ONE MORE TIME: HERZBERG'S THEORY OF WORK MOTIVATION

Gail H. McKee Department of Business Administration and Economics Roanoke College Salem, Virginia 24138 (540) 375-2389 <u>mckee@roanoke.edu</u>

May 25, 2007

Submitted for Possible Presentation at the 2007 Meeting of SEINFORMS to be held in Myrtle Beach, South Carolina on October 4-5, 2007

Abstract

This paper examines some of the possible reasons why the theory of work motivation (the motivation-hygiene or dual-factor theory) developed by Herzberg and his colleagues in 1959 has generally been dismissed by organizational researchers. It next reviews some of the limited research using the theory today and concludes with suggestions for further analysis of the motivation-hygiene theory, a theory which does, however, continue to be of interest to practitioners.

One More Time: Herzberg's Theory of Work Motivation

In the January 2003 issue of *Harvard Business Review*, HBR (a special issue on personal and organizational motivation), Frederick Herzberg's classic 1968 HBR article entitled "One More Time: How Do You Motivate Employees? " was reprinted. (This same classic article was also reprinted in the September / October 1987 issue of HBR.) The editors of HBR indicate that they consider Herzberg's ideas some of the best on the topic of job motivation and relevant to the workplace today. (*Harvard Business Review*, 2003: 8)

This paper explores why Herzberg's theory of work motivation (hereafter referred to as the motivation-hygiene theory) has not been more generally accepted, nor even given much serious consideration by many researchers in the field of management today. The paper begins by providing an overview of the theory using original sources by either Herzberg and his colleagues (Herzberg, Mausner & Snyderman, 1959) or just Herzberg (1966). Next, the major theoretical criticisms of the theory are reviewed and some additional reasons for the possible, early rejection of the theory are discussed. Then several recent studies using the motivation-hygiene theory are reviewed. Finally, some suggestions for further research of the theory are presented.

Overview of the Motivation-Hygiene Theory

In the following discussion of Herzberg's motivation-hygiene theory of job attitudes, the words of Herzberg are frequently quoted, rather than paraphrased. In this way readers have the opportunity to hear from Herzberg himself, rather than read summaries of his work. This is deemed critical to a fresh re-examination of his ideas, since to fairly evaluate Herzberg's theory, his actual words and/or those of he and his colleagues must be known.

Herzberg's theory is commonly called either the motivation-hygiene or the dual-factor theory. Herzberg (1966) calls it the former in his book, *Work and the Nature of Man*. The first description and test of this theory can be found in an earlier work entitled, *The Motivation to Work* by Herzberg, Mausner and Snyderman (1959). In this classic work are highlighted for the first time the two sets of factors (motivator and hygiene factors), which are at the core of the theory.

As noted by Herzberg (1966: 71) the first study of the motivation-hygiene theory was intended to "test the concept that man has two sets of needs: his need as an animal to avoid pain and his need as a human to grow psychologically." To this end interviewers asked 200 accountants and engineers in the Pittsburgh area about "events they had experienced at work which either had resulted in a marked improvement in their job satisfaction or had led to a marked reduction in job satisfaction." (Herzberg, 1966: 71)

Researchers coded the reported positive and negative events based on "factors" believed to characterize the source of the participants' attitudes, which were reported when the study participants felt "exceptionally good about their jobs" as well as when they experienced "negative feelings about their jobs" (Herzberg, 1966: 72). There were sixteen possible factors. They represented according to Herzberg (1966: 72) "a kind of shorthand for summarizing the 'objective' events that each respondent described."

These factors were seen as "determiners" of either job satisfaction or job dissatisfaction. (Herzberg, 1966: 72) One event could and would be coded under several different factors, if more than one factor applied. As found in Appendix II (see Herzberg et al., 1959: 143-146), the first level of analysis factors were categorized as follows:

- 1. Recognition
- 2. Achievement
- 3. Possibility of growth
- 4. Advancement
- 5. Salary
- 6. Interpersonal relations supervisor
- 7. Interpersonal relations subordinates
- 8. Interpersonal relations peers
- 9. Supervision technical
- 10. Responsibility
- 11. Company policy and administration
- 12. Working conditions
- 13. The work itself
- 14. Factors in personal life
- 15. Status
- 16. Job security

The major findings were as follows. First, five "factors" were identified as "strong

determiners of job satisfaction - achievement, recognition, work itself, responsibility and

advancement - " (Herzberg, 1966: 72-73) These factors only occasionally appeared

when the dissatisfaction events were coded.

