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CONATIVE MODE OF OPERATING AND JOB SATISFACTION
AMONG PHYSICAL THERAPISTS

A Dissertation Submitted in Partial Fulfillment of the
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CHAPTER 1

Introduction

The United States Department of Labor predicts an increased demand for physical therapy services as the rate of individuals experiencing disabilities and limitations in function escalates. Employment of physical therapists is expected to increase by more than 36% through 2012 (*U.S. Department of Labor Bureau of Labor Statistics: Occupational Handbook, 2005*). In California, employment of therapists has a projected growth of 42.9% over the same time period and the difference between graduates in the state (500 per year) versus anticipated turnover (570 therapists per year) indicates there will be an ongoing shortage in the workforce. The need to recruit, educate and retain quality physical therapists is paramount.

There is an increase in demand for health care services, in large part due to a burgeoning elderly population (Health Resources and Services Administration), yet, at the same time, there is a shortage of physical therapists and nurses and an alarming rate of physicians withdrawing early from practice. Allied health educational programs are having difficulty turning out enough providers, including physical therapists, to meet job market demands. California, a state that often sets trends for the rest of the country, has 13 accredited physical therapy educational programs, but not all the programs' enrollments meet capacity expectations and number of graduates per year is not keeping pace with turnover per year (*California State Labor Statistics, 2005*). This state of affairs

poses a need to understand what contributes to work satisfaction among therapists and what circumstances encourage longevity in the field.

Background of the Problem

Demographics in the United States are shifting towards an escalating elderly population (Health Resources and Services Administration). Consequently, demand for health care services is on the rise. Unfortunately, the concurrent trends in the field of health care are not all in the positive direction and the U.S. ranks surprisingly low, 37th in the world, for overall health system performance (Organization, 2000). The issues surrounding such poor ratings are complex and range from economic and technological influences to access problems, as well as health professional personnel concerns. Many negative realities confront health care practitioners in the current health care environment. Studies looking primarily at physicians and nurses have found a sharp decline in job satisfaction with significant increases in stress levels and tendencies towards withdrawing from practice (Buchbinder, 1999; Pathman, 1996; Shields & Ward, 2001; Williams, Konrad, Scheckler, & Pathman, 2001). Poor job satisfaction can lead to increased burnout (Kalliath & Morris, 2002), a decline in performance (Aiken, 2002; Garman, Corrigan, & Morris, 2002; Harter, Schmidt, & Hayes, 2002; Judge & Bono, 2001), and increased withdrawal behaviors (absenteeism, long leaves) with possible higher turnover rates (Hom & Kinicki, 2001), which translates into lost dollars (Buchbinder, 1999; Shanahan, 1993). When coupled with the high expense associated

with turnover and retraining, the result is an increased financial burden on the already struggling health care system.

Investigations have emerged that attempt to identify and understand influences on job satisfaction in health care. Research on job satisfaction influences in healthcare has focused on a variety of factors. Among physicians, studies found dissatisfaction to be influenced by third-party payer relationships and from overuse of standardized protocols (Buchbinder, Wilson, Melick, & Powe, 2001). Also influential is the decline in autonomous practice ability (Navarro, 1988), and dissimilar treatment ideology among coworkers (Baker & Baker, 1999). Among nurses and other ancillary care professionals, studies show job satisfaction to be impacted by pay, workload and benefits. However, these factors are overshadowed by dissatisfaction with promotion and training opportunities (Shields & Ward, 2001) as well as the need for recognition and appreciation.(Parsons, 2003) The importance of compatible organizational culture has also been found to play a role in satisfaction (Hersher, 2001; Vandenberghe, 1999).

Nurses and physicians have been more extensively studied than physical therapists, yet evaluation and understanding of job satisfaction, training and retention strategies for this group of providers is essential in efforts to counter projected shortages in the work force. Physical therapists are licensed health care professionals who assess and treat a wide range of functional impairments resulting from physical injuries, cardiovascular pathologies or other disease states. The practice of physical therapy also promotes health and wellness for avoidance of dysfunction. The history of certain physical therapy practices date back to ancient times, but the more modern profession in

the United States became widely recognized during World War II. Military medical teams included therapists, then called rehabilitation aides, who helped speed functional recovery and return soldiers to duty.

Today, physical therapists are autonomous practitioners working in a variety of settings including hospitals, private outpatient practices and schools. After two to three years of graduate level education, a physical therapist receives a master or doctor of physical therapy, and then must pass a state board exam in order to practice. The graduate-level curriculum consists of extensive anatomical and basic science preparation, supplemented by significant clinical evaluation, medical differential diagnosis, and clinical skills courses including manual therapies such as soft tissue and joint mobilization, and a variety of technological modalities such as electrical stimulation and wound healing therapies. A wealth of intellectual and physical ability is needed in order to progress through the educational curriculum and the rigors of interdisciplinary professional practice.

The field of physical therapy offers a diverse array of specializations and populations with which to work in a field of ever-increasing professional responsibility and autonomy. The employment prospects are among the highest in the nation, and yet the supply of therapists is not keeping pace with demand.

Statement of the Problem

The number of physical therapists available to work in California does not meet the projected demands for their service, which suggests that improvement is necessary in

effective recruitment and retention of efficacious providers. The negative impact of decreased job satisfaction, early resignation from clinical practice and high turnover found among physicians and nurses is also prevalent among physical therapists. However, few studies have been done to examine this particular group of health professionals. A clear understanding of factors associated with job satisfaction and willingness to remain in the field may help counter the supply and demand discrepancy. The handful of studies conducted on job satisfaction among physical therapists (Blau et al., 2002; Donohoe, Nawawi, Walker, Schindler, & Jette, 1993; Lopopolo, 2002; Randolph & Johnson, 2005; Speakman, Pleasant, & Sutton, 1996) has focused primarily on external factors such as workload, paperwork demands, hospital reorganization, and characteristics of the job (intrinsic and extrinsic). No studies have considered the intrinsic characteristics of the therapists themselves that may contribute to job dissatisfaction.

Intrinsic characteristics of individuals, such as personality type, self-efficacy, and locus of control preferences, have been associated with job satisfaction in a variety of occupations other than physical therapy (Judge & Bono, 2001; Judge, Bono, & Locke, 2000). A study of university employees found that the incidence of occupational stress predicted higher strain and lower job satisfaction. The personal characteristic of negative affectivity demonstrated little impact on job satisfaction (Decker & Borgen, 1993). Elovainio, Kivimaki, Steen, and Kalliomaki-Levanto (2000) found specific personality characteristics of hostility and anxiety to be associated with poor health among hospital employees, but found that job control explained the variations in job satisfaction (Elovainio, Kivimaki, Steen, & Kalliomaki-Levanto, 2000). The concept of job control is

part of the model of Job Demand-Control (JD-C) put forth by Karasek (Karasek, 1979). JD-C was used in another study (de Jonge, van Breukelen, Landeweerd, & Nijhuis, 1999) in which job satisfaction was found to be negatively affected by job demand and positively affected by job autonomy. This study showed that high autonomy coupled with high job demand led to higher work motivation, whereas high job demand alone led to a decline in motivation.

An important missing link exists in the understanding of job satisfaction and the demands of a job, the job environment, motivation, and job stress and strain. What is missing is the vital understanding of the individual's instinctive drive to take action, the part of the mind responsible for conation. The word conation is derived from the Latin verb *conari* – to try – referring to the innate ways individuals take action to solve problems or meet goals. Philosophers have talked about three parts of the mind throughout the millennia, referring to the three areas by slightly varying terms but with similar definitions for each. The affective (feeling) part of the mind deals with desires, motivation, attitudes, preferences, emotions, values and beliefs, while the cognitive, thinking part of the mind involves reason, skills, knowledge, experience, thought education and training. The third area of the mind, the conative area, is responsible for how individuals act based on drive, talents, instincts, and mental energy applied to “doing” (Kolbe, 1993). The third part of the mind has received less attention academically because it has been more difficult to measure until more recently. The theoretical basis for conation is presented at length in Chapter III.

Previous research has considered a variety of possible causative factors for dissatisfaction as well as satisfaction on the job without evaluating volitional drive. Hostility, self-efficacy, work values, attitudes, motivation and preferences are personality traits stemming from the affective (feeling) centers of the mind. Expertise, skills, training, and knowledge are derived from the cognitive (thinking) mind. These areas are malleable and change over time with experiences and education. The conative instincts are innate and give the clearest indication of natural talents that, when used effectively, lead to optimal performance, satisfaction and productivity (Kolbe, 1993).

As the literature review will demonstrate, satisfaction leads to better performance and productivity. These outcomes in turn lead to reduced expenses from employee stress, withdrawal behaviors and turnover (Kolbe, 1993; Krausz, Koslowsky, & Eiser, 1998a).

To date, research articles concerning conation are limited (Berry, 1996; Lingard & Berry, 2002) and no published studies exist that examine job satisfaction and the conative modes of any group of health care professionals. Today's healthcare work environment is complex and varied. The instinctive talents best suited to surviving and enjoying work in this field may be discernable - a factor overlooked in the research on declining job satisfaction and poor retention among health professionals to date. Individuals entering the field of physical therapy, as well as those entering other healthcare professions, may have unrealistic expectations of themselves and of the work environment they are about to enter, and may benefit from understanding concepts of conative modes of operation. Introduction to concepts of conation and evaluation of one's own modes of operating may serve as career guidance while helping to direct learning

strategies in the profession's educational programs. Valuable information may be gained by looking at the individual conative modes of those who are happy with their work in physical therapy despite the compelling negative factors of the healthcare environment. Current and future physical therapists as well as patients will benefit from information about the types of personal characteristics congruent with satisfied healthcare workers in the current healthcare work environment.

Purpose Statement

This study utilizes the field of physical therapy as a case study to increase understanding of conation and the role it plays in career satisfaction. Specifically, the study investigates whether physical therapists demonstrate a common conative mode of operating and whether those who are satisfied with their job demonstrate a common conative mode of operating within specialty practice settings. Conation is the instinctive willful action, or mode of operating (MO), by which individuals naturally accomplish goals or tasks. Conation is a personal trait that differs from personality and IQ measures in that it is said to be innate, not something learned or shaped over time (Kolbe, 1993). Misalignment of one's conative talents and the job or task requirements leads to high levels of conative stress, which in turn has been shown to double the likelihood of absenteeism and turnover (Kolbe, 1993).

Because of its reliability over time (Kolbe, 1993), conative assessment could be used in career counseling as early as high school to begin guiding students into appropriate roles in healthcare, to physical therapy (PT) or to other career paths more

suited to their innate abilities. If there is a correlation between certain conative MOs and job satisfaction in specific subspecialties of PT, students entering professional PT programs could be evaluated and guided towards the most appropriate physical therapy setting. There may also be significant implications for physical therapist educational processes, including student selection criteria, curriculum development and pedagogy.

Human conation has been instrumental to managers in many corporations for decision-making about recruitment, promotion, leadership and team development (Carroll, 1990). This instrumentality could be useful for physical therapy managers who, like so many in healthcare, are usually very competent clinicians but lack any formal training in management (Timmreck, 2001). A working knowledge of conation would help physical therapy managers in making decisions regarding hiring, promotion and retention strategies, as well as in their own leadership training. As practicing clinicians, appreciation of variations in the driving instincts of different individuals will help therapists identify strategies for motivating patient behavior change. Therapists may also be guided by determination of their own mode of operating in order to more quickly assess and recognize the practice specialty, work environment and conditions under which their talents will be optimized.

Each of the areas of physical therapy practice shares some commonalities with the others, such as the need for thorough evaluation of symptoms and condition, but treatment approaches, length of patient interaction, and term of care vary widely from inpatient to pediatrics to outpatient orthopedics. Inpatient acute therapy focuses on functional activities to get the patient mobile and independent enough to discharge, with

one to three days of care very common. Orthopedic practice may range from specialized hand therapy to sports related injury recovery to workers compensation intervention, and has a great deal of variance in method of treatment and length of care. However, orthopedic physical therapy tends to have quite a bit more hands-on applications, and often therapists will see many more patients in an hour than in other settings.

Stroke, brain or spinal cord injury and other neurologic rehabilitation diagnoses require much longer intervention and recovery episodes, and individual treatment sessions are substantially longer than those found in outpatient and inpatient acute settings. Coordination with family members is often a key component and, while there are hands-on techniques utilized, the overriding goal is for independent daily function.

Pediatric therapy is often part of school-based intervention or in-home rehab, with family involvement throughout. The preponderance of patients has long-term congenital or early childhood disease states and requires ongoing care, although the occasional orthopedic injury case may be seen by a pediatric specialist.

The wide variety of settings, job requirements and abilities found in physical therapy practices may produce distinctly different work environments and conditions to which a variety of personalities and cognitive make ups may be attracted. The educational preparation in physical therapy is designed to introduce students to all the areas of practice and prepare individuals to pass a generalist level exam. The results of this study may illuminate which cognitive make up is predominant in any given practice area, or if,

perhaps, the educational prerequisite study and generalist professional curriculum dictates a more uniform mode of conation.

Research Questions

To explore the assumptions discussed above, this study seeks to answer the following research questions:

1. Do physical therapists exhibit similar conative MOs?
2. Do physical therapists who are satisfied with their work exhibit similar conative MOs:
 - a. within the profession as a whole?
 - b. within the specific subspecialty settings of orthopedics, neurological rehabilitation, pediatrics, skilled nursing facility, or inpatient acute/subacute care?

Scope and De-limitations of the Study

The instrument used to categorize modes of action relies on honest evaluation and self-report by the individuals under investigation. While the algorithm used in analysis of the subjects' answers is sophisticated and designed to identify inconsistencies in answering patterns, it cannot fully protect against manipulative answering. The study investigates a human mental characteristic and, because human beings are complex and multidimensional, it is not possible to control for all situational influences on subjects at the time of job satisfaction survey and conative index completion. Economic and political

factors in California and in healthcare generally may be influential as well, and yet are beyond the control and capacity of this study.

The scope of the study is limited to a specific population of physical therapists in a narrowly defined geographical location and thus has limitations associated with methodology and design restricting generalization to other populations. While the population in Los Angeles is multicultural and diverse in many respects, it cannot be assumed to represent all populations.

Significance of the Study

Findings from this study will add to the body of literature on organizational behavioral and motivation theory where the concept of conation has not been explored previously. Identification of instincts for action operationalizes concepts and theories about motivation, stress and satisfaction on the job that have been discussed by organizational theorists, yet never definitively measured in organizational behavior studies. Study results and application of this knowledge will be useful to individuals whether working in health or non-health care oriented environments, including public and private organizations, and within the field of physical therapy specifically.

Study findings will be beneficial in guiding physical therapy practitioners and future practitioners into the setting where they are most likely to succeed with the highest degree of job satisfaction. An appropriate match of one's innate talents with the work requirements of a specific type of physical therapy practice could possibly reduce the rate of turnover and withdrawal from clinical practice caused by the potential disparity

between the job characteristics and conative instincts. The proper match of a practitioner's innate talents with the job environment and job activities may also enhance productivity, patient outcomes and patient satisfaction. Results can be applied in career counseling at any level of education, particularly as students enter the professional physical therapy degree programs, if therapists within practice settings demonstrate a discernible conative make up.

Augmentation and additions to known theories of motivation and job satisfaction introduced by this study are applicable beyond the field of physical therapy to every occupational arena, from private corporations to government and public administration, regardless of whether product- or service-driven.

Summary

This chapter has discussed the concerns about meeting the projected need for physical therapists, as well as those produced by rising costs in health care associated with increased stress levels, high turnover and declining job satisfaction among health care professionals. The concept of innate striving instincts, conation, has been introduced and discussed as a factor in job satisfaction that has not previously been operationalized and studied in organizational theory or the health care industry. Physical therapists serve as the case study in which to explore theories of conation.

The literature review will examine factors influencing job satisfaction and the resulting outcome effects including productivity and turnover. The discussion is preceded by and presented within the context of organizational behavior theories and incorporates

literature from many professions narrowing to physical therapy as the field of focus for the study.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This chapter reviews the literature with a focus on presenting and connecting relevant studies in the following main areas: motivation and job satisfaction as defined by organizational theorists, factors influencing job satisfaction, the influence of job satisfaction on turnover rates, and the influence of job satisfaction on productivity and healthcare outcomes. Of particular interest to this study are those factors of job satisfaction dealing with personal attributes, attitudes and personality characteristics.

The review of literature builds the line of reasoning that personal attributes may influence job satisfaction given specific job environments and classifications, which in turn could have an effect on levels of burnout, turnover, patient care and productivity. Beginning with a general overview of related literature on motivation theories and job satisfaction variables, the chapter concludes with a discussion of the studies on satisfaction among physical therapists specifically, as this profession serves as the case study for examining conation theory. The findings regarding conative modes of operating among other professional groups is presented.

