	Somewhat Important to Me	Important to Me	Very Important to Me

2. The job outcomes I can get on this job are valuable to me.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
3. If I get the positive job outcomes and avoid the negative outcomes this job can provide, I am going to be satisfied.	Never	Rarely	Sometimes	Usually	Always

O-NS Determinants

INSTRUCTIONS: This section asks about job factors that influence the Job Outcomes to Satisfaction Link. For each of the following statements, please indicate how strongly you agree or disagree with the statement (SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree).

Other Work Issues:

1	The job outcomes do not come often enough for me to be satisfied.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2	I like the type of job outcomes my company can provide.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
3	The overall level of outcomes I get on this job meets my expectations.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4	Compared to what other people here get, the job outcomes I get are fair.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

SUPERVISORY PERFORMANCE RATINGS

1. Overall, this person's work is:	Very Poor	Poor	Adequate	Good	Excellent
2. Compared to other people, this person's overall performance is:	Marginal	Fair	Satisfactory	Good	Exceptional
3. How often does this person perform his/her job effectively?	Never	Rarely	Sometimes	Frequently	Always

WORK ATTITUDES

Instructions: Please circle the answer that best reflects your opinion.

SATISFACTION

Instructions: Please answer the following questions about your job satisfaction by marking the most accurate answer.

1. All things considered, are you satisfied with your job?	Yes			No	
2. How satisfied are you with your job in general?	Very Dissatisfied	Dissatisfied	Moderately Satisfied	Satisfied	Very Satisfied
3. Overall, how would you describe your satisfaction with your job?	Very Low	Low	Moderate	High	Very High

APPENDIX C: WORK LIFE CONFLICT SCALE

WORK LIFE CONFLICT SCALE

Please complete the following questionnaire about your job. Select the most accurate response to each item. Your honest and thoughtful replies are appreciated. Your responses will remain confidential and will not be released to anyone.

1. Do the demands of work interfere with your home, family, or social life?

Seldom or Never   Rarely   Sometimes   Almost Always
        ☐   ☐   ☐   ☐

2. Does the time you spend at work detract from your family or social life?

Seldom or Never   Rarely   Sometimes   Almost Always
        ☐   ☐   ☐   ☐

3. Does your work have disadvantages for your family or social life?

Seldom or Never   Rarely   Sometimes   Almost Always
        ☐   ☐   ☐   ☐

4. Do you not seem to have enough time for your family and social life?

Seldom or Never   Rarely   Sometimes   Almost Always
        ☐   ☐   ☐   ☐

APPENDIX D: SATISFACTION WITH LIFE SCALE

Satisfaction With Life Scale (Diener**,** Emmons, Larsen & Griffin, 1985**)**

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below,

indicate your agreement with each item by placing the appropriate number on the line preceding

that item. Please be open and honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

____ In most ways my life is close to my ideal.

____ The conditions of my life are excellent.

____ I am satisfied with my life.

____ So far I have gotten the important things I want in life.

____ If I could live my life over, I would change almost nothing.

- 31 - 35 Extremely satisfied
- 26 - 30 Satisfied
- 21 - 25 Slightly satisfied
- 20   Neutral
- 15 - 19 Slightly dissatisfied
- 10 - 14 Dissatisfied
- 5 - 9 Extremely dissatisfied

APPENDIX E: DEMOGRAPHICS FORM

Demographics Form

1. How old are you? _____ years old

2. What is your sex? (circle one)
    a. Male
    b. Female

3. What is your ethnic background? (circle one; if you choose "Other" as your response, please tell us what your ethnic background is).
    a. African American
    b. Asian American
    c. Caucasian (non-Hispanic)
    d. Hispanic/Latino
    e. Native American
    f. Other: _____

4. How many hours a week do you work? _____ hours a week

5. How many years have you been working (total number of years over all jobs)? _____ years

APPENDIX F: IRB HUMAN SUBJECTS APPROVAL LETTER

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Robert Kennedy**

Date: **January 19, 2011**

Dear Researcher:

On January 19, 2011, the IRB approved the following human participant research until 1/18/2012 inclusive:

Type of Review:	UCF Initial Review Submission Form
	Expedited Review Category #7
Project Title:	AN INVESTIGATION OF THE RELATIONSHIPS BETWEEN MOTIVATION, WORKER ROLE CONFLICTS AND WORKER OUTCOMES
Investigator:	Robert Kennedy
IRB Number:	SBE-11-07366
Funding Agency:	None
Research ID:	N/A

The Continuing Review Application must be submitted 30days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form **cannot** be used to extend the approval period of a study.   All forms may be completed and submitted online at https://iris.research.ucf.edu .

If continuing review approval is not granted before the expiration date of 1/18/2012, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a copy of the consent form(s).

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Joseph Bielitzki, DVM, UCF IRB Chair, this letter is signed by:

Signature applied by Janice Turchin on 01/19/2011 04:15:40 PM EST

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