Second, very different factors appeared, when the dissatisfaction events were coded. "The major dissatisfiers were *company policy and administration, supervision, salary, interpersonal relations and working conditions.*" (Herzberg, 1966: 74) Moreover, these factors were rarely found for the reported satisfaction events.

Based on these findings, Herzberg (1966: 74) concluded that the "satisfier" factors have to do primarily with a "man's relationship to what he does: his job content, achievement on a task, recognition for task achievement, the nature of the task, responsibility for a task and professional advancement or growth in task capability." In contrast, the "dissatisfier" factors "describe his relationship to the context or environment in which he does his job." (Herzberg, 1966: 75)

As a part of the original study (Herzberg et al., 1959), participants were also asked "to interpret the events, to tell why the particular event led to a change in their feelings about their jobs (second level of analysis). " (Herzberg, 1966: 75) It was this additional analysis that led Herzberg and his colleagues to consider the type of needs underlying their findings. They went on "to suggest that the hygiene or maintenance events led to job dissatisfaction because of a need to avoid unpleasantness; the motivator events led to job satisfaction because of a need for growth or self actualization." (Herzberg, 1966: 75).

Thus, two major categories of needs were identified. One category reacted to the environment and might be considered "a need to *avoid* unpleasantness" whereas the

other category related to "a need for growth or self-actualization." (Herzberg, 1966: 75) The former became known as hygiene factors and the later as motivator factors.

Finding two very different categories of need suggests an affirmative answer to the research question raised by Herzberg and his colleagues (1959) at the beginning of their investigation. That question asked whether or not man has two different sets of needs – one for avoidance of pain and the other toward growth. Such sets of needs relate, of course, to an earlier work in 1954 by Abraham Maslow, namely *Motivation and Personality*, which has numerous editions, the most recent one is the third edition, which was published in paperback in 1987.

As those in management readily know, Maslow (1987) suggested that man has lower level needs consisting of physiological, safety and interpersonal needs, as well as higher order needs consisting of esteem and self-actualization. Thus, Herzberg's motivation-hygiene theory could be perceived as incorporating Maslow's lower order needs in the "hygiene" factor and the higher order needs in the "motivator" factor.

Herzberg (1966: 76) concluded that because there are separate factors to consider when evaluating job satisfaction *or* job dissatisfaction, that "these two feelings are not the obverse of each other. Thus, the opposite of job satisfaction would not be job dissatisfaction, but rather no job satisfaction; similarly the opposite of job dissatisfaction is *no* job dissatisfaction, not satisfaction with one's job." Both Herzberg and Maslow

believed that unless the lower order needs were satisfied, the higher order needs could not be fully realized.

Why Herzberg's Theory Has Generally Been Dismissed

This section of the paper identifies several reasons why Herzberg's theory may not have been more fully evaluated and thus why many researchers may have prematurely dismissed it. These reasons come first from a review of the theory by major researchers in the late 1960s and early 1970s and then from a review of the theory by Craig Pinder in his book entitled *Work Motivation* (1984). Next, this author identifies several additional reasons that may also have resulted in an early dismissal of the theory. Herzberg's death in January of 2000 unfortunately prevents an interview with Herzberg himself.

Major Reviews of the Motivation-HygieneTheory

House and Wigdor (1967) were one of the first to present a comprehensive review of the motivation-hygiene theory, which they referred to as the dual-factor theory of job satisfaction and motivation. They presented an overview of the theory and then examined three major criticisms of the theory by other researchers. These three criticisms are discussed below.

The first criticism was that the methodology was flawed. Herzberg et al. (1959) had asked the individual being interviewed to look backwards in time and to recount experiences that were extremely satisfying or dissatisfying. Vroom suggested (according to House and Wigdor, 1967: 371) the possibility that "obtained differences between stated sources of satisfaction and dissatisfaction stem from defensive processes within the individual respondent." Thus, the respondent presumably, when asked to think of success incidents, would recall times when he or she was the responsible person and to think of environmental exigencies, when frustration was experienced. Such reasoning by Vroom was based on classic attribution theory. House and Wigdor (1967) agreed with Vroom that other methods (besides a retrospective interview) would be required to test the theory.