Organizational Behavior and Motivation

Factors Related to Job Satisfaction

Organizational behavior and motivation theories are numerous and evolving. Pre-twentieth century theorists such as Frederick Taylor began to make assumptions about the motivation (or lack thereof) of workers that he and others researched in factory settings with the goal of optimizing outputs from a workforce believed to be inherently unmotivated for work. Abraham Maslow became a household name for introducing the concept that people are motivated by a hierarchy of needs that must be met in sequence and later Frederick Herzberg asked the questions about what satisfies and dissatisfies individuals regarding their work. A great number of theorists and researchers have explored many aspects of the human being in the workforce. A comprehensive introduction to the expanse of theorists would be too extensive to address in detail. Rather, a broad look at those theorists whose work has emphasized work content and work process factors provides the groundwork from which greater specificity and clarity can be established for those theorists whose work supports the idea that internal, or instinctive drives are a primary component of job satisfaction and career selection.

Theories about the very complex notion of human motivation have organized around two main concepts: *how* motivation occurs in the individual and *what* the causes of motivation are for the individual. How motivated behavior occurs, ends, or is sustained comprises “process theory” while what motivates a person – internal desires, needs

underlying initiation or termination of behavior – determines “content” theories (Longest, Rakich, & Darr, 2000).

Content Theories of Motivation

The underlying assumption and similarity between content theorists is a belief that humans are motivated by unfulfilled needs. The quest is to identify unmet needs and determine what energizes employees to act on meeting those needs. Among the most familiar names in this group is Abraham Maslow whose hierarchy of needs suggests that a fulfilled need is not a motivator and higher level needs are only of concern after lower level needs have been met (Longest et al., 2000).

There is little empirical data to support Maslow’s stepwise arrangement of needs, but his definition of the various needs groups has served as the basis for other theories and has helped illuminate factors within the person that generate motivated behavior. At the lowest of the five levels, survival needs are paramount, followed by security and preservation of safety needs at the second level. The third level introduces social needs where companionship, group identification and associational desires are met. Ego enters at the fourth level, where respect and recognition of one’s self and from others are the benchmarks where achievement and advancement opportunities may help fulfill needs. The peak of the pyramid is the need for self-actualization, a state of perpetual growth and becoming everything possible as a being. Self-expression, challenging opportunities and creativity mark satisfaction in this level.

The variety of needs outlined by Maslow are found within more sophisticated theoretical models where the linear fulfillment is not a prerequisite. Clayton Alderfer addresses the concept of meeting three levels of needs (existence, relatedness and growth), at first by concrete means, and later by more abstract resources, regardless of what level the need falls within or which needs predominate at the moment. The primary difference between Alderfer's theory and Maslow's theory is that, in Alderfer's theory, one may move forwards or backwards in levels of needs, a process he labeled frustration-regression (Longest et al., 2000). Despite this difference, similar concepts are found within Alderfer's three levels and Maslow's five levels of needs.

Another group of theorists, Henry Murray (Murray, 1938), John Atkinson (Atkinson, 1961) and David McClelland (McClelland, 1985), present groups of needs based on familiar concepts of affiliation, achievement and control over self and others. What sets these authors apart from previous theoretical models is the fact that they propose that the origin of these needs is found in life experiences (they are not innate), and that the sets of needs are fulfilled concurrently, but with different levels of intensity, in each individual.

Frederick Herzberg expanded content theories of motivation to examine factors affecting satisfaction from work. Herzberg's theories are discussed in detail later in this chapter.

Process Theories of Motivation

An individual's performance expectations and performance outcome assumptions play an influential role in performance itself contributing to the process by which motivation occurs. Preferences, belief in outcome potential and choice about need fulfillment are the focus of process theories of motivation. Victor Vroom (1964), through his expectancy theory, postulated the connection between an individual's perception that his or her efforts will achieve a performance that in turn will lead to a preferred outcome that is of worth. Believing that effort will yield the desired level of performance is called *expectancy* and the performance resulting in a desired outcome is labeled *instrumentality*, with the value placed on the outcome termed *valance*. According to expectancy theory expectancy, instrumentality and valance must all be high to result in motivation.

In the late nineteen-sixties, Edwin Locke proposed additional cognitive overlays to the motivation process. Termed Goal-Setting theory, his assumptions are that conscious, cognitive development of goals coupled with intention to pursue them determines behavior (Longest et al., 2000). The intellectual mind and the affective mind work together to yield motivation to act, but how one will instinctively act to complete the goal is absent from this theorized process. While the importance of goals in motivation has been established (Mento, Steel, & Karren, 1987), the freedom to act instinctively to reach a goal explains the satisfaction and performance attained by doing so. That is, conation, defined here as natural striving talents, underlies satisfaction derived from the process of completing the goal or task. What is challenging to one is

different from what is challenging to another and what is satisfying about the process of achieving a goal will vary depending on striving instincts each individual possesses.

Reinforcement theory suggests that consequences (positive or negative) learned from external experiences dictate behavior. B.F. Skinner is the most recognized name behind these operant-conditioning behavior theories and Herzberg, who will be discussed later, addresses this aspect of motivation (extrinsic factors), noting that it does not truly generate long-term motivation, only short-term movement, toward a goal.

While there are a multitude of emphases within the field of organizational and motivational research and there are many approaches to explaining job satisfaction, its components and its outcome effects, most of them consider only cognitive and affective areas of the mind. Three well-known authors have attested to the importance of individual as well as job characteristic influences on satisfaction: Frederick Herzberg, Daniel Katz and Robert Kahn. The theories proposed by these authors begin to approach the notion of instinctive action and the need for work to compliment this internal mode in order for stress to be low and satisfaction to be high. However, no organizational theorist has yet to make the connection to conation as the variable that helps explain intrinsic satisfaction as well as job stress from inconsistent alignment of instinctive action modes (internal expectations) and job expectations.

Individual and Job Factors Influencing Job Satisfaction

Numerous factors thought to influence job satisfaction have been investigated in a wide variety of occupations. Everything from characteristics of the job and the job

environment to personal characteristics of the employee has been studied in an effort to understand job satisfaction. Furthermore, the mediating role of these variables on one another has also been investigated. Demographic factors such as age, gender, marital status, number of dependent children and income bracket appear in many studies on job satisfaction, often as control variables. The influence on job satisfaction attributed to demographic factors, along with variables associated with workload and administrative burdens, are presented here only as they pertain to physical therapists and other closely related allied health professionals.

Genetic and Personality Factors

One of the most provocative series of investigations published in the 1980s showed a genetically determined dispositional link with job satisfaction. Staw and Ross (1985) conducted a longitudinal study from 1969 to 1971 following 5000 men across occupational and employer changes. The authors argued their findings support individual disposition as an important and consistent influence on job attitudes (Staw & Ross, 1985). Later, Staw (1986) published findings of an association between personality in childhood and job satisfaction in adulthood (Staw, Bell, & J.A., 1986). In 1989, Arvey, Bouchard and Abraham conducted a study of monozygotic twins in which they found genetic factors responsible for a portion (approximately 30%) of the variance in job satisfaction (Arvey, Bouchard, & Abraham, 1989).

The findings of Arvey et al were extended from job satisfaction to work values in a 1992 study by Keller, Bouchard, Arvey, Segal, and Dawis. Five of the six work values

studied (achievement, comfort, status, safety and autonomy) were found to be heritable. The value of altruism was not found to be significantly heritable in the Keller study. However, Rushton, Fulker, Neale, Nias, & Eysenck (1986) had found it to have a heritability of up to 56%.

In the years since the uncovering of a relationship between inherited dispositions and job satisfaction, interest and research in the areas of personality and job satisfaction has expanded. Core self-evaluation traits (self-esteem, self-efficacy, locus of control, and emotional stability) and the five-factor model of personality (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) have figured prominently in a large portion of the publicized investigations. Timothy Judge conducted a series of investigations with these personality measurement tools including several meta-analyses (Judge, 1993; Judge & Bono, 2001; Judge et al., 2000; Judge, Heller, & Mount, 2002; Judge, Locke, Durham, & Kluger, 1998; Judge & Watanabe, 1993).

One hundred and sixty three independent samples investigating the five-factor model of personality and job satisfaction were meta-analyzed by Judge et al. in 2002. This study concluded that job satisfaction does, at least in part, have a dispositional basis and that the five-factor model is a credible tool for measurement. More specifically, low neuroticism, high conscientiousness and high extraversion had the strongest correlation with job satisfaction across all studies. Judge, Bono and Locke (2000) had previously demonstrated that core self-evaluations measured in childhood and early adulthood are related to job satisfaction over time. A meta-analysis correlating job satisfaction with core self-evaluation traits found all four traits, self-esteem, self-efficacy, locus of control,

and emotional stability (low neuroticism) to be good predictors of not only job satisfaction, but also of job performance (Judge & Bono, 2001). Judge expanded the work on core self-evaluation traits and job satisfaction to include a relationship with life satisfaction (Judge et al., 1998) having first established an inter-relationship between job and life satisfaction (Judge & Watanabe, 1993).

Both positive and negative affect as well as overall mood or psychological well-being have been studied for their relationship with job satisfaction in a variety of occupational settings. The concept that a happy worker is likely a productive worker, and hopefully one that will stay on the job, fuels these investigations. The interrelationship with job satisfaction measures is not consistent. Wright and Staw and their colleagues were unable to establish a significant relationship between dispositional affect and job satisfaction. Positive psychological well being, was demonstrated to positively affect job performance (Staw, Sutton, & Pelled, 1994; Wright, Cropanzano, Denney, & Moline, 2002; Wright & Staw, 1999). Dekker and Borgen (1993) studied negative affectivity and also found it to have little influence on job satisfaction.

When studying the moderating effect of disposition or mood on job satisfaction leading into turnover, several studies found that positive dispositions coupled with dissatisfaction on the job were most predictive of turnover (George & Jones, 1996; Judge & Watanabe, 1993; Shaw, 1999). While these findings were somewhat surprising to the authors, they explain that individuals low in positive affect are not likely to view new job situations as any more potentially positive than the positions they currently hold. Thus, there is little motivation to quit their job even if it is dissatisfying. On the other hand,

employees with overall positive affect or mood were found in these studies to be the group most likely to seek new jobs when dissatisfied.

Other personality characteristics have been correlated with job satisfaction. Auditors with type A behavior patterns were found to be more satisfied with their work as well as they tended to outperform their type B counterparts (Fisher, 2001). Coping strategies demonstrated a positive, yet weak correlation to job satisfaction in Decker and Borgen's 1993 study. Hostility and trait anxiety were determinants of hospital employees' mental health in a study by Elovainio and colleagues (2000), while job satisfaction was primarily influenced by subjects' perception of job control. The study's authors point out, however, that the meaning of control is not clearly understood and may consist of a situational component combined with individual characteristics. Conservation theory suggests that an individual's sense of control and levels of stress on the job are in fact determined by the appropriate matching of one's personal mode of operating (MO) and the job itself (Kolbe, 2004b).

Job and Environmental Factors

Beyond personality characteristics, the characteristics of a particular job have been a source of investigation as independent variables as well as possible mediators in job satisfaction. Job complexity was found to mediate part of the core self-evaluations and job satisfaction relationship in the study by Judge, Bono and Locke (Judge et al., 2000). Two studies using two different measures of job stress found the variable of job stress to be negatively related to job satisfaction (de Jonge et al., 1999; Decker & Borgen,

1993). In 1999, de Jonge et al. used Karasek's Job Demand-Control Model (Karasek, 1979) to demonstrate that the model's two components of job stress (psychological job demands and job decision latitude) were both significantly associated with job satisfaction. High job-demand negatively influences job satisfaction while high autonomy in decision latitude positively influences job satisfaction (de Jonge et al., 1999). Decker and Borgen also found higher job stress, as measured by the Occupational Stress Inventory (Osipow & Spokane, 1987) produced lower job satisfaction.

Congruence between the job environment, or organizational culture, and employee values has been demonstrated to affect job satisfaction and consequently turnover. Vandenberghe (1999) studied the congruence between personal value preferences and the work environment cultural characteristics in the nursing profession and found a positive effect on turnover. This study replicated an earlier study by O'Reilly, Chatman, and Caldwell (1991) that also found decreased turnover when there is a good person-culture fit.

Commitment to one's organization and/or to one's career has been correlated with job satisfaction. Somers and Birnbaum (2000) investigated hospital employees, all of whom had direct patient care responsibility, and found that positive career commitment showed the strongest relationship with positive job satisfaction and the dually committed, both to career and to the organization, had the lowest turnover rates. In 1990, Mathieu and Zajac conducted a meta-analysis in which organizational commitment demonstrated a positive correlation with job satisfaction, particularly to intrinsic job satisfaction, across studies. This study also reported the negative consequences of role strain on

organizational commitment. The theoretical concept of role states is put forth by Katz and Kahn (1978).

Job Expectations, Stress and Role Theory

Daniel Katz and Robert Kahn (1978) present a set of theories regarding the individual's and other's expectations about their role at work, which affect stress levels and could therefore impact job satisfaction. These theorists wrote a text discussing the broad topic of open system theory of organizations in which they present the concept of roles and role states as central to their theories. They define human organizations as consisting of roles where expectations exist evoking patterned motivated actions of persons in the organization. They see this as a process of comprehending, accepting and then fulfilling the expectations of others or of self in relation to the tasks of the organizational operation. Katz and Kahn go on to say that satisfaction is attained by successfully meshing one's efforts with those of others in mutually meeting each other's expectations.

According to the Role Theory, stress can result from role overload (employee perceives expectations for job performance are too much), role ambiguity (high degree of uncertainty about the role or expectations), or role conflict (two or more expectations from self or others such that compliance with all is difficult or impeded). Stress is both detrimental to the individual and his or her performance as well as to the organization's performance. In contrast, high performing satisfied workers may be more committed and likely to engage in behaviors outside explicit role requirements. These "extra-role"

behaviors, including creativeness and innovativeness, lead to greater organizational success (Katz & Kahn, 1978). Fay and Sonnentag (2002) have substantiated this extra-role contribution.

Job Satisfaction and Performance

Katz and Kahn's theories forged a connection illuminating the effect of job satisfaction on performance. Many studies have solidified this connection. Poor job satisfaction, particularly when coupled with job burnout, can significantly impact job performance, and, as one study reports, may mean life or death in the hospital environment. Aiken (2002) studied the work load of nurses and found that each additional patient added to a nurse's case load resulted in a 15% increase in likelihood of job dissatisfaction, 23% increase in the odds of burnout, and most disturbingly a 7% increase in chance of patient death. Mortality rates were higher from failure-to-rescue and also within 30 days following the date of admission both at a 7% increase per patient added to the nurse schedule (Aiken, 2002). Patient satisfaction, a measure of performance in health care, also suffered in a study on psychosocial rehabilitation teams, where a significant negative relationship was found between patient satisfaction and job burnout (Garman et al., 2002).

Personal traits previously cited as influential on job satisfaction concurrently seem to affect job performance. The 2001 meta-analysis study by Judge and Bono concluded that three of the core self-evaluation traits (generalized self-efficacy, locus of control and emotional stability) are predictive of job performance, while the role of the fourth trait,

self-esteem, was somewhat less clear. Mount and Barrick (1998) found conscientiousness, one of the “Big Five” personality dimensions, to be consistently related to job performance.

Two investigations of performance in groups/teams, conducted 40 years apart from one another, found certain aspects of personality to be positively related to performance of the individual in a team as well as overall performance of the team. In 1959, Richard Mann reviewed and summarized the current body of knowledge on personality and performance in groups. Mann found, in order of positive influence, that intelligence, adjustment and extroversion positively related to total activity rate, leadership and popularity in the group. Dominance was positively related to leadership and number of tasks initiated, masculinity (obviously, this 1959 study was based on a homogeneous work force) was positively related to leadership and popularity, conservatism was positively related to popularity and task contributions but negatively related to leadership, and interpersonal sensitivity was positively related to leadership and popularity.

Neuman, Wagner and Christiansen (Neuman, Wagner, & Christiansen, 1999) found that the average level (mean score) of specific traits, conscientiousness, agreeableness, and openness to experience from the Big Five traits, within a group predicted positive influence on team performance. High variability (team personality diversity) in extroversion and emotional stability traits was positively correlated with performance of the team.

Personality, job satisfaction and performance are interconnected. Harter, Schmidt and Hayes (2002) show a dependent relationship between employee satisfaction and performance, including customer satisfaction, company profits, and even decreased job accidents in business environments. While it is not the intent of this study to measure performance, it is important to note that it has been established that job satisfaction and personal traits have an effect on crucial performance outcomes. Likewise, the connection between job satisfaction and turnover rates is critical in understanding the impact of career dissatisfaction. It is clear that the published research has neglected the critical element of conation – instinctive behavior. In Mann’s 1959 article, intellect was merged into personality and the two parts of the mind together were identified as the primary influence on goal directed behavior without consideration for the third part of the mind involving individual’s natural modes of taking action: conation. The three areas of the mind need to be considered and evaluated independently.

Job Satisfaction and Turnover

As discussed previously, several personal factors and job environment characteristics have been linked to job satisfaction as well as to turnover. While it is useful to understand these antecedents and contributing factors for job satisfaction and for turnover, it is more important for this study to demonstrate the causal relationship of job satisfaction on turnover because of the high cost associated with such an outcome (Shanahan, 1993).

The progression of job dissatisfaction into turnover intentions and actual turnover has been studied widely for decades including development and testing of theoretical models (Hom & Kinicki, 2001). In 1957, Herzberg et al. discussed a model whereby withdrawal behaviors such as lateness and absence progresses into employee turnover. Mobley, Horner and Hollingsworth (1978) describe a model where resignation flows from withdrawal thoughts that lead to job search behaviors and ultimately intentions to quit. In a series of studies by Hom and colleagues, intermediate, moderating steps, including unemployment rates, job avoidance, interrole conflict and employment conditions, are introduced to these previous theories (Hom, Caranikas-Walker, & Prussia, 1992; Hom & Griffeth, 1991; Hom & Kinicki, 2001).

Krausz, Koslowsky and Eiser (1998) studied public sector employees and found support for Herzberg's theory that withdrawal behaviors progress to turnover. Hom et al (1992) conducted a meta-analytical study that lends support to Mobley's model while also corroborating his own "intermediate linkages" theory. Profession-specific studies on physicians (Baker & Baker, 1999; Buchbinder et al., 2001; Sibbald, Bojke, & Gravelle, 2003; Williams et al., 2001), and in nursing (Brannon, Zinn, Mor, & Davis, 2002; Parsons, 2003; Shields & Ward, 2001) have attempted to flush out unique job factors that might influence progressions towards turnover. Other studies have demonstrated moderating effects on the progression towards turnover. Tang, Kim and Tang (2000) found an individual's money ethic played a role in the intrinsic job satisfaction-voluntary turnover sequence while other authors investigated and found support for the moderating

effect of dispositional affect (Judge, 1993; Shaw, 1999) and positive mood (George & Jones, 1996).

Regardless of the determinant or moderating factors studied and purported to influence job satisfaction and turnover, the common finding among these studies is that dissatisfaction predicts turnover.

Job Satisfaction in Physical Therapy and Allied Health Professions

With a broad understanding of the literature on motivation theories and general investigations into a variety of influences affecting job satisfaction and, consequently, performance and turnover, the literature exploring application to physical therapy and related allied health professions is presented in this section. A handful of published studies exist concerning job satisfaction among physical therapists spanning the last four decades (Barnes & Crutchfield, 1977; Blau et al., 2002; Broski & Cook, 1978; Lopopolo, 2002; Lyons, Lapin, & Young, 2003; Randolph & Johnson, 2005; Schunk, 1981; Speakman et al., 1996).

Barnes and Crutchfield (Barnes & Crutchfield, 1977) compared the level of job satisfaction of 25 private physical therapists in private practice satisfaction with that of 25 therapists who headed departments within health facilities. Herzberg's theory of job satisfaction, which will be discussed in some detail in the following chapter, was utilized in this study, in which subjects responded to questions regarding six motivation factors (e.g. possibility for growth or advancement) and 10 "hygiene" factors (e.g. salary). While

each subject group found different factors to be of the most importance, both groups were dissatisfied with policies and administration aspects of the job.

The following year Broski and Cooke (1978) conducted a survey of physical therapists who had graduated from Ohio State University. The job discriminative index (JDI) was used to measure five subscales of job satisfaction each focused one of five job elements: supervision, pay, promotion opportunity, coworkers, and the work. The graduates' median scores on all five subscales were below normative data suggesting a relatively low level of satisfaction among this group. In 1981, Schunk surveyed physical therapists in Portland, Oregon and found that only slightly more than a third of the respondents reported complete satisfaction with their jobs. Hospital-based practitioners were less satisfied than those in private practice and males were less satisfied than females. The most dissatisfied were less than 30 years old and had worked less than five years in physical therapy.

Speakman et al conducted a study of El Paso, Texas physical therapists in 1996 in which the authors created and tested the significance of a job satisfaction measure specific to the field of physical therapy. While subjects felt the job satisfaction questions were valid measures of job satisfaction in physical therapy and were satisfied with certain aspects of their work, they were dissatisfied with the level of paperwork, and many felt overworked in an occupation that may be excessively stressful physically and mentally.

Two articles were published in 2002, both of which examined job satisfaction for physical therapists in facilities undergoing organizational change. One study utilized qualitative research methods to explore the effect of departmental reorganization on 5

therapists. The authors concluded that the experience had a primarily negative impact on the 5 subjects, but all 5 were able to find some positive features to their work (Blau et al., 2002).

Lopopolo (2002) conducted a wider scale investigation of physical therapists working in restructured hospitals across the United States. The selection process was limited to hospital physical therapy departments whose managers were members of the American Physical Therapy Association's Section on Acute Care Hospital Practice or Section on Administration. Lopopolo incorporated theories put forth by Katz and Kahn (1978) in her hypotheses regarding stresses on employees that can lead to negative organizational outcomes: decreased job satisfaction and decreased organizational commitment. Katz and Kahn's theoretical concepts are presented in the following chapter.

Lopopolo's study included 273 subjects from 100 hospitals and concluded that job satisfaction was positively influenced by commitment to the occupation of physical therapy and by certain professional roles concerned with practitioner integration and interaction. Job satisfaction as well as commitment to the organization in which the subject worked was negatively influenced by role stresses as categorized by Katz and Kahn: role overload, role conflict and role ambiguity.

The two most recent studies investigating job satisfaction factors among physical therapists included subjects working in the related professions of occupational therapy, speech-language pathology or other allied health practitioners. In 2003, a study of nursing and allied health professionals' job satisfaction levels included a small number of

physical therapists in the subject population (131, 17% of subjects). This study population, which also included dental hygienists, occupational therapists, and diagnostic imaging and laboratory technicians, was found to have fairly high levels of satisfaction despite many more negative than positive perceived changes in the health care system. The overall group of providers reported being either satisfied or very satisfied 85%-98% of the time, and physical therapists reported the same satisfaction levels 86.7% of the time. Among the variables contributing to satisfaction were feelings of accomplishment, recognition, personal and professional growth opportunities and satisfaction with their workload (Lyons et al., 2003).

The most current published investigation on job satisfaction among rehabilitation professionals that included physical therapists in the study measured an increase in satisfaction from the year 1995 to 2000. Speech-language pathologists, occupational and physical therapists reported being somewhat to very satisfied with their job 81% of the time in 1995 and 89% in 2000. Factors contributing to satisfaction for the total group as well as for physical therapists alone were working in an environment congruent with the professional's values and professional growth opportunities (Randolph & Johnson, 2005).

Also significant for physical therapists' job satisfaction was helping people become well. Accomplishing career objectives was predictive of staying on the job for physical therapists as well as for speech-language pathologists. While a realistic workload was also predictive of desire to stay on the job for speech-language pathologists it was not a factor for physical therapists (Randolph & Johnson, 2005). Previous studies looking at physical therapists' reasons for staying on the job also included career

development opportunities as well as pay and benefits as major determinants for retention (Noh & Beggs, 1993; Okerlund, Jackson, & Parsons, 1994).

Burnout Among Physical Therapists

A related concept to job satisfaction, and one that influences decisions to stay on the job is the variable of burnout. One of the first discussions of burnout within the physical therapy profession was published in 1981. The author, Wolfe, wrote an article speculating that physical therapists possess personal characteristics that make them susceptible to burnout given their work environment. Wolfe's hypothesis merges competing theories that burnout is caused by factors either intrinsic to the individual or extrinsically related to the job itself. Job-related stress was determined to be the source of burnout among law enforcement and mental health professionals in early original investigations on burnout by Maslach and his colleagues (Maslach, 1982; Maslach & Jackson, 1979; Pines & Maslach, 1978).

Freudenberger (1975) correlated burnout with three susceptible personality types which he categorized as the "dedicated worker," one who takes on excessive amounts of additional work, the "overcommitted worker," one devoting all their time and energy to work without allowing for social time, and the "authoritarian worker," who is reluctant to delegate work feeling that no one else will do the job as well. Two later studies (Deckard & R., 1989; Schuster, Nelson, & Quisling, 1984) support the work-related connection to burnout among physical therapists, but neither considered differences in personal characteristics.

Donohoe, Nawaki, Walker, Schindler and Jette (Donohoe et al., 1993)

proposed to investigate the association of burnout with both job environment and personality among physical therapists in the specialty setting of inpatient practice. The authors determined that a relatively young population of inpatient therapists (median age of 26 years) was moderately burned out, using the Maslach Burnout Inventory. They were unable to distinguish personality factors from work factors in the final analysis.

The literature on job satisfaction and burnout in physical therapy provides no comparative studies investigating all the specialty areas of practice on job satisfaction and no studies have definitively determined the influence of personal characteristics on job satisfaction among physical therapists. The personal characteristic of instinctive mode of operating, conation, has not been investigated for its influence on job satisfaction in any field.

Conation Research

The research studies and theories discussed so far have laid the groundwork for numerous other researchers to expand or refine similar concepts aimed at understanding work satisfaction and motivation. Allen's self-interest models, Pinder's investigation of internal and external forces in work behavior, and Rothschild, who looks at motivation as goal-directed arousal, also seek to define the satisfied worker (Timmreck, 2001). If such a concept can be narrowed down then it is presumed that a satisfying environment can be created. Some theorists have suggested, in general terms, how to accomplish such a goal: Herrenkohl, among numerous others, discusses the importance of empowerment to

decide how work is completed (Herrenkohl, Judson, & Heffner, 1999) and Kulik presents fostering individual-level creativity as a means of increasing job satisfaction (Timmreck, 2001).

All of the theories and models presented (and the preceding material is by no means exhaustive) provide useful insight into the nature of job satisfaction and motivation and how to foster it, but none explains the processes occurring within the individual that ultimately dictates why these concepts are valid. Identification of and understanding each persons' instinctive drives for taking action explains why empowerment and allowing individual creativity contributes to satisfaction, and gives reason to the idea that interesting and enjoyable work is in the eye of the beholder or, more accurately stated, in the conative mind of the beholder.

To date, a review of the literature reveals that there is only one peer reviewed journal article investigating conation with the Kolbe Conative Index® (Berry, 1996) in which conative mode of operating was analyzed in the administrative departments of California State University, Northridge following the 1994 earthquake. An additional paper was published as part of an educational conference in which the Kolbe Index™ was utilized to evaluate team synergy and determine the effect team conative makeup had on team performance among engineering students (Lingard & Berry, 2002). While these are currently the only published manuscripts utilizing the Kolbe Index™, several studies and statistical analyses are presented in the texts and statistical handbook on conation from the Kolbe Corporation. Years of study have generated data on which modes dominate in certain occupations. Patterns of MOs have been noted within a variety of

fields from pilots to salespeople (Kolbe, 1993). Descriptions of the modes and the findings of the Kolbe studies are discussed with the theories of conation in the next chapter.

Summary

The review of the literature has presented the discipline of organizational behavior and the studies within this field pertaining to motivation and job satisfaction. The influences of satisfaction and motivation on productivity and turnover are explored. Factors contributing to job satisfaction are outlined with a particular emphasis on the influences of personal attributes. Conation is described as innate modes of operating (MO) and the potential role it plays in job satisfaction is introduced. The connection between job satisfaction and outcome measures is presented and the need for investigating innate striving instincts as a potential predictor is established.

CHAPTER III

THEORETICAL FRAMEWORK

Introduction

The literature review took a broad look at studies on personality, job satisfaction, turnover and productivity. Organizational behavior and motivation research were presented with a broad historical perspective of content and process theoretical bases. This chapter highlights one theorist who is focused on the inherent qualities of work and the needs of the individual as a primary determinant in satisfaction and productivity. Herzberg's motivation-hygiene theory is presented because it provides a foundation and framework from which theories of conation can be introduced and explained more thoroughly.

Herzberg

Frederick Herzberg is one of the most commonly cited authors of work motivation research (Barnes & Crutchfield, 1977; Behn, 1995; Krausz, Koslowsky, & Eiser, 1998b; Leach & Westbrook, 2000; Park, Lovrich, & Soden, 1988; Speakman et al., 1996; Tang, Kim, & Tang, 2000; Tietjen & Myers, 1998; Timmreck, 2001). In his seminal work, "The Motivation to Work" first published in 1959, Herzberg drew important conclusions about what makes work satisfying and dissatisfying for employees from his study of a wide variety of occupational settings in the Pittsburgh area (Herzberg,

Mausner, & Synderman, 1959). The resulting theory is termed Herzberg's motivation-hygiene theory. Aspects of work determined to contribute to job satisfaction are labeled "motivators," while "hygiene factors" are aspects of a job, which when absent, contribute to dissatisfaction. It is important to realize that the absence of satisfaction does not result in dissatisfaction and vice versa. In fact, the presence of hygiene factors, which prevent dissatisfaction, are as crucial as providing motivators to foster satisfaction.

Factors associated with job satisfaction that have been deemed to motivate workers stem from the nature of work, and are often referred to as intrinsic factors. Motivators include recognition, achievement, possibility of growth, advancement, responsibility, and the job itself. Hygiene factors are considered the extrinsic or extra-job factors; they include salary, interpersonal relations, supervision – technical, company policy and administration, working conditions, job security, status, and factors in personal life. Recall that the absence of adequate hygiene factors can lead to job dissatisfaction, but their presence does not guarantee satisfaction. It should be noted that both satisfiers and dissatisfiers have a duration component to them with advancement, the work itself, and responsibility having the longest effect.

When hygiene factors are used in an attempt to motivate, the result is a short-lived temporary action, or what Herzberg calls movement, which should not be confused with the long lasting effect of motivation. As Herzberg (1987) describes it, "motivation is a function of growth from getting intrinsic rewards out of interesting and challenging work," and "movement is when a worker does the job out of fear of punishment or failure

to get extrinsic rewards.” Movement demands constant reinforcement, whereas motivation provides intrinsic personal growth sustainable over time.

In 1968, Herzberg published another article that is now considered classic on the concept of movement as a byproduct of motivating by fear and incentives. He coined the eloquent phrase “motivation by KITA,” where KITA stands literally for “kick in the ass.” As implied, KITA can be a negative physical stimulus that provokes action, or it can take the form of a psychological kick. Herzberg discusses several advantages to psychological KITA including, “the cruelty is not visible...and comes much later” ((Herzberg, 1987). Furthermore, there are infinitely more ways to psychologically hurt an individual, and those administering the pain can often allow the system to accomplish the dirty work for them while acquiring a sense of ego satisfaction in the process. Whether kicked physically or psychologically one moves, but is not necessarily motivated.

Incentives dangled before an employee are even more likely to be confused with motivation when in fact they simply produce movement by a tug rather than a shove. Herzberg terms this frontal application of KITA as “positive KITA,” but deems it no less motivating and suggests that it is more offensive since you become “a party to your own downfall...the organization does not have to kick you; you kick yourself”(Herzberg, 1987).

It is worth reiterating the point that job satisfaction and dissatisfaction are not opposites but rather side-by-side contributors to human behavior in their jobs. Herzberg illuminates the concept by showing how two sets of distinctly human needs drive the desire for satisfaction and the avoidance of dissatisfaction. There is a human need to

avoid pain while satisfying basic biological necessities. In a corporate world, this translates into a drive to make money because it is necessary to avoid hunger. There is also a need to satisfy our desire for psychological growth through a sense of achievement. Job content (intrinsic factors) meets the need for growth while job environmental (extrinsic) factors provide the stimuli generating pain-avoidance behavior.

A recent study by Leach and Westbrooke (Leach & Westbrook, 2000) of a federal government research and development facility validated Herzberg's theory finding that the top ranked factors in job satisfaction among this group of workers were consistently motivators, as defined by Herzberg. Maidani (1991) investigated Herzberg's theory in a comparison of public and private sector jobs. Maidani's study showed that employees' motivation to work in both sectors emphasized the intrinsic factors, though public-sector workers demonstrated an interesting tendency towards valuing hygiene factors more than private-sector workers. Herzberg's job motivation theory proved to remain strong across cultures and nations in a study comparing public-sector employees in the U.S. and Korea (Park et al., 1988).

Conation

What is missing from Herzberg's theory, which states that "motivation is a function of growth from getting intrinsic rewards out of interesting and challenging work," is knowing and understanding how individuals differ in what they find interesting and challenging. And what Katz and Kahn have left out of their discussion of roles is that

the role expectations might be determined by the task or goal itself rather than defined by other individuals' requirements or expectations.

Satisfaction may be attained from the inherent way in which an individual accomplishes a goal or a job if the requirements of the task fit their natural abilities. Conversely, always feeling your talents are mismatched with the activities requirements can lead to dissatisfaction and stress. Katz and Kahn provide a limited definition of the concept of creativity, identifying it as a product generated from activities that are outside the established roles, rather than acknowledging the fact that viewing the ways in which people act to attain a goal in and of itself can be seen as a creative process. The role conflict and stressors presented by Katz and Kahn are closely related to theories of conation, but they stop short of uncovering the individuals' innate driving instincts as a contributing underlying source of stress on one's mental energies and consequently performance.