The second criticism of the theory was "that the research from which it was inferred is fraught with procedural deficiencies." (House and Wigdor, 1967) The primary deficiency was that those coding the data had to make evaluations as to which accounts were satisfiers and which accounts were dissatisfiers and these distinctions were not always clear. Thus, the factors, i.e. the motivators and the hygiene factors, could be contaminated by the rater's interpretation of the data. It was suggested by House and Wigdor (1967) that the respondents themselves might better categorize the data into the most appropriate category.

The third criticism identified by House and Wigdor (1967) was that Herzberg and his colleagues' results were inconsistent with previous research. While one would expect a

positive correlation between job satisfaction and productivity according to Herzberg's theory, this was *not* always the case. House and Wigdon (1967: 375) therefore concluded that "the effect of satisfaction on worker motivation and productivity depends on situational variables yet to be explicated by future research."

House and Wigdon also noted that should working conditions be unsatisfactory then "highly motivated behavior may have either little effect on productivity or even possibly the effect of causing frustration which interferes with productivity." (1967: 384) This writer believes that Herzberg and his colleagues would concur. Unless contextual factors in the work environment, i.e. the hygiene factors, are acceptable to employees, motivational factors will generally *not* come into play. However, Herzberg and his colleagues did not explore the impact of situational constraints and the possible effects of frustration on motivation.

Another comprehensive review of the motivation-hygiene theory was completed by Whitsett and Winslow (1967). These researchers were overall quite positive with regard to the work of Herzberg and his colleagues. They attributed much of the criticisms of the motivation-hygiene theory as misinterpretations of the theory. For example, Whitsett and Winslow (1967: 395) found that "One of the most common and persistent misinterpretations of the Motivation-Hygiene (M-H) theory is the attempt to use measures of overall job satisfaction to make statements purporting to be derived from the theory." In actuality Herzberg et al. (1959) are suggesting that the job satisfaction construct is not unipolar, so that both the motivator and hygiene factors related to job

satisfaction need to be considered. Thus, an overall measure of job satisfaction would not be acceptable to Herzberg and his colleagues.

"The essence of the motivation-hygiene concept is that the motivator factors and hygiene factors are independent, operate on different needs, and cannot be combined. Therefore, M-H theory makes no predictions about overall anything." (Whitsett & Winslow, 1967: 396) According to Whitsett and Winslow (1967) this error of interpretation was made by Ewen, Smith, Hulin and Locke in their 1966 study. Whitsett & Winslow (1967: 396) also argue (in opposition to Ewen, Smith, Hulin & Locke) that "there is no neutral point on the motivator continuum because the motivators contribute only to satisfaction; thus a person is, with respect to motivators, either more or less satisfied, but never neutral."

King (1970: 19) suggests that the heated debate between opponents and defenders of the two-factor theory (the motivation-hygiene theory) is a result of "the lack of an explicit statement of the theory." King provides five versions of the theory. These versions might be perceived as hypotheses yet to be tested. In any case, King would like to have satisfaction and dissatisfaction measured by other than self-report, i.e. other than theory and the use of critical incident studies. Thus, the theory according to King (1970) needs to be more explicit and another methodology for analyzing the results is needed.

As noted in a more recent review by Pinder (1984: 20), Herzberg and his colleagues developed their basic hypotheses regarding variables comprising job satisfaction and

variables comprising job dissatisfaction based on a "review of hundreds of early studies of the causes, correlates, and consequences of job attitudes". This review was conducted by Herzberg, Mausner, Peterson and Capwell in 1957. Thus, Herzberg and his colleagues are to be commended according to Pinder (1984) for using observations of many other researchers when formulating their own hypotheses.