Peter Drucker's (1999) theories of self-management come closest to touching upon conation theory, although he attributes how we take action as being related to personality – a separate area of the mind from our instincts for taking action. Drucker points out the lack of understanding on most people's part about how they get things done as well as a lack of appreciation that there are differences in how people work and perform. In this *Harvard Business Review* article, Drucker suggests that one must know his or her strengths and abilities in order to manage oneself and perform successfully, writing, "Many people work in ways that are not their ways, and that almost guarantees nonperformance...How do I perform? may be an even more important question than

What are my strengths?”(Drucker, 1999) Feedback analysis is the method he prescribes for uncovering strengths, a process where outcome expectations are written down at the point of making a key decision or taking action and analyzed a year later for comparison with actual results. Strengths should begin to emerge from the analysis with consistent use over a period of three years. Understanding conative modes of operating, the instinctive drives for taking action, is the missing element that operationalizes Drucker’s theory and provides an important link between content and process theories of motivation.

Conation has been identified as one of three parts of the mind dating back to the early philosophers Aristotle and Plato, who discussed three areas of the mind with which we think (cognition), feel (affect) and act (conation). For years the field of psychology has produced numerous studies on the cognitive and affective aspects of human behavior, but only recently has the study of conation (intention, will to act) been realized. In 1987, Kathy Kolbe, daughter of E.F. Wonderlic - a pioneer in personnel testing in the late 1930’s - devised a paper and pencil instrument to measure conation. While personality tests measure preferences and values, and IQ tests measure intelligence, the Kolbe Conative Index® (KCI®) measures how we act and what we do willfully in an effort to attain goals. The lack of proof or means of testing this unconscious mental energy called our instincts made its study fall from favor among earlier philosophers even though many famous psychology theorists including Freud and Jung clearly supported the existence of this third part of the mind.

Kolbe graphically depicts the interaction of the three aspects of the mind in the Kolbe Creative Process™ diagram (Figure 3.1) where the measurable outcome of the process is the conative mode of operating (Kolbe, 2004a). Four modes, or volitional instincts are derived from the analysis of the Kolbe Conative Index® (KCI®) and are expressed along three operating zones (see Figure 3.2) ranging in intensity from how you *will* act (8 – 10, insistence range) to how you are *willing* to act (4 – 7, accommodating range) and how you *won't* act (1 – 3, resistance range) when given the freedom to act volitionally.

Figure 3.1. Kolbe Creative Process™

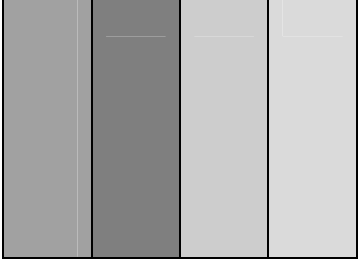
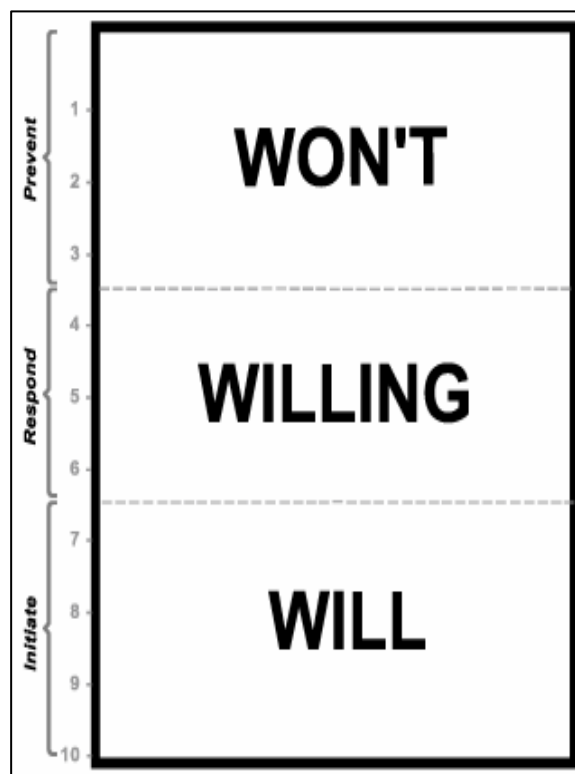
MOTIVATION →	STRIVING INSTINCTS + WILL →	REASON →	CONATIVE ACTION: BEHAVIOR
Values Attitudes Emotions	Mental Energy Drive Talents + Free will Commitment Self Determination	Thought IQ Knowledge	

Figure 3.2. Kolbe Operating Zones

- Prevent / Resist

- Respond/
Accommodate

- Initiate / Insist



The four striving instincts that comprise the conative mode of operating (MO) are labeled Fact Finder, Follow Thru, Quick Start and Implementor. Each KCI® Score is expressed as a four digit number reflecting the intensity in each mode read from left to right in the order shown below, e.g. 7643 (Figure 3.3, also see Appendix A for a sample index result). When required, we can operate using a blend of the four modes, but, when we are free to choose, a dominant action mode will emerge.

Operating in a resistant mode (1-3) over a period of time causes fatigue and stress. Utilizing an accommodating mode (4-6) is comfortable, but this is not a strategy that will allow one to really shine or to be a leader. The lower the number within the

accommodating range, the less likely one would choose to operate in that mode and would only do so if they had to – if the job required it. An individual with a 6 in the accommodating range is more likely to take on a task requiring that mode of operating than someone scoring a 4. To excel and really soar, one must operate in their insistent mode (7-10) a majority of the time.

Figure 3.3. Kolbe Action Modes

	Fact finder	Follow Thru	Quick Start	Implementor
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
	Probe	Pattern	Innovate	Demonstrate

Figure 1. Action Modes (Kolbe 1995)

In her book, *Pure Instinct* (Kolbe, 1993), Kathy Kolbe provides detailed descriptions of the operating modes and combinations of mode intensities, provides suggestions for optimizing one's strengths, and advises how corporations, teams and interpersonal relationships can benefit from understanding and utilizing the conative modes. The following is a brief summary of the conative modes presented in a variety of ways throughout the Kolbe texts (Kolbe, 1993, 1995, 1997, 2004b) and training manual (Kolbe, 2004a).

Individuals insistent in Fact Finder have an instinct to probe, use past experience, collect data, weigh pros and cons, and establish priorities before making decisions and taking action – they will do the most important things first. Fact Finder behavior is about the gathering of information: degree of detail, precision, documentation. The Fact Finder's perspective is historical and needs to justify decisions and explain the practicality of his or her approach in terms of the most appropriate and best use of time.

Follow Thru individuals require order, structure, schedules with time lines and planning ahead. Predictability is essential and the need to pattern is strong. Follow Thru behavior deals with the way information is organized: sequencing, closure and degree of orderliness. There is a strong need for policies and procedures, efficiency, check off lists and systematizing. The perspective is an integration of past, present and future with an emphasis on timing, task completion and enforcement.

Quick Start insistent individuals are visionaries who are deadline and crisis-oriented, tend to improvise and take risks. Quick Start behavior deals with the unknown and responds with a high degree of urgency. There is a strong sense of intuition, flexibility and experimentation. The perspective is on the future with spontaneity, shortcuts and instant solutions governing their actions and leading to an insistence for brainstorming, originating, inventing and promoting. Quick starts thrive on change and challenge.

Implementors are hands-on people who construct using space and materials bringing tangible quality to actions. Individuals insistent in this mode are grounded in the

present equipped with the talent to construct durable solutions of a three-dimensional form using their hands and “implements.” They deal in the concrete rather than the abstract and take the time to practice, master and render quality results. There is a need to build, repair and use physical effort.

A person is neither all nor none of the above, but has a degree of intensities in each mode, some level of mental energy devoted to each mode. A dual insistence in two modes is possible with a unique set of talents derived from all the various combinations. Individuals who are neither resistant nor insistent in a mode, but rather accommodating in all modes, are called Facilitators. Facilitators have the innate quality of appreciating all sides without having to side with any, thus making them excellent mediators and very cooperative team members. With this even-keeled MO, Facilitators risk being criticized for an apparent lack of assertiveness and their contribution is often overlooked, which can cause them great disappointment. Approximately 10 percent of the population has a KCI® result without any insistent mode. It is important to recall that modes of operating (conative part of mind) are distinctly separate from personality (affective mind). Individuals with the same KCI® result may have very different values, emotions and preferences. Outgoing, social, extroverted or introverted are all terms regarding personality and any one of these styles is just as likely to exist in a Fact Finder MO as in a Quick Start MO.

For any given action mode in the general population 20 percent will be insistent, 60 percent will accommodate and 20 percent will be resistant in that mode (Kolbe, 1993). The percentages in the operating zones are not normally distributed because 10 percent of

the population is found to be in Transition at any given time (Kolbe, 2004a). Transition occurs when an individual is consistently trying to operate outside his or her natural talents, attempting to “improve” in one of the zones where he or she is not naturally insistent – perhaps even resistant. When a person is under pressure to conform or make changes at work or at home, or experiencing an extreme life crisis he or she is susceptible to Transition (Kolbe, 2004a). Known ages for transition include 14-16 years old, mid-life, and retirement, when Kolbe results are more likely identify the subject as a Facilitator; yet there will be inconsistencies in the index answers such that the computer algorithm picks up a possible transition (Kolbe, 2004a). Transition results require careful, thoughtful examination of one’s life events and an effort to discontinue attempts to satisfy unrealistic demands and outside pressures. Ultimately, denying natural talents and operating outside the conative zones is mentally draining and leads to frustration, fatigue, or other problems. Such a state cannot be sustained and a Transition result always transforms to the true conative result once the precipitating events pass (Kolbe, 2004a).

It is important to remember that no mode or combination of numbers is better or worse than another and creativity, the process of “bringing into being that which did not exist before,” flourishes from every mode of operating. Creativity is not the sole domain of the Quick Start, and this is a common misinterpretation of the Kolbe system (Kolbe, 1997). It does not matter whether the “creation” is composed of paint or of numbers, is a wood model, a strategic plan or a system. In order to see all areas of conative expression as positive, the Kolbe 12 Impact FactorsTM figure is valuable (see Figure 3.4).

Figure 3.4. The 12 Impact Factors

FACT FINDER	FOLLOW THRU	QUICK START	IMPLEMENTOR
SIMPLIFY	ADAPT	STABILIZE	IMAGINE
REFINE	REARRANGE	REVISE	RENOVATE
JUSTIFY	ORGANIZE	IMPROVISE	CONSTRUCT

Unless there is an affective overlay, a learned value judgment, about any of the 12 talents listed in the table, each should be seen as useful, necessary and desirable.

As an example, an individual whose mode is 3825 is resistant in Fact Finder and Quick Start, insistent in Follow Thru, and accommodating in Implementor, and would tend to simplify, organize, stabilize and renovate. Any combination is positive. An ideal team would be made up of individuals covering all 12 Impact Factors. While that is not likely, the Kolbe Corporation has worked for years with companies around the world optimizing team make up, team efforts and company performance. Kolbe has been successful in improving team performance and morale where many quality improvement strategies and fads for enhancing productivity have failed.

In the 1980's a movement called Total Quality Management (TQM) swept over corporate America in hopes of enhancing productivity. Because the focus of such programs did not necessarily translate into desire for action on the part of employees, many efforts to use TQM failed. James L. Broadhead was chairman of Florida Power and

Light Company (FPL) in 1989 when the company won international acclaim for its quality improvement efforts even though these efforts did not ultimately translate into more satisfied customers, improved profits, or more productive employees. Broadhead is quoted as saying the “preoccupation of process had resulted in us losing sight of one of the major tenets of quality improvement; namely, respect for employees” (Kolbe, 1993). FPL is not alone; according to a 1992 survey, only 36 percent of companies reported a significant impact on competitiveness, with most companies rating TQM with D and F grades for changes in customer satisfaction, cost reduction and market share (n=500) (Kolbe, 1993). Consideration for optimizing employees’ natural talents is void in the traditional quality improvement programs.

When we are free to use our own instincts and act according to our natural intentions we thrive and maximize productivity. On the contrary, as much as 80 percent of lost productivity can be attributed to people in positions where their striving instincts were used ineffectively or inappropriately (Kolbe 1990). Years of work with companies across the globe has allowed Kolbe to produce data on a variety of occupations including the MOs found to be common among the most productive employees in an occupation. Such information is useful for hiring individuals who are likely to be successful as well as useful to the individual in seeking the right position.

After years of investigation across occupations, the Kolbe Corporation has generated 16 categories for all the combinations of insistent modes. Termed “Natural AdvantagesTM,” these descriptive categories are not meant to be job titles, but rather explain the frame of mind and how one would naturally approach any task. For example,

an individual insistent in both Fact Finder (score of 8) and Follow Thru (7) (e.g. 8743) would fall into a category titled “Strategic Planner,” which means that, regardless of the task, the approach would be one of studying trends, evaluating sequences, putting priorities into context, explaining procedures and justifying policies. Reversing the two insistent scores so that the result is 7843 puts Follow Thru first in the combination and then this individual would act in a “Systems Analyzer” mode, structuring data, concentrating on details, programming specifics, planning appropriately, charting probabilities and concluding thoroughly. The 16 Natural Advantages™ are presented in Figure 3.5.

Investigation into specific occupations and the mode of operations found to dominate among the most effective and productive employees in the field provides interesting job-specific information. Successful commission sales people tend to be insistent in Quick Start (n=760) while pilots are insistent in Follow Thru and accommodating in Implementor. Electrical engineers are high on the scale for Fact Finder and Follow Thru with disproportionately high rates of resistance in Quick Start (n=86). Public accountants prove to be more insistent than the general population in Fact Finder (n=99) and Lawyers are insistent in Fact Finder and Quick Start, which is logical given their professional need to both gather information and present in writing as well as orally in courtroom cases. Health care managers (n=222) were found to be insistent in Follow Thru and accommodating in Implementor with high levels of stress reported in those lacking the Follow Thru needed for adhering to the procedural demands of the health care system (Kolbe, 2003).

Figure 3.5. Kolbe Natural Advantages™

FF: Researcher Probes, prioritizes, proves, Specifies, calculates, defines	FF/FT: Strategic Planner Studies trends, evaluates sequences, explains procedures, justifies policy, puts priorities in context	FF/QS: Manager Calculates risk, allocates variables, justifies intuition, explains bottom line, specifies challenges	FF/IM: Technologist Studies tangibles, demonstrates probability, Allocates space, evaluates quality, tests materials, strategizes protection
FT: Designer Plans, charts, coordinate, arranges, graphs, budgets	FT/FF: Systems Analyst Structures data, concentrates on details, programs specifics, plans appropriately, charts probabilities, concludes thoroughly.	FT/QS: Program Developer Focuses options, Graphs changes, designs originals, sequences diverse elements, coordinates flexibly, tracks experiments, schedule alternatives	FT/IM: Manufacturer Designs models, coordinates equipment, structures manually, concentrates materials, patterns work flow, maintains quality, plans space.
QS: Innovator Challenges, risks, brainstorm, , intuits promotes, originates	QS/FF: Entrepreneur Challenges status quo, Promotes appropriateness, changes priorities, revises standards, converts data, improvises presentation	QS/FT: Theorist Innovates systems, reforms plans, instigates transitions, modifies procedures, originates concepts, reverses trends	QS/IM: Pioneer Explores new territory, alters environment, defies the elements, challenges endurance, competes physically, invents
IM: Demonstrator Builds, molds, forms, constructs, shapes, repairs	IM/FF: Investigator Handles meticulously, builds precisely, makes complex maneuvers, demonstrates thoroughly, physically protects, establishes standards	IM/FT: Quality Controller Installs systems, builds structures, enforces regulations, guards facilities, maintains equipment, mechanically designs	IM/QS: Adventurer Remodels, explores, constructs futuristic models, renders uniquely, sculpts free-form, shapes intuitively

FF: Fact Finder; FT: Follow Thru; QS: Quick Start; IM: Implementor

Conative Stress is a situation that occurs when the demands of the job do not match the conative talents of the individual. Additional Kolbe Indexes are available to determine an employee's perception of their job demands (Kolbe B™ Index) or another

person's definition of the job requirements, such as a boss or expert in the field (Kolbe CTM Index), which can then be compared to an individual's KCI® result (taken as the Kolbe ATM Index on-line). A difference in any Action Mode of 4 or more units between two Indexes yields conative stress. The difference can be expressed in either direction, towards a greater or lesser number within a mode. A difference of 4 or more between a Kolbe ATM and Kolbe BTM is considered self-induced "strain"; between Kolbe ATM and Kolbe CTM creates "tension" (Kolbe, 2004a). Tension is most closely aligned with Katz and Kahn's notion of role stress resulting from a mismatch or uncertainty in role expectations. Kolbe's definition of tension explains the source of the conflict in "role stress": the misappropriation of an individual's natural willful instincts.

Science researchers exploring the origins of human will, including Antonio R. Damasio of the University of Iowa College of Medicine, have been investigating an area of the brain, the supplementary motor area, that is believed to someday "permit us to model the neuronal substrates of the *will*" (Kolbe, 1997). Kolbe's efforts have been more pragmatically directed at identifying and targeting human talent and effort for optimal performance and personal satisfaction. If physical therapists could match properly their conative style with the appropriate work environment and specialty setting, they might find enhanced job satisfaction, consequently decreased turnover rates and increased longevity in clinical practice. The usefulness of this study's findings is not to determine who is suitable for the field of physical therapy, but in which area of practice one might thrive best. In the profession of law, the KCI® has been able to predict whether a person

will succeed in corporate law or as a trial attorney (Kolbe, 1997). So too might the KCI® guide the physical therapist.

Research Model

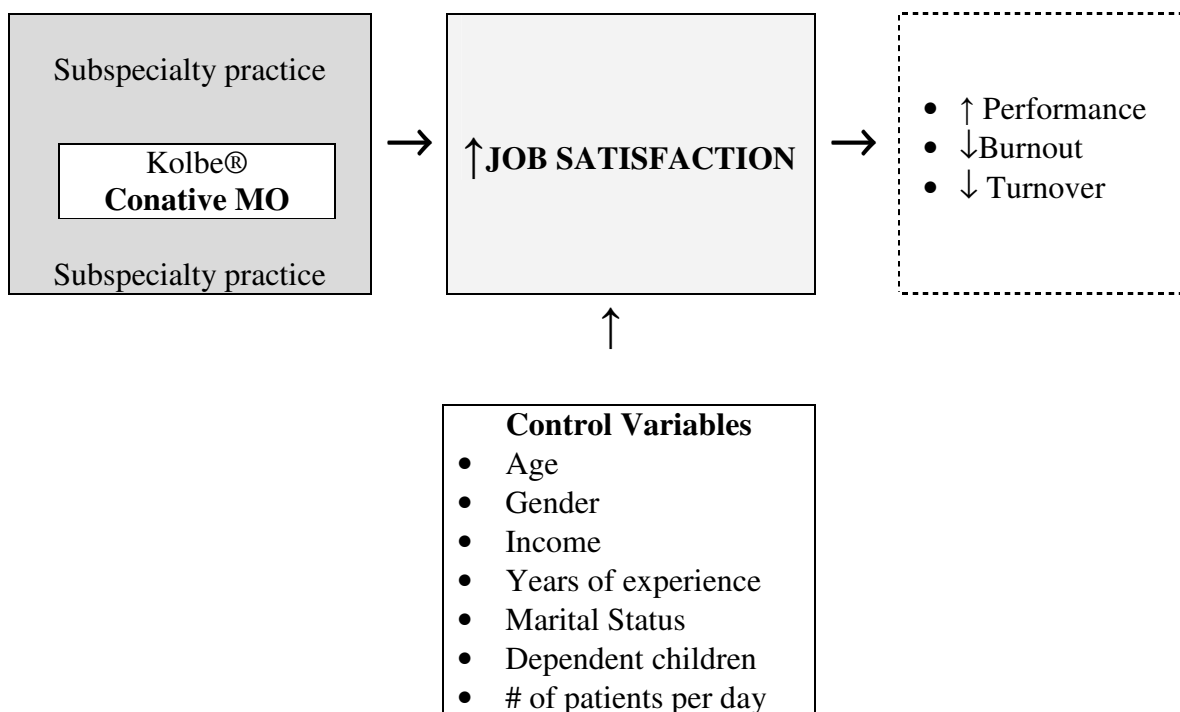
Based on the literature regarding the Kolbe Conative Index®, job satisfaction, productivity and turnover, I theorize that physical therapists as a group will demonstrate similar conative modes of operating. Within practice subspecialties, a common mode of operating will emerge for each subspecialty and individuals with the more prevalent conative MO will demonstrate greater job satisfaction, controlling for certain variables found in previous research to have an influence on satisfaction. Gender and marital status are not expected to play a role in satisfaction, while the number of dependent children, age and years of experience are anticipated to exert a positive influence. Increased workload (number of patients seen in an eight hour day) is projected to negatively effect satisfaction. Income is expected to influence extrinsic job satisfaction, but not intrinsic satisfaction.

Predicted MOs by subspecialty include a larger number of Fact Finder and Implementor modes among orthopedic therapists who provide manual therapies. Inpatient acute therapists may demonstrate more Follow Thru MOs where treatments tend to follow more systematic protocols and defined routines. Neurological rehabilitation and pediatric therapy involves longer term intervention with a combination of hands on (Implementor) and family/caregiver planning (Follow Thru). Quick Start therapists are most likely to be in private outpatient settings where innovation in practice techniques

and entrepreneurial skills are more likely than in established hospital or school-based programs.

Though the scope of this research does not investigate actual performance and turnover rates, the research model predicts, based on previous investigations in the literature, that job satisfaction would in turn effect these outcome variables - an area of future, longitudinal study. Figure 3.6 depicts the research model.

Figure 3.6. Research Model



Summary

Chapter three has provided a detailed explanation of conation theory and how this third part of the mind can be categorized for individuals based on behavioral outcomes.

Conation is described as innate modes of operating (MO) and the role it possibly plays in job satisfaction is presented, along with occupational specific MOs. Conation is the driving force behind which aspects of a job (one of Herzberg's intrinsic factors) will be inherently enjoyable to a particular person. The conative mode of operating operationalizes Katz and Kahn's concepts of role stress. Tying these theories together yields a research model for the interaction of conation, intrinsic satisfaction variables and extrinsic satisfaction variables.

CHAPTER IV

RESEARCH METHODS AND DESIGN

Introduction

Chapter four presents the research methodology and study design and provides justification for their use. Sampling techniques, subject selection and study population are defined. The demographic survey, job satisfaction instrument, and Kolbe Conative Index® (KCI®) are detailed and their availability on-line is described. Data analysis consisted of both parametric and nonparametric statistical methods to compare variables and present study findings.

Methodology

Survey research methodology was used for descriptive, explanatory and exploratory purposes as recommended by Babbie (1998) to be “the best method available to the social scientist interested in collecting original data for describing a population.” Survey research works well when people are the unit of analysis and when describing the following: values, attitudes, knowledge or experience levels, practice patterns, and characteristics of certain groups (Portney & Watkins, 2000).

Design

Cross sectional study design was employed to explore the characteristics of conation and job satisfaction among a specific group of individuals: physical therapists in

Los Angeles, CA. This type of descriptive and correlational research involves data collection for the testing of hypotheses and to answer questions regarding the current condition or status of study subjects (Babbie, 1998). This study seeks to describe how many, how much or how often variables exist in the study population and to what extent they are correlated. Correlational studies do not manipulate independent variables, they simply examine how they vary respective to each other (Portney & Watkins, 2000).

The study design was employed for the purpose of determining whether a sample of physical therapists share a common mode of operating and whether certain variables affect job satisfaction, including mode of operating as well as work load and demographic variables such as age, gender, income, years as a therapist or on the job, and number of children.

Sample and Setting

A sample of Los Angeles area physical therapists was obtained using two methods. A portion of the subject population was recruited by selecting a randomized representative sample of 500 California licensed physical therapists from the California State Board, Department of Consumer Affairs listing of all physical therapists holding a current California license as of September 2003 (n=18,341). Therapists not residing in the state were excluded from the selection process, reducing the total number from which the sample was drawn to 15,580. Subjects were mailed a letter requesting their participation and directing them to a secure website set up for the study. A follow up postcard was mailed three weeks after the initial mailing. Another group of subjects was

recruited through emails to local hospital physical therapy department supervisors and to California Children's Services physical therapy department requesting participation.

Los Angeles was selected as the geographical region in which to conduct the study because of its diverse population and varied subcultures, ranging from rural to urban, and because of the wide variety of ethnicities, religions, cultures and values systems in both the patient population and among health professionals. This expanse of geographical, environmental and personal diversity in a localized area is likely to be more representative of a larger population than would be found in other county confines. The variety of physical therapy service settings within one county is also impressive and comprehensive of the field as a whole.

A total of 63 subjects were analyzed after eliminating cases that lacked both Kolbe and job satisfaction data. Job satisfaction data was available on 58 of the subjects, Kolbe MO's were available on 48 subjects (all of these subjects also had satisfaction results), and the number of subjects who worked treating patients full time (greater than 30% of time spent in patient care) was 47. Therapists who worked full time treating patients (n=47) and also had complete job satisfaction results (n=33) as well as Kolbe information amounted to 24 subjects.

Instrumentation

An on-line survey was created to collect demographic information and administer the job satisfaction questionnaire: the Minnesota Satisfaction Questionnaire (MSQ). See Appendix B for a copy of the on-line survey, including the MSQ. The MSQ is a highly

regarded measure of job satisfaction (Muchinsky, 1983) used by numerous researchers. The short form of the MSQ (Weiss, Dawis, England, & Lofquist, 1967) was used in this study as it is frequently cited in studies investigating personal characteristics, turnover, and job satisfaction (Arvey et al., 1989; Baker & Baker, 1999; Decker & Borgen, 1993; Krausz et al., 1998b). The MSQ has been shown to perform according to theoretical assumptions and thus has good construct validity as well as high reliability using Hoyt reliability coefficients (Weiss et al., 1967). The instrument has also been demonstrated to have high convergent validity (Dunham, 1977) as well as discriminant validity (Hirschfeld, 2000) .

The MSQ short form used in this study is comprised of 20 questions. Subjects respond to each question on a scale of 1 (very dissatisfied) to 5 (very satisfied). The instrument measures both intrinsic and extrinsic aspects of job satisfaction and is summed to create an overall composite job satisfaction score. Intrinsic satisfaction is addressed in 12 questions regarding such facets as achievement, utilizing one's abilities, and contributions to others. Six questions reflecting work conditions, administration and the like are aimed at extrinsic facets of job satisfaction. Intrinsic, extrinsic and overall satisfaction scales were considered with particular attention paid to intrinsic scores since they specifically have been significantly negatively related to turnover (Mobley, Griffeth, Hand, & Meglino, 1979; Tang et al., 2000).

Subjects were queried for certain non-study variables thought to influence satisfaction and turnover rates in previous studies investigating job characteristics, satisfaction, turnover and personality profiles (de Jonge et al., 2001; Franze, Foster,

Abbott-Shim, McCarty, & Lamber, 2002; Lee & Maurer, 1999; Ranz, Stueve, & McQuiston, 2001; Shaw, 1999; Tang et al., 2000). The variables of age, gender, income, marital status, number of dependent children, caseload (number of patients treated in an eight-hour day), and years of work experience are investigated in this study.

The Kolbe Conative Index® (KCI®) is a 36-question survey accessible on-line as the Kolbe A™ Index with an issued password. The index is designed to analyze the choices people make in handling a problem or attaining a goal. Respondents select the most and least likely way of approaching each scenario presented. (See Appendix C for paper version of the Kolbe A™ Index questionnaire).

The Kolbe Conative Index® has been studied to insure good validity and reliability. A list of 200 items narrowed to 50 that were least likely to differentiate high and low performers on IQ test was strongly correlated with an interest inventory. Thirty-six questions remained after a social desirability study revealed items susceptible to response distortion. Test-retest reliability is 90% with ± 1 unit within any action mode.(Berry, 1996; Kolbe, 1993)

The Kolbe Conative Index® has been shown to be non-discriminatory against sex, race or age and abides by all guidelines set forth by the Equal Employment Opportunity Commission (Kolbe, 1993). The index has also been proven to differentiate between volitional actions in different occupations and has substantially reduced turnover in organizations that install the Kolbe system (Kolbe, 2003). Kathy Kolbe, the founder of the Kolbe Conative Indexes,® has worked closely with the study author on study

development, implementation and analysis, including the generous gift of supplying the Kolbe ATM Index for this research effort.

The Kolbe Conative Indexes are the only registered and trademarked tools for identifying conative modes of operating. They are specific to how individuals accomplish tasks or goals; they do not assess values and personality (affective areas of the mind) or measure intellect and skills (the cognitive part of the mind).

Data Collection

Subjects received a letter by mail or email requesting their participation. The letter included instructions for accessing the author-created secure website using an individualized subject number as a username and a numeric password that also served as a credit number required in lieu of payment for the Kolbe Conative Index® (KCI®). Subjects willing to participate in the study linked directly to the KCI® after completing the demographic and MSQ surveys on-line. Subjects remained anonymous on both secured sites by using their ID number instead of any identifying names. The Kolbe Corporation is located in Arizona and was not privy to any subject information other than numeric IDs and Kolbe ATM Index results.

Statistical Analysis

Non-parametric frequencies and associational statistical analysis (cross tabulations and chi square) were conducted on all nominal variable data. Analysis of variance (ANOVA) was performed to test for a relationship between Kolbe Index results

and job satisfaction scores (raw scores and percentile scores) overall for the field of physical therapy. Insufficient numbers of subjects in each of the practice settings made statistical comparisons between groups statistically inappropriate.

Job satisfaction raw scores and percentiles were compared, using one-way ANOVA, with each of the following nominal variables:

1. Gender
2. Marital status
3. Full or part time work
4. Facility: private, public and HMO settings
5. Amount of paperwork associated with patient care
6. Certification as a specialist Kolbe A™ Index results: Natural Advantage™, insistent mode, and resistant mode

Scheffe post hoc analysis was performed on variables found to be significant at the $p \leq 0.05$. The Scheffe comparison was chosen because it is a rigorous and conservative test that adopts family-wise error rates with all contrasts (Portney & Watkins, 2000).

For analysis of job satisfaction, two cases were removed from the total number of subjects due to missing one or more responses to MSQ questions, which could have significantly altered the total job satisfaction score.

Income categories were analyzed for significant effect on job satisfaction scores (MSQ) among full time treating therapists only. Raw MSQ scores were converted to percentile ranks for the group and ANOVA for satisfaction against nominal variables was conducted on both raw and percentile scores. Regression analysis was used to determine

whether age, years of physical therapy experience, years on current job, number of dependent children, or patients seen per day predicted job satisfaction results for all subjects and for the group of subjects treating patients full time.

Limitations

Limitations to the study's methodology and design include a relatively small sample size considering the large number of therapists residing in Los Angeles County. Therapists in Los Angeles County may not be representative of therapists elsewhere in the state or country and the non-randomized sample selection process limits the generalizability of the study's findings. Survey instruments, such as those utilized in this study, rely on self-report and interpretation by individuals, which cannot be controlled or regulated. Uneven numbers of subjects in the specialty areas of practice groups reduces the power of the statistical analysis and resulted in limiting the comparison of many variables for the group as a whole or to therapists working full time treating patients only.

Correlational research does not establish cause-and-effect relationships, which is a weakness of the study design (Portney & Watkins, 2000). However, before studying causal relationships it is useful to uncover what variables are related and which influence, in this case, job satisfaction.

CHAPTER V

RESULTS

Introduction

The research methodology, design and analysis discussed in the previous chapter, yielded the statistical results presented in this chapter. Tables are utilized for easy summary of important findings. The total number of subjects responding to the survey totaled 64. The number of subjects statistically analyzed varied depending on the variables under consideration, the presence of complete data, and based on appropriateness given the statistical procedure.

Demographics

Subjects responding to the survey worked in the areas of hospital-based clinics and freestanding outpatient settings including privately owned (57%, n=36), public (22%, n=14) and Health Maintenance Organization (HMO) (19%, n=12) facilities. Specialty areas of practice included orthopedics (48%, n=30), inpatient acute/subacute care (18%, n=11), neurological rehabilitation (3%, n=2), pediatrics (13%, n=8) and skilled nursing facilities (8%, n=5). See Table 5.1 for a summary of demographic results. Slightly less than half of the respondents reported being members of the American Physical Therapy Association (APTA) professional organization (42%). The ratio remained approximately

the same when the sample was reduced to only therapists who worked full time treating patients (46% membership in the APTA)

Ten percent of the respondents reported working some portion of time in a combination of specialty areas (n=6). Full time therapists (30 or more hours per week) comprised the majority of the subjects (75%, n= 47). Individuals working primarily in physical therapist education (n=12), primarily as managers (< 30% of time is spent treating patients) (n=5) or through registry (n=4) made up 33% of the sample, with the rest of the subjects working either full or part time treating patients only.

Table 5.1. *Number of Respondents by Practice Setting*

Setting	No. Subject (n=63)
Orthopedic	30
Inpatient Acute/Subacute	11
Neurological Rehab	2
Pediatrics	8
Skilled Nursing Facility	5
Combination of Settings	6

The study sample included subjects ranging in age from 26 to 62 years old with the average age being 41.2 years (standard deviation 9.1 years). There were 14 male (22%) and 49 female (78%) subjects, which is reflective of a profession predominantly

comprised of women (APTA, 2002). Two thirds of the subjects were married (67%, n=42) and the reported number of dependent children living at home ranged from none to 4. Thirty-four out of 60 subjects (3 missing) reported no children currently living at home. Subject demographic information is displayed in Table 5.2.

Table 5.2. *Demographics: Age, Dependents, Years in Physical Therapy and Current Job*

	Range	Mean	Standard Deviation
AGE	26-62	41.2	9.1
Years in PT	1.5-38	14.3	10.0
Years on Job	0.10-25	7.0	6.4
Dependent Kids	0-4	0.9	1.1

The academic degree held by subjects varied from a certificate in physical therapy to post-professional doctorates, with the majority being masters level (48%, n=30) or below (41%, n=26), as seen in Table 5.3. One quarter of the respondents reported holding a specialty practice certification (25%, n=16).