While Herzberg and his colleagues (1959) did find in their classic study that one group of variables (named motivators) was identified by the accountants and engineers in more stories about satisfying job experiences and another group of variables (named hygiene factors) was more frequently associated with stories of dissatisfying job experiences, there were some variables from both groups that were crossover variables. As noted by Pinder (1984: 24) "There were a number of stories of job dissatisfaction that featured elements of some of the so-called motivator factors, especially recognition, work itself, and advancement." Likewise, Pinder (1984: 23) cites Herzberg (1981) as indicating that there were some hygiene variables, such as "providing decent working conditions and cordial interactions on the job" that can motivate people, as well, but for shorter time periods.

While these crossovers (or reversals) were initially recognized by Herzberg and his colleagues, Herzberg seemingly forgot this admission in later years and instead argued strongly that the motivator factors and the hygiene factors were "entirely" independent of one another (Pinder, 1984: 25). Thus, the motivation-hygiene theory (and its

subsequent refinement) was hampered by excluding the complexity of crossover variables, which was previously recognized by Herzberg.

Other Potential Reasons for Rejection of the Theory

First, as noted by Herzberg (1966: 76), "The fact that job satisfaction is made up of two unipolar traits is not unique, but it remains a difficult concept to grasp." We are so accustomed to measuring job satisfaction – job dissatisfaction as opposite ends along a single continuum, that it becomes difficult to think of job satisfaction and job dissatisfaction as two different continua, i.e. job satisfaction – no job satisfaction and job dissatisfaction.

The use of the prefix "dis" to indicate opposite, when placed prior to the word satisfaction also contributes to the problem. In other words, the word "dissatisfier" implies that it is the opposite of satisfaction, simply because of grammatical usage or syntax. Thus, we automatically tend to think of dissatisfaction and satisfaction as a unipolar trait at opposite ends of a single continuum.

The "adjustment continua" identified by Herzberg (1966: 87) can be used as an example to show how one continua is better understood by two continua. Thus, the adjustment continua, i.e. adjustment to life, uses the motivator-hygiene framework of Herzberg (1966) to form both a mental health continuum and a mental illness continuum. A person's adjustment is measured by the degree of one's success "in

achieving the motivator (mental health) needs" and "in avoiding the pain of the hygiene (mental illness) needs." (Herzberg, 1966: 86) Thus, a person's adjustment is considered in terms of both continua and his/her ability to satisfy the respective motivator or avoidance needs involved.

A second reason for the possible, premature dismissal of Herzberg's work has to do with the number of people Herzberg may have offended in the process of developing and talking about his new theory. This antagonism could have resulted in a variety of ways. For example, Herzberg was adamant that he was correct and annoyed with others, who did not accept his findings. He would become passionate when he spoke about the most direct and sure method to get an individual to do something, namely "to administer a kick in the pants – to give what might be called the KITA." (Herzberg, 2003: 88) His abbreviation for this method was probably also offensive, when the abbreviation was translated as Herzberg most likely intended.

In addition, Herzberg critiqued in his classic HBR article of 1967 (and reprinted in 2003), three different groups of individuals involved in the study and management of people. First, he criticized organizational theorists for believing that by simply organizing jobs properly, that you could assure high productivity and positive job attitudes. Then, Herzberg (2003: 92) criticized industrial engineers for believing that the key was "to concoct the most appropriate incentive system and to design the specific working conditions in a way that facilitated the most efficient use of the human machine." Finally, Herzberg (2003: 93) pounced on the behavioral scientists for trying to use

human relations training to instill the "proper attitudes that will lead to efficient job and organizational structure." Thus, he criticized three major constituencies in the field of management. It is no wonder that his theory was also denounced!

A third reason may lie in the paradigm that has frequently come to dominate Herzberg's work regarding the role of money. As is known from the work of Kuhn (1970), a paradigm can prevent one from seeing outside of the construct or model that is held in one's mind. This writer believes that Herzberg's placement of money as a hygiene factor, rather than as a motivator factor has also contributed to an easy dismissal of Herzberg's ideas. In other words, the common paradigm or model of money as a motivator, may have made it difficult for others to see money as merely a hygiene factor.

However, Herzberg does not say that money is never a motivator. This is especially true since money can be used to satisfy many of our wants and desires, so its distinction as a motivator versus a hygiene factor may also become blurred. Also, the amount of money an individual earns can be used as a proxy for a sense of achievement and recognition, since a larger salary can be interpreted to mean that the individual has performed well at the job's tasks.