Table 5.3. *Physical Therapy Degree*

Degree	Number of Responses (n=63)
Certificate	5
Bachelor of Arts or Bachelor of Science	21
Master of Physical Therapy	30
Entry-level Doctorate (DPT)	3
Post-Professional Doctorate (DPT, PhD or DSc)	4

Kolbe Action Modes

Kolbe mode of operating (MO) results were disproportionately high for resistance (KCI® result of 3 or less in an action mode) in Quick Start (QS) and for insistence (7 or more in a mode) in Fact Finder (FF) and Follow Thru (FT) compared to normal distributions expected in the general population, as reported by Kolbe Corporation's research findings (Kolbe, 2004a). While 20% of the general population are expected to have insistence in each of the modes, physical therapists in this study presented with FF insistence (KCI® result of 7 or higher for that mode) 54.2% of the time (n= 26) and FT insistence 35.5% of the time (n= 17). Twenty-nine of the 48 subjects (60.5%) who took the KCI® had FF, FT or both combined as insistent MOs.

Resistance in QS occurred in 47.9% of the subjects with resistance in Implementor (IM) 37.5% of the time. A second resistant operating zone occurred in 11 of the 48 reported cases (22.9%), always in IM with seven of the eleven having their second

resistant mode in QS. Crosstabulation and chi square analysis confirmed that QS was a significantly more prevalent resistant mode ($p < .00$).

When data were refined by removing managers and academicians to take a closer look at therapists who primarily treat patients ($n=33$), KCI® results remained skewed with slightly higher percentages of insistence in FF (60.6%) or FT (39.4%) and resistance in QS 54.5%. Three of the full time treating subjects reported MOs in transition (9.1%), which approaches the normally expected 10% for any given population. Facilitator MOs (no resistance or insistence), which are also expected at a rate of 10%, only occurred in 6% ($n=2$) of this study population. Kolbe A™ results are presented in Table 5-4.

Table 5.4. *Kolbe A™ Index Results*

	All Subjects (n=61)		Full Time Treating Only (n=33)	
	Frequency	% Study Population	Frequency	% Study Population
Insistent MO*				
Fact Finder (FF)	26	54.2%	20	60.6%
Follow Thru (FT)	17	35.5	13	39.4
Both FF & FT	12	25.0	10	30.3
Quick Start (QS)	7	14.6	5	15.2
Impelementor (IM)	2	4.2	2	6.1
Resistant MO*				
Fact Finder (FF)	1	2.1%	0	0.0%
Follow Thru (FT)	7	14.6	5	15.2
Quick Start (QS)	23	47.9	18	54.5
Impelementor (IM)	18	37.5	12	36.4

Table 5.4. (continued)

	All Subjects (n=61)		Full Time Treating Only (n=33)	
	Frequency	%Study Population	Frequency	% of Study Population
Both QS & IM	9	18.8	5	15.2
Other MO				
Mediator MO	4	8.3%	2	6.1%
MO's in Transition	6	12.6	3	9.1

Note. An individual may have more than one insistent or resistant mode - frequencies and percentages will not sum to 100.

The combinations of insistent MO's (Natural Advantages™) found in each specialty are reported in Table 5.5. However, with too few responses in several categories, statistical analysis between groups was not appropriate. Orthopedic therapists comprised the largest number of respondents, with the smallest being neurological rehab, represented by only two subjects.

Table 5.5. Kolbe Natural Advantage™ Mode by Specialty Practice Setting

	Total n=47	Ortho n=21	Acute n=9	Neuro n=2	Pediatrics n=6	SNF n=5	Combo n=4
FF	12	5	2	1		3	1
FT	5		3		2		
QS	5	4			1		
IM	2	1	1				

Table 5.5. (continued)

	Total n=47	Ortho n=21	Acute n=9	Neuro n=2	Pediatrics n=6	SNF n=5	Combo n=4
FF-FT	8	5			3		
FT-FF	4	1	1			1	1
FF-QS	1	1					
QS-FF	1		1				
Mediator	3	1	1				1
Transition	6	3		1		1	1

Job Satisfaction

The average Minnesota Job Satisfaction Questionnaire (MSQ) raw score for all subjects (n=61) was 80.9 (standard dev 10.1) and ranged from 57 to 100. When converted to percentiles for ranking within the sample group the 50th percentile score for all subjects was 81.0 with 74.0 being the 25th percentile and 88.0 the 75th percentile. Subsections of the MSQ for intrinsic and extrinsic job satisfaction factors resulted in average raw scores of 49.0 (SD=5.6) and 24.2 (SD=3.9) respectively. Quartile results for intrinsic satisfaction were 44.5 for the 25th percentile, 49.0 for the 50th and 54.0 for the 75th. Extrinsic quartile results were 22.0 for the 25th percentile, 24.0 at the 50th percentile and 27.5 for 75th percentile.

For subjects working full time, and treating patients full time (n=33), the average MSQ raw score was 79.5 (standard deviation=11.1). Twenty-fifth, 50th and 75th percentile scores were 73.0, 81.0 and 87.0, respectively. Results for intrinsic and extrinsic quartiles among full time treating therapists were the same as found with overall satisfaction

scores, except the 25th percentile intrinsic score for all subjects was 45.0, and 44.5 for full time treating subjects. Satisfaction scores are presented in Table 5.6 and percent rankings are displayed in Table 5.7.

Table 5.6. *Average Job Satisfaction Scores*

Satisfaction Scores	All Subjects (n=61)		Full Time Treating Only (n=33)	
	Mean (SD)	Range	Mean (SD)	Range
MSQ Raw Scores				
General	80.9 (10.1)	57-100	79.5 (10.1)	57-100
Intrinsic	49.0 (5.6)	35-60	48.2 (6.3)	35-60
Extrinsic	24.2 (.29)	15-30	23.9 (4.3)	15-30

Results of analysis for nominal variables' effect on satisfaction are reported in Table 5.8 and regression analysis results are presented in Table 5.9 and 5.10 for age, years in practice, years on the job, number of patients treated per 8-hour day, and number of dependent children. Factors found to significantly influence satisfaction scores were similar for the overall subject group as for the full time treating group with two exceptions. Satisfaction scores for subjects working in private versus public facility were found to be significantly different (greater satisfaction in private facilities) for the entire subject population but not among full-time-time-treating-only subjects. Number of years on the current job was found to be significant only within the group of full time treating therapists where those working more years on their present job reported greater satisfaction. Gender and marital status were not significant factors in job satisfaction. In

addition, the perceived level of paperwork associated with patient care did not assert a significant affect on satisfaction scores nor did working full or part time.

Table 5.7. *Percentile Ranking of MSQ Scores*

	All subjects	Full Time Treating
MSQ Percentiles		
General 25 th	74.0	73.0
50 th	81.0	81.0
75 th	88.0	87.0
Intrinsic 25 th	45.0	44.5
50 th	49.0	49.0
75 th	54.0	54.0
Extrinsic 25 th	22.0	22.0
50 th	24.0	24.0
75 th	27.5	27.5

Physical therapists working in privately owned facilities had significantly higher MSQ percentile scores compared with therapists in public facilities ($p < .008$). Those working in health maintenance organization (HMO) facilities were neither more or less satisfied than those working in public or private facilities. When orthopedic therapists' ($n=30$) satisfaction scores were compared with therapists in all other settings combined ($n=25$) and with those who split their time between settings ($n=6$), extrinsic MSQ percentile scores were found to be significantly higher for orthopedic therapists ($p < .017$).

Table 5.8. *Influence of Specialty, Facility on Job Satisfaction*

All Subjects (n=61)		
Variable	Post Hoc Variable Comparison	Scheffe's Significance Level
Specialty		
MSQ Extrinsic%	Ortho vs. all others	.017
Facility		
MSQ%	Private vs. Public	.008

Regression analysis of interval ratio data showed that the difference in general satisfaction scores (MSQ) can be explained by the combined variables of age, years on the job, years as a physical therapist, the number of patients seen per eight-hour day and number of dependent children. These variables together were significant (.040) in explaining twenty-five percent ($r^2 = .255$) of the variance in overall satisfaction scores for the entire subject pool (n=61). Table 5.9 depicts these findings.

These same variables analyzed together were not significant in explaining variations in general satisfaction scores for the group of full-time-treating-only therapists ($r^2 = .251$, significance = .239). Regression analysis of each variable, run separately against each of the three satisfaction scores and three satisfaction percentile scores, demonstrated a variety of significant findings for both the full-time-treating therapist group and the entire subject pool.

Table 5.9. *Model Summary: Variables' Influence on MSQ Score*

All Subjects (n=61)			
Model	<i>b</i>	Std. Error	Significance
Age	.301	.308	.335
Years as PT	.236	.284	.411
Years on Job	-.211	.289	.468
Patients/Day	.567	.251	.030
Dependent kids	1.232	1.293	.347

Note. r^2 for the model = .255; significance = .040

Years on the current job played a role in satisfaction among full time treating therapists. Regression analysis revealed a significant positive relationship between time on the job and intrinsic MSQ scores. Number of years in current position predicted 12.3% of variance in intrinsic raw scores ($p=.045$) and 14.3% of the variance in intrinsic percentile scores ($p=.03$) for this group.

Statistical analysis of the effect of income on satisfaction scores was only performed on the group of therapists working full time treating patients in order to compare subjects under similar conditions. Income was found to be a significant predictor of extrinsic satisfaction for full-time-treating subjects. Family-wise analysis of four annual income brackets (from physical therapy work only), < \$55,000, \$55,000-\$65,000, \$65,000-\$75,000, and >\$75,000 showed higher MSQ extrinsic scores for those making \$65-\$75,000 per year compared to the <\$55,000 group ($p=.045$). Individuals

making greater than \$75,000 per year were no more satisfied with their jobs than any other income group.

All subjects together, as well as the full-time-treating group, demonstrated significant influence on various MSQ scores from the number of patients seen per day, years as a physical therapist, age, and the number of dependent children. For the overall group, 8.1% of the variation in general satisfaction raw scores was explained by how many patients the therapist treated in an eight hour day. Raw scores for general satisfaction and MSQ percentile scores varied due to the number of patients seen per day among full-time-treating-only therapists as well, though the significance levels for these variables was just over the $p=.05$ level ($p=.054$ and $p=.051$, respectively). The number of patients per eight-hour day was statistically significant in explaining 13.4% of extrinsic satisfaction ($p=.036$) and 17.8% of extrinsic percentile scores ($p=.014$) among the full-time-treating-only therapists.

Age had an effect on MSQ percentile for all subjects and on intrinsic percentile scores for full time treating subjects as well as the general subject pool. The number of dependent children for both groups impacted extrinsic percentile satisfaction scores, but when comparing means for those with children versus those without dependent children, having children living at home proved to have no significant effect on satisfaction (MSQ = 80.1 and 81.7, respectively). Percentile MSQ scores and intrinsic MSQ scores were explained 8.9 and 9.0 percent, respectively, by age at the .02 significance level for both. Number of dependent children explained 6.7% ($p=.049$) of variation among all therapists' extrinsic percentile scores and 13.1% ($p=.049$) of variation in extrinsic percentiles among

full-time-treating therapists alone. Table 5.10 details the significant results of individual regression analyses.

Table 5.10. *Independent Variables with Significant Influence by Job Satisfaction Scores:*

Variable / MSQ Score	All Subjects (n=61)		Full Time Treating Only (n=33)	
	r ²	Significance Level	r ²	Significance Level
AGE				
MSQ% ^a	.089	.020		
Intrinsic% ^b	.090	.020	.126	.046
Years as PT				
MSQ raw score	.095	.016		
MSQ%	.133	.004		
Intrinsic Score	.104	.011	.123	.045
Intrinsic%	.121	.006	.143	.030
Years on the Job				
MSQ%			.126	.046
Intrinsic Score			.153	.027
Intrinsic%			.140	.035
Patients per day				
MSQ raw score	.081	.048		
Extrinsic			.134	.036
Extrinsic%			.178	.014
Dependent Kids				
Extrinsic%	.067	.049	.131	.049

^aMSQ percentile scores

^bMSQ Intrinsic percentile scores

When data were recoded to form ranges in age, the average MSQ scores among full-time-treating-only subjects were highest among therapists at either end of the spectrum, under 30 years old (average MSQ=80.8, n=6) and over 50 years of age (average MSQ=85.7). Therapists between 30 and 50 years of age had average scores near 79. Table 5.11 presents average scores for each age group.

Table 5.11 *Average MSQ Score Among Full-Time-Treating Therapists by Age Group*

Age Group (n)	Mean	Minimum	Maximum	St. Deviation
Up to 30 (6)	80.8	73	95	7.6
30-40 (11)	79.2	59	92	11.1
40-50 (12)	79.8	57	100	12.5
Over 50 (3)	85.7	83	88	2.5

*p < .825

The differences in average scores for each age range were not statistically significant, nor were scores for grouped data on years as a physical therapist. However it is interesting to note that full-time-treating therapists with more than 15 years of experience had average satisfaction scores above 80 and those with fewer than 15 years of experience scored below 80 on average. Table 5.12 presents the average scores.

Table 5.12. Average MSQ Scores Full-Time-Treating Therapists by Experience*

Years as a PT (n)	Mean	Minimum	Maximum	St. Deviation
Up to 5 (13)	78.4	58	98	11.2
5-15 (8)	75.8	59	86	9.3
15-25 (7)	81.3	57	100	13.3
Over 25 (5)	86.2	73	94	8.5

* $p < .387$

Analysis of the number of patients treated per eight-hour day among full-time-treating therapists surprisingly revealed that treating more than 11 patients per day or fewer than eight yielded higher average satisfaction scores with more than 13 patients per day having the highest satisfaction. The differences between these groups were statistically significant ($p = .07$). Average scores by number of patients treated are presented in Table 5.13. Therapists treating fewer than eight patients per day consisted of two who worked in acute care, one in neurological rehabilitation, one in pediatrics and two who split time in more than one specialty area.

Table 5.13. Average MSQ Scores Full-Time-Treating Therapists by Patient Load*

No. Patients in 8-hour Day (n)	Mean MSQ	Minimum MSQ	Maximum MSQ	St. Deviation
Less than 8 (6)	81.5	74	88	4.7
8-9 (5)	78.4	63	89	10.5
10-11 (9)	71.6	57	91	10.5
12-13 (6)	82.3	59	100	14.1
> 13 (7)	86.6	75	98	8.4

* $p < .070$

The average number of patients per day by specialty practice shows that the 15 orthopedic therapists in the sample averaged 13.6 patients per eight-hour day, with four of those being at the level of 10 patients or less (two at 10 and two at eight patients per day) and the remaining 11 treating 12 or more patients per day. Nine therapists working in the acute setting had average patient loads of 8.9 with only two acute care therapists treating fewer than eight patients in an eight-hour day. Table 5-14 provides the average number of patients treated in an eight-hour day by specialty practice area.

Table 5.14. *Average Number of Patients Per 8-hour Day by Specialty.*

Specialty (n=33)	Mean	Minimum	Maximum	St. Deviation
Orthopedics (15)	13.6	8	22	4.3
Acute Care (9)	8.9	5	11	2.0
Neuro Rehab (1)	5	5	5	
Pediatrics (4)	13.7	4	27	11.9
Skilled Nursing (1)	13	13	13	2.1
Combo of areas (4)	7.4	5	10	5.1

The average number of patients per day corresponding with satisfaction by number of patients treated per day might suggest that the orthopedic therapists are more satisfied (therapists treating 12 or more patients per day demonstrated highest average MSQ score, 82.3-86.6) than the acute care therapists (who treat on average 8.9 patients per day, corresponding with average MSQ of 78.4). The differences in average satisfaction scores are not statistically significant, but observing the number of patients being seen in an eight-hour day compared with average satisfaction by number of patients treated is interesting to note. Table 5.15 breaks down the specific specialty practice areas with satisfaction score averages delineated. Orthopedic therapists in fact do average highest in satisfaction with the exception of the one skilled nursing facility therapist.

Table 5.5. Average MSQ Score by Specialty Practice.

Specialty (n=33)	Mean MSQ	Minimum MSQ	Maximum MSQ	St. Deviation
Orthopedics (15)	83.6	59	100	10.4
Acute Care (9)	75.2	58	88	9.1
Neuro Rehab (1)	82.0	82	82	0.0
Pediatrics (4)	78.0	57	98	20.5
Skilled Nursing (1)	85.0	85	85	0.0
Combo of areas (4)	73.3	63	83	8.2

Kolbe MO and Job Satisfaction

In order to compare satisfaction with conative modes of operating, analysis was confined to subjects working full time treating patients who had answered both the MSQ and the KCI® (n=24). Among this group no significant findings could be established between any of the MSQ scores or percent ranks with Kolbe insistent or resistant MOs or with Natural Advantages™. Although not statistically significant, it is interesting to note that the nine individuals insistent in Follow Thru had a lower average general satisfaction score of 75.8 while the six Quick Starts and 20 Fact Finders had averages of 81.8 and 80.9 respectively. When data were refined to look only at therapists treating patients full time, all insistent modes had average overall satisfaction scores below 80 except for the two insistent Implementors with scores of 88 and 100 for an average MSQ score of 94.

The preponderance of resistance in Quick Start (QS) among the full-time-treating subjects (n=14) did not yield significantly different average satisfaction scores. Subjects resistant in QS demonstrated satisfaction scores ranging from among the lowest (MSQ=59) to the highest (MSQ=100) with an average satisfaction score of 80.3. The least satisfied therapists were those resistant in Follow Thru (MSQ mean of 77.2, n= 5) and there were no subjects resistant in Fact Finder. Average satisfaction scores by insistent and resistant modes are presented in Table 5.16.

Table 5.16. *Average MSQ Score by Insistent and Resistant Mode of Operating.*

Mode of Operating	Mean MSQ	Minimum	Maximum	SD
INSISTENT* (n)				
Fact Finder (12)	78.8	59	92	10.1
Follow Thru (6)	78.7	73	83	3.6
Quick Start (3)	77.3	57	92	18.2
Implementor (2)	94.0	88	100	8.5
RESISTANT^b				
Follow Thru (5)	77.2	57	91	14.6
Quick Start (14)	80.3	59	100	9.9
Implementor (2)	82.7	74	92	9.0

^aSignificance = .103

^bSignificance = .542

Summary

The results of data analyses have been presented; these include demographic analysis, Kolbe modes of operating among physical therapists, job satisfaction scores and variables' influences on general satisfaction, intrinsic satisfaction, extrinsic satisfaction and percent ranks for each score. Job satisfaction as related to Kolbe MOs concludes the chapter. Significant findings are tabulated for easy reference.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

The study population was not distributed evenly among all practice specialty areas, which limited the ability to analyze and draw conclusions about variations between the groups. However, significant findings for the group of physical therapists as a whole pose interesting questions and thoughts for future investigation and recommendation. A wide range of ages (26-62, mean = 41.2) and experience levels (1.5-38 years in the profession) were represented in the sample studied, and females outnumbered males (78%), which is in keeping with trends in the field (APTA, 2002).

The majority of the respondents worked in privately owned clinics (57%) compared to public (22%) or HMO settings (19%). Outpatient (ambulatory care) orthopedic therapists made up a higher percent of the population and is representative of the distribution found in the profession (APTA, 2002). Many study variables were found to play a role in satisfaction, and a significant number of subjects had similar conative insistent and resistant modes, though a link between mode of operating and satisfaction could not be definitively determined. The details of the study findings follow.

Kolbe MO Among Physical Therapists

The insistent action mode most prevalent in the study population was Fact Finder (FF, 54.2%), while the most frequent resistant mode was Quick Start (QS, 54.5%) along

with a high percent of Implementor resistance (36.4%). A normal distribution across insistent modes in the general population is 20% per mode, indicating that the combination of MOs found in this study group may be a trend for the profession of physical therapy. While the researching and gathering of information noted among insistent Fact Finders is certainly applicable for the problem solving and evaluative activities of physical therapists, the relatively high resistance to manual activities (Implementor) and avoidance of unknowns found in resistant Quick Starts is surprising. The nature of treating human beings is unpredictable which would conflict with the natural instincts of the resistant QS. The avoidance of working with tools and one's hands found in resistant Implementors is counterintuitive when thinking about individuals working in an occupation where manual techniques are a cornerstone of practice, particularly in orthopedic therapy. While being resistant in a mode doesn't equate with being "unable" to operate in any particular way, one would expect high levels of cognitive stress, or role-stress as discussed by Katz and Kahn (Katz & Kahn, 1978), and a drain on mental energy resulting from having to operate outside the natural tendency in order to complete one's job. By this same rationale it is not surprising that the two therapists insistent in Implementor had the highest average satisfaction score of 94, one at 88 and the other at 100, both scores higher than the average for the group (80.9). A larger sample size with a greater representation of Implementor MOs would clarify whether higher satisfaction among Implementors is a trend.

Perhaps a better understanding of the actual breakdown of activities involved in physical therapy, specifically in each respondent's clinical setting, would reveal less time

spent performing manual techniques compared to the amount of time and energy involved in prioritizing patient problems, justifying treatments and investigating symptoms – activities quite natural to the Fact Finder insistent mode. Health care practice today certainly requires substantial amounts of paperwork and an ability to organize and adhere to systematic approaches and protocols. Workplaces filled with policy and procedure appear to be well-suited to Follow Thru insistent mode, found to be the second most prevalent insistent mode in study subjects. Given this rationale, it is understandable that Physical therapists resistant in Follow Thru (those who would naturally rebel against structure) were, on average, the least satisfied (77.2).

A plausible explanation for the insistent modes found among practicing therapists lies in understanding the educational prerequisites and curricular requirements of professional PT education programs. The coursework emphasized as necessary for acceptance into physical therapist education is science-based and thus heavily structured and detail oriented, which is most congruent with Fact Finder and Follow Thru modes of operating. This type of schooling and coursework may be easier or more natural, from an instincts perspective, for individuals with these Mos, and could yield better grade achievement - essential for acceptance into competitive PT education programs. Physical therapy curricular structures and pedagogy are in keeping with and favor the Fact Finder/Follow Thru MOs. Perhaps the reason for a high preponderance of Fact Finder and Follow thru action modes among practicing therapists is, in part, because the prerequisites and the nature of the curriculum have weeded out other insistent modes.

Findings from this study cannot make a definitive judgment, but offers interesting thought for future investigation.

Job Satisfaction Among Physical Therapists

The Minnesota Job Satisfaction Questionnaire (MSQ) results demonstrate a wide range of overall satisfaction among physical therapists (57-100), and a slightly higher average rate of satisfaction (80.9) compared to normative data from other occupations such as engineers (77.9), office workers (74.5), salesmen (79.8), and machinists (75.7). Normative data for the short-form MSQ is not available on any health care professionals. Findings from this study begin to establish a normative baseline for satisfaction among physical therapists using the short form of the MSQ. A fairly high satisfaction rate is consistent with more recent research in the field (Lyons et al., 2003; Randolph & Johnson, 2005), but counters past research (Broski & Cook, 1978).

One explanation for the more positive satisfaction results than had been anticipated is that perhaps changes in the health care system are now commonplace enough that therapists have come to expect it and have learned to adapt accordingly. Two recent studies on burnout and satisfaction among physical therapists also concluded that there are positive and negative influences on satisfaction during hospital reorganization, but that therapists overall were able to find positive aspects of their jobs (Blau et al., 2002; Lopopolo, 2002).

Several factors were found to influence job satisfaction scores among therapists, which are consistent with previous research on job satisfaction in other occupations as

well as within physical therapy. Among the factors that positively influenced satisfaction was age; the older therapists in the study group had the highest satisfaction, which is in keeping with previous research in physical therapy (Donohoe et al., 1993; Schunk, 1981). With a high rate of turnover and exit from the field, it is possible that higher satisfaction among older therapists is due to the fact that dissatisfied therapists have already left the profession.

While average satisfaction was highest for the oldest age group, the younger physical therapists, under 30 years of age, had somewhat higher average satisfaction than 30- to 50 year olds. This finding is contrary to past research by Schunk (1981) where therapists under 30 years old were found to be the most dissatisfied. Dissatisfaction was also highest among those employed less than 5 years (Schunk, 1981), which is similar to the present study findings where therapists with fewer years in the profession had the lowest average satisfaction scores. Previous research supports this finding as well (Broski & Cook, 1978; Donohoe et al., 1993). Again, dissatisfied therapists may not remain in the field and this may, in part, be an underlying factor in these findings.

Gender, marital status and whether the therapist had dependent children living at home did not play a statistically significant role in job satisfaction. A slightly positive effect of income on satisfaction has been reported in the literature (Franze et al., 2002; Ranz et al., 2001; Shaw, 1999), and, while income proved to have some predictive value for job satisfaction, it was not a linear relationship. The middle income group, making \$65-\$75,000 per year were more satisfied than either those making less or more.

Increases in workload has consistently had a negative influence on job satisfaction in research on health professionals (Aiken, 2002; Lyons et al., 2003; Randolph & Johnson, 2005; Speakman et al., 1996). Speakman et al (1996) found dissatisfaction among physical therapists in El Paso, Texas with regard to feelings of being overworked, and detrimental effect on patient mortality rates found with increased patient loads among nurses is astounding (Aiken, 2002). The variable in this study related to case load (patients per eight-hour day), surprisingly, was not noted as a negative influence on job satisfaction in this study. Therapists may feel overworked, but, in this study population, it does not appear to stem from the number of patients seen per day. Perhaps therapists enter the field because they think they will enjoy patient contact, and, therefore the more patients they treat, the more positive the effect on job satisfaction. The effect on patient health outcomes for therapists treating higher numbers of patients per day was not investigated and future studies analyzing a possible causal relationship between case load and patient outcomes among physical therapists could be of substantial importance.

The findings of this study regarding intrinsic and extrinsic job satisfaction factors are supported by Herzberg's theories of motivation (satisfaction stemming from the work itself, seeing patients and how therapists have freedom to tailor their work to utilize insistent action mode), which contribute positively to job satisfaction and hygiene (extra-job) factors, including income and factors in personal life (such as dependent children), which, when absent or negative, contribute to dissatisfaction but do not create satisfaction (Herzberg et al., 1959).

MO and Satisfaction

Conative mode of operating did not appear to influence job satisfaction for the subjects studied, a finding similar to that of Donohoe et al. (1993), who were unable to establish a clear link between personality and burnout. With a fairly consistent MO among physical therapists and a relatively wider range of satisfaction scores, it is likely that other factors are weighing in on satisfaction and that individuals with the same insistent mode are finding ways to focus their energy regardless of the specialty area in which they work or even within the same clinical setting. With uneven numbers of subject responses in certain specialty practice areas, a clear determination of MO prevalence by specialty and satisfaction rates between specialties was not statistically feasible. However, there is a preponderance of Fact Finder insistence and Quick Start resistance modes in the sample compared to anticipated distributions in the general population. It is possible that the demands of the job are actually suited to this combination of action modes as discussed above and would be revealed by Kolbe B (employee) and Kolbe C (employer) analysis of the occupational demands.

Another explanation for relatively consistent patterns of job satisfaction across MOs is that physical therapy practice varies widely, not only across settings and specialties, but also between any two therapists even in the same clinic treating the same diagnosis. Unlike jobs where the procedure is clearly defined and the scope of activities mapped out, physical therapists may create individualized patterns of treatment to which they adhere (Follow Thru insistence) and try diverse techniques and intervention

strategies from patient to patient even when their diagnosis is the same, which would appeal to the Quick Start, or focus on either the evaluation process (Fact Finders) or the manual aspects of the profession (Implementor). There are clinics and philosophies of treatment that are more hands-on (Implementor) and settings or individuals who prefer to focus on patient education and self-management with class or group treatment strategies, which perhaps would be more appealing to Quick Starts. An insistent Follow Thru (FF) might find inherent satisfaction in the scheduling, documentation and written communication with physicians. The FF individual may also enjoy the rather systematic routine and replication of treatment episodes where patients go through specific reps and sets of exercises following manual treatments one two and three, and so on.

The varied ways to combine settings, specialty practices, clinic environments and even patient care approaches inherent in the occupation of physical therapy may allow any combination of modes to be expressed successfully and with satisfaction, given that other job satisfaction influences are positive. The time it may take an individual to narrow down each of these variables and settle into a position and location that meets their conative needs may explain, in part, why those on their current job longer and in practice of physical therapy for more years have greater satisfaction. There is likely a change in lifestyle that comes with age, not to mention responsibilities that contribute to changes in values and preferences about work, which could affect job satisfaction outcomes as well. This study's findings regarding age are consistent with the outcome of an investigation by Shunck (1981) where the least satisfied physical therapists in his study were less than 30 years old. The reason age and number of years in practice may be

playing a role in satisfaction or dissatisfaction could have to do with the process necessary to discover one's inherent talents and find the right environment in which to foster them. If therapists could become aware of their instinctive action modes earlier in their career, or even during the professional education program, and learn what situations, activities and settings will foster their success and satisfaction, much time and stress could be saved, and the reduction in turnover and other costs associated with behavior of unsatisfied workers attempting to find the right position and environment in which their instinctive talents can flourish could be minimized.

While it appears that satisfaction at work can be found regardless of conative MO, the effect on patient satisfaction and health outcomes (key performance outcome measures in health care) should not be assumed, and additional investigation might be useful to determine if MOs have a more direct effect on these other important measures.

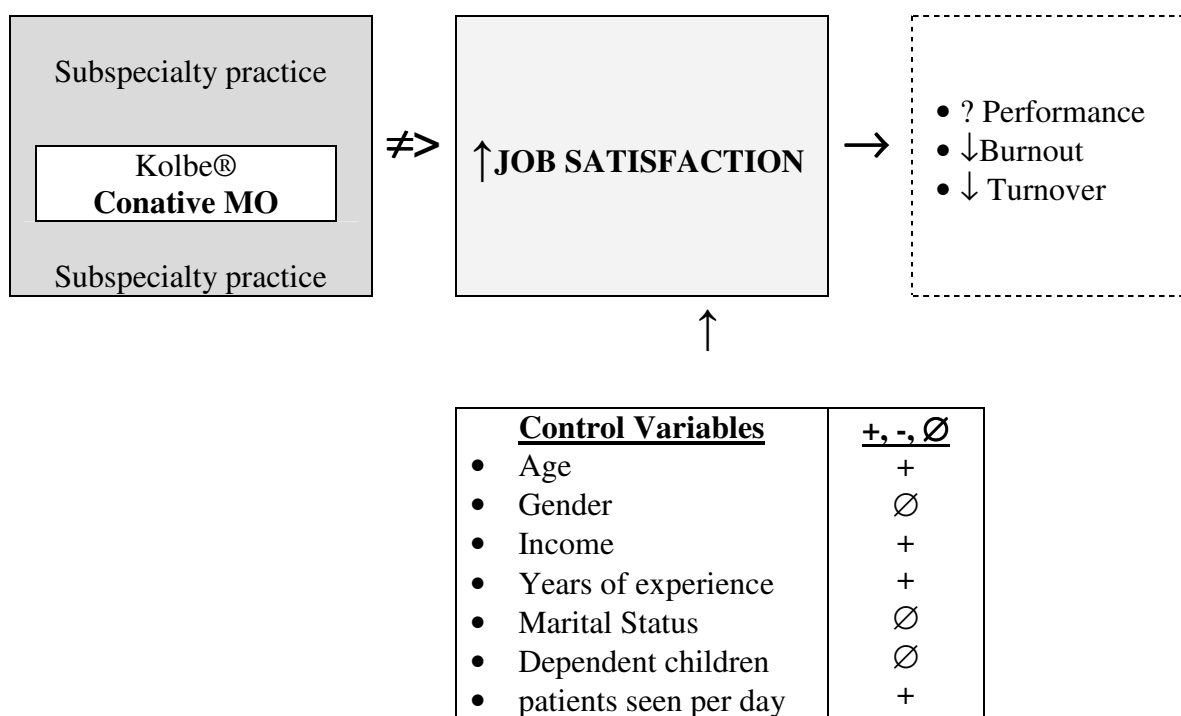
Amended Research Model

The findings of this study dictate an amendment to the research model so that satisfaction influences can be noted and the outcome variable of patient satisfaction and recovery is left undetermined at this point. Figure 6.1 presents study variable relationships.

Gender, marital status and dependent children had no effect on job satisfaction. Age, income, and years of experience positively influenced satisfaction while the number of patients seen per eight-hour day was expected to negatively impacted satisfaction the opposite was true for this study population. Mode of operating could not be proven to

influence satisfaction for the complete pool of subjects or for therapists in particular specialty practice settings, but a statistically significant proportion of therapists shared common insistent action modes (Fact Finder and Follow Thru). The number of patients treated per eight-hour day among therapists may or may not play a role in patient outcomes in physical therapy (“performance”), an area for future research consideration; thus, the model reflects uncertainty about the influences on performance.

Figure 6-1. Amended Research Model.



Motivation and Conation Theories Merge

Motivation theories are related and tied together by the addition of conative instinct in our understanding of organizational behavior. Affect, instinct and intellect operate together to create motivation that results in behavior. Motivation is perhaps not just the start of the creative process as noted by Kolbe's model, it is also affected by feedback from the conative instincts and intellectual reason. If one is motivated but going against his or her instinctive grain, then the instinctive will may create a negative feedback loop on motivation even before cognitive reasoning acknowledges that the conative effort is too exhausting and "not worth it," in which case negative feedback on motivation would occur as well. With the addition of feedback loop arrows from instincts for action to motivation and from cognitive reasoning to motivation in the Kolbe Creative Process® model, the connection between all three parts of the mind in effecting motivation is clear and complete.

Understanding that content theory and process theories of motivation are encompassed in the Kolbe Creative Process ties these two concepts together in one summative process with the inclusion of conation. Though not exhaustive, some of the content and process theories are placed in the comprehensive model under the area of the mind being addressed by the theory. Individually or together, the content and process theories take place in the affective and/or cognitive areas of the mind and relate back to motivation. Considering the interaction of all three parts of the mind, and seeing the processes pulled together as a whole, connects theories of conation with the volumes of organizational behavior theory for a complete theoretical schema.

The process leading to motivated action proposed by the Kolbe Creative Process® model provides a structure within which organizational behavior's Content and Process theories can be connected together. It is clear that, until now, theorists have examined and attempted to measure only the affective and cognitive domains. Herzberg discussed the concept of intrinsic job satisfaction from the nature of the work itself, though his concept has not before been operationalized or understood to vary in accordance with individuals' differing striving instincts. Thus, Herzberg's concept is placed in connection with the conative aspect of the mind in the comprehensive motivation/action model. The inclusion of striving instincts completes the theoretical model for understanding how all aspects of the mind interplay to generate behavior. With the addition of feedback loops, to show the various points along the pathway in which motivation can be influenced, a comprehensive model emerges as seen in Figure 6.2.

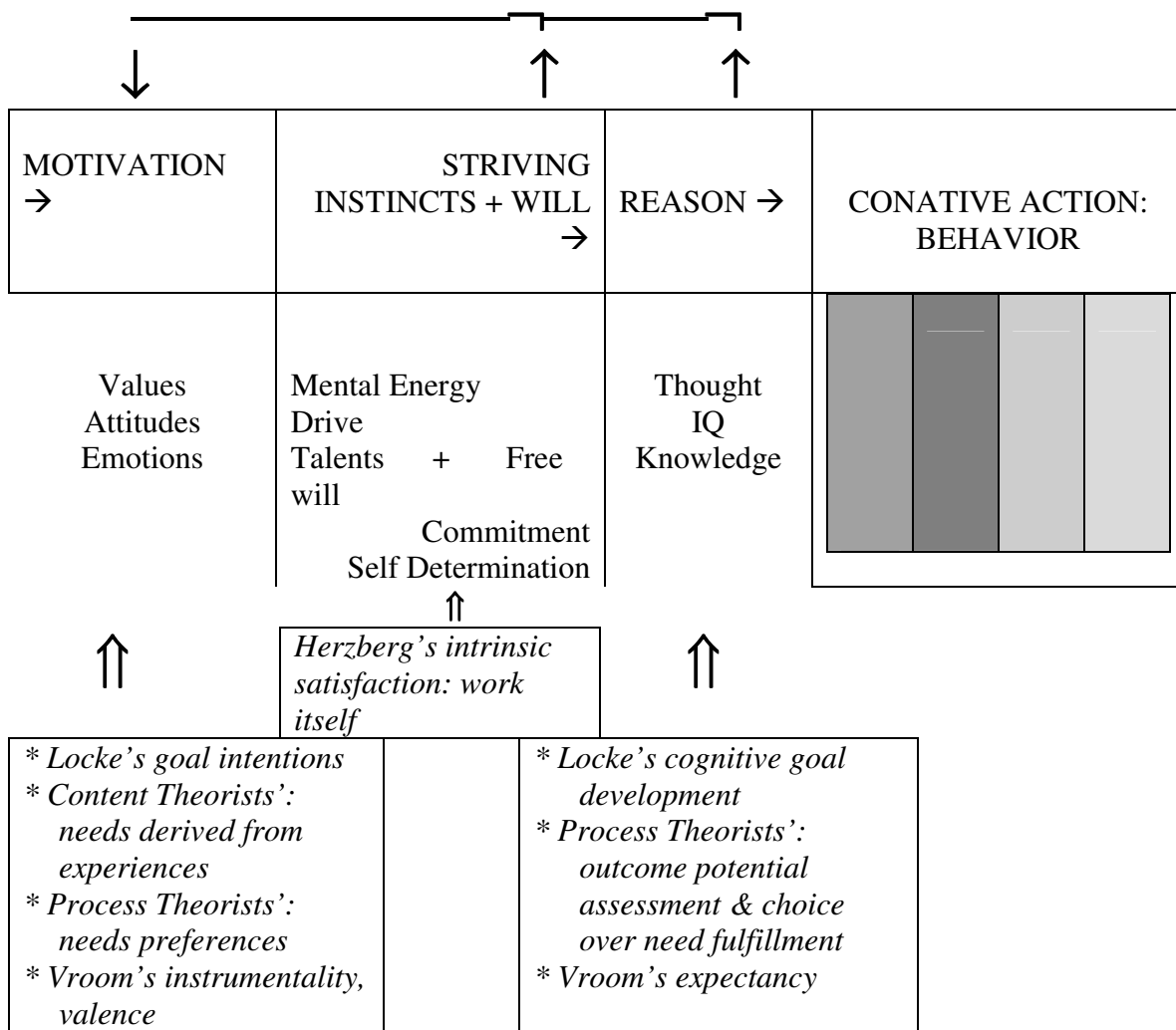
Limitations

With a relatively small sample and because the scope of the study was limited to the Los Angeles, California geographical region, results may not be generalizable to a broader population. The survey nature of the study relies on self-reported information and is cross sectional in nature, which carries inherent limitations.

There are many factors influencing job satisfaction, some of which may not be identifiable, or controlled within the confines of this study. Factors found to play a role in job satisfaction or levels of burnout that unknowingly may have affected this study's population include personality (Day & Bedeian, 1995; Donohoe et al., 1993; Judge et al.,

2000; Judge et al., 2002), organizational commitment (Mathieu & Zajac, 1990; Somers & Birnbaum, 2000), and whether some form of organizational change was taking place (Aiken, 2002; Blau et al., 2002).

Figure 6.2. Comprehensive Theoretical Model of Motivated Behavior.



Future research

Future research on conation and job satisfaction in physical therapy would benefit from stratified random sampling techniques to insure equal representation of all specialty practice areas, so that the presence of a prevalent MO may be definitively identified within specialty settings. Other beneficial research opportunities include administering the Kolbe B and C Indexes, which identify job characteristics from employee and employer perspectives, to evaluate presence or absence of conative stress work and contrast with Katz and Kahn's concepts of job stressors. Qualitative triangulation study techniques with interviews and discussions might be instructive in determining what therapists, with each MO combination, find inherently satisfying about their work and specialty setting.

Identifying and including therapists who leave the profession in future studies may shed light on job dissatisfaction as well as providing some insight into whether modes of operating play a role in career exit decisions. Additionally, it would be of interest to investigate the frequency of job changes associated with individual action modes as well as identifying whether a particular MO is found more prevalent in individuals who open their own private practices. The Natural AdvantageTM of an entrepreneur is the double-insistent Quick Start/Follow Thru, and this combination would be anticipated in therapists starting up private businesses or found between two business partners working together in successful private practices.

A longitudinal study following several cohorts of physical therapy students with known MOs as they proceed into practice may be useful in determining a pattern of

practice setting selection, frequency of turnover and career exit among individuals with the various action modes. Comparison with a control group of students who are not aware of their conative MO could illuminate whether self-knowledge shortens the learning curve for finding the right match for a satisfying practice specialty and setting or clinic environment as reflected in turnover rates per individual. Determining which, if any, MOs are found most prevalent among therapists who exit the career early would provide interesting and possibly cost-saving information on turnover as well as spare potentially disgruntled individuals the time and money spent on an education and career abandoned.

Although the link between job satisfaction and performance has been established in other fields, adding analysis of patient satisfaction would enhance this study's findings about satisfied workers and important patient outcome measures.

This investigation has answered several questions about conation and satisfaction among physical therapists and poses many new questions for thoughtful pursuit.

Summary

The field of organizational behavior now has an additional variable to consider in the evaluation of motivation, job performance, occupational fit and employee satisfaction. The field has been exposed to conation theory and a new tool, the Kolbe Conative Index® with which to measure this variable – the third part of the mind, conation - left untouched in job satisfaction research, until now. A new theoretical model connecting classic organizational behavior theories with the Kolbe Creative Process®

model is presented for a comprehensive explanation of motivated behavior. A clearer and more complete understanding of motivation and behavior on the job will guide practice and future investigations in all occupations, whether public, private, or non-profit, including government and any other coordinated effort by people in groups or teams.

Physical therapist educators, students and practitioners will benefit from the understanding this study has provided about the common modes of operating within this field. Future research that will expand the analysis of modes of operating and the job settings/characteristics in comparison with modes will help guide practitioners into the area of physical therapy practice where they are most likely to thrive and be satisfied.

Information regarding physical therapists' satisfaction and conative MOs is now beginning to be illuminated and builds the base of normative data for the Minnesota Job Satisfaction Questionnaire Short-Form and for the Kolbe Conative Index®. Past research on certain variables influencing job satisfaction has been supported and future research opportunities have been substantiated.

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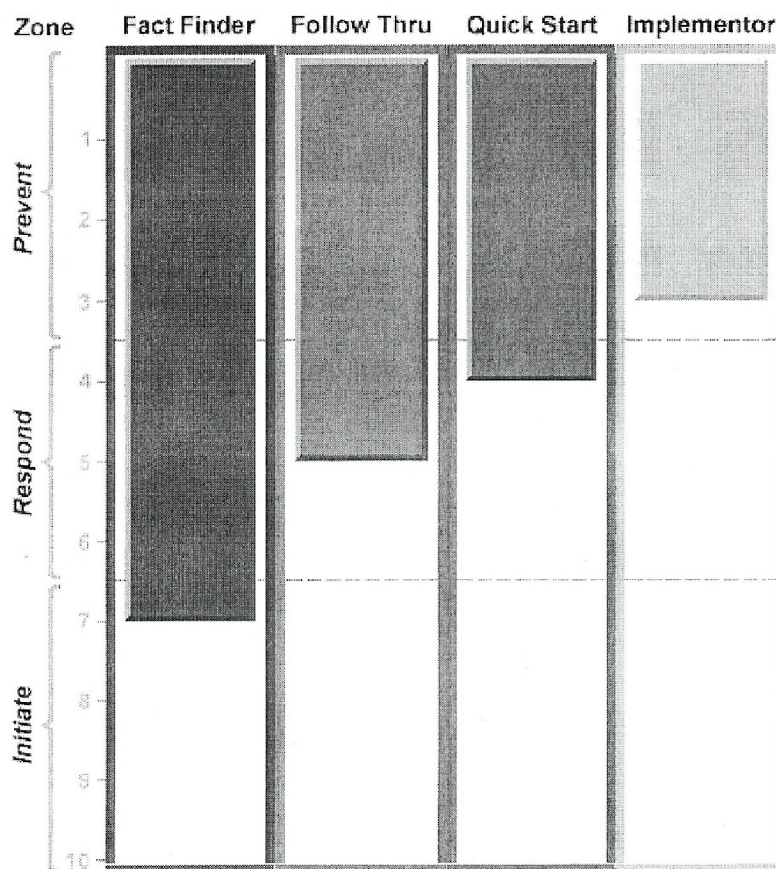
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APPENDIXES

APPENDIX A
SAMPLE KOLBE A™ INDEX RESULT

Kolbe A™ Index Results



MO: **7** **5** **4** **3**

Impact Factors: **Justify** **Rearrange** **Revise** **Imagine**



Natural Advantage: **Researcher . . .** 

Your instinctive creativity is in establishing objectives, defining strategies and assessing priorities.

APPENDIX B
ON-LINE SURVEY QUESTIONNAIRE

Conative Mode of Operating and Job Satisfaction

Thank you for your time and participation in this exciting and valuable study.

CONSENT: Completion of this survey indicates your consent to participate in the study and demonstrates that you understand all information obtained will remain completely confidential and used solely for the purpose of research. Once you have completed and submitted this portion of the survey, you will be linked directly to the Kolbe Index. Have fun and thanks again for your time.

1. Email Address (Optional)

2. Age

3. Gender

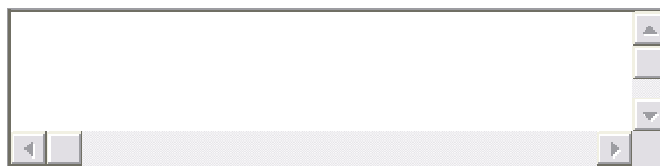
- Male
 Female

4. Marital Status

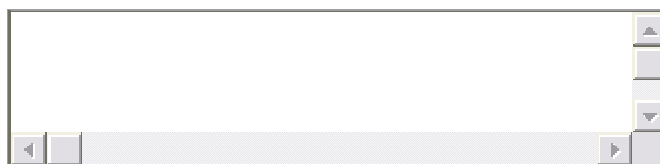
- Married
 Single

5. Number of dependent children (under 18 years of age, or living with you)

6. Number of years as licensed PT



7. Number of years on current Job



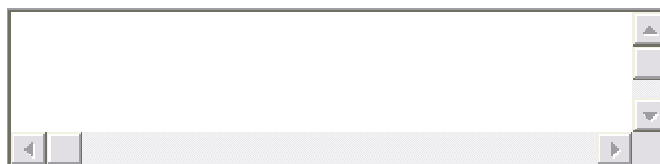
8. Do you work full or part time?

- Full time
- Part time: less than 30 hours per week

9. Which of the following best describes the setting in which you practice?

- Orthopedics
- Acute/Sub-acute care hospital
- Neuro Rehab
- Pediatrics
- Skilled Nursing facility

10. Number of patients seen per "8 hour day": Based on 8 hours of work either in one day or 8 hours over a combination of days



11. Which of the following best describes the amount of paperwork you do in a day related to patient care?

- Very low
- Low
- Medium
- High
- Very high

12. Which of the following best describes the facility where you work?

- Private
- HMO
- Public: State or county

13. Please check if any of the following apply.

- Primarily academia: physical therapist education
- Primarily managerial/Administrative:
- Registry

14. Are you currently an APTA member?

- Yes
- No

15. What is your "highest" level of physical therapist education? (Do not include other non-PT degrees)

- Certificate
- Bachelors Degree
- Masters Degree
- DSc Degree
- Entry-level Doctorate Degree
- Post Professional Doctorate Degree

16. Are you a certified clinical specialist?

- Yes
 No

17. Please estimate your annual income (before taxes) from physical therapy work only.

- 45,000-54,999
 55,000-64,999
 65,000-74,999
 75,000-84,000
 85,000-94,999
 >95,000

The following questions (#18-37) are provided with permission from the Minnesota Job Satisfaction Questionnaire.						
Ask yourself: How satisfied am I with this aspect of my job. On my present job, this is how I feel about.....		N: Means I can't decide whether I am satisfied or not with this aspect of my job.				
		VERY DISSATISFIED.	DISSATISFIED.	N	SATISFIED.	VERY SATISFIED.
18.	Being able to keep busy all the time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	The chance to work alone on the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	The chance to do different things from time to time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	The chance to be "somebody" in the community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	The way my boss handles his/her workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	The competence of my supervisor in making decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	Being able to do things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	that don't go against my conscience					
25.	The way my job provides for steady employment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	The chance to do things for other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.	The chance to tell people what to do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	The chance to do something that makes use of my abilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	The way company policies are put into practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	My pay and the amount of work I do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.	The chances for advancement on this job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.	The freedom to use my own judgment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.	The chance to try my own methods of doing the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.	The working conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.	The way my co-workers get along with each other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.	The praise I get for doing a good job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37.	The feeling of accomplishment I get from the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

38. Please read the following 8 statements (#39-46) and determine in what order you believe the 8 aspects of your work have contributed to your personal success as a physical therapist. Please rank order from 1-8, with 1 being the most, the degree to which your success is from each of the following 8 items: 1. Designing a system for on-going care. 2. Conducting a comprehensive exam. 3. Providing hands-on therapy techniques. 4. Seeking unique treatment alternatives for individual clients. 5.

Identifying patterns that have led to client problems. 6. Showing clients how to self-manage corrective action. 7. Talking with clients about prevention issues. 8. Managing others who provide direct care. (Only use a number once within the next 8 statements)

39. 1. Designing a system for on-going care.

- 1 (most)
- 2
- 3
- 4
- 5
- 6
- 7
- 8 (least)

40. 2. Conducting a comprehensive exam.

- 1 (most)
- 2
- 3
- 4
- 5
- 6
- 7
- 8 (least)

41. 3. Providing hands-on therapy techniques.

- 1 (most)
- 2
- 3

- 4
- 5
- 6
- 7
- 8 (least)

42. 4. Seeking unique treatment alternatives for individual clients.

- 1 (most)
- 2
- 3
- 4
- 5
- 6
- 7
- 8 (least)

43. 5. Identifying patterns that have led to client problems.

- 1 (most)
- 2
- 3
- 4
- 5
- 6
- 7
- 8 (least)

44. 6. Showing clients how to self-manage corrective action.

- 1 (most)

- 2
- 3
- 4
- 5
- 6
- 7
- 8 (least)

45. 7. Talking with clients about prevention issues.

- 1 (most)
- 2
- 3
- 4
- 5
- 6
- 7
- 8 (least)

46. 8. Managing others who provide direct care.

- 1 (most)
- 2
- 3
- 4
- 5
- 6
- 7

□ 8 (least)

APPENDIX C
KOLBE A™ INDEX