Finally, as previously mentioned, Herzberg does recognize that some variables, such as salary, have been crossovers, i.e. that they can be perceived as both hygiene and motivator factors. In fact, salary appeared according to Pinder (1984: 25) "in almost as

many stories (proportionately) of job satisfaction as it did in stories of dissatisfaction. However, because it was related to more stories of long-term negative attitude shifts than to long-term positive shifts, Herzberg and his team classified salary in the hygiene category." Hence, the classification of salary as a hygiene factor was done somewhat subjectively.

It should be noted, that a low salary often sends the message in U.S. culture, that the individual's contribution is minimal. Thus, the self-worth (and/or self-esteem) of an individual receiving a low salary could be threatened. Should the low salary also not satisfy the basic needs of the individual, let alone any self-esteem or self-actualization needs, money certainly would be, as Herzberg suggests, a dissatisfier for such an individual. This writer believes, that Herzberg would readily agree that a person must receive a wage sufficient to cover his/her basic needs, in order that the motivator needs related to job content are activated.

Hackman and Oldham (1980) also recognize the importance of satisfying contextual needs prior to job enrichment, by designating "contextual satisfactions" in the work setting as a moderator of their job characteristics model. In other words, enriching jobs by designing into them the core job dimensions suggested by Hackman and Oldham (1980) of skill variety, task identity, task significance, autonomy and feedback will not automatically lead to intrinsic motivation. Rather, the worker (Hackman & Oldham, 1980) must also have his/her basic working conditions satisfied (as well as possessing

the necessary knowledge and skill, in addition to a desire for growth) in order for job redesign to be effective.

A final reason for re-examining Herzberg's theory of work motivation is the possibility that the relationships between job satisfaction and other organizational variables measured in other studies may have been attenuated by treating job satisfaction and job dissatisfaction as a unipolar concept. In other words, could it therefore be that the finding of weak relationships between job satisfaction and many other organizational variables, such as job performance, has been the result of inaccurately measuring job satisfaction and job dissatisfaction by treating those two variables along a single continuum?

The number of studies on job satisfaction and other organizational variables is huge. As noted by Kreitner and Kinicki (2004: 203) "Job satisfaction is one of the most frequently studied work attitudes by OB researchers." Kreitner & Kinicki (2004: 203) also cite Kinicki, McKee-Ryan, Schriesheim and Carson, who found in a review and meta-analysis of the Job Descriptive Index, JDI (a well known measure of job satisfaction), that more than 12,000 job satisfaction studies had been published by the early 1990s.

If the paradigm of job satisfaction and job dissatisfaction as a unipolar construct is incorrect and Herzberg's concept of a bi-polar construct of job satisfaction and job dissatisfaction is correct, then a "paradigm shift" would need to occur, in which case those (measuring job satisfaction as a unipolar concept) would have to go back to zero.

In other words, the previous findings related to job satisfaction would be questionable, unless separate measures of job satisfaction and job dissatisfaction had been used.

Several Recent Studies Using the Motivation-Hygiene Theory

In later years, it appears that only a few scattered studies further tested the theory. For example, Maideni (1991) conducted a survey questionnaire (Likert-type instrument) among private and public sector accountants and engineers. He found that satisfied workers valued the motivator factors more than the dissatisfied workers. However, he found no difference between satisfied and dissatisfied workers on the importance placed on the hygiene factors.

Another study was conducted by Knoop (1994). Knoop tested the relationship between work values and job satisfaction. The five dimensions of job satisfaction he used were based on the Job Descriptive Index and evaluated employee satisfaction with the "work itself, pay, opportunities for promotion, supervisors and coworkers." (Knoop, 1994: 684) His regression analyses showed that "intrinsic values contributed to all five dimensions of job satisfaction, but extrinsic values contributed to only one dimension." (Knoop, 1994: 687)

Knoop (1994: 688) also extended the work of Herzberg somewhat by finding support in his regression analyses for several intrinsic values in addition to the four (of the original five) variables, that Herzberg (1966) found as especially strong, namely achievement, recognition, the work itself and responsibility. The additional values included "doing meaningful work, having influence over work, being able to use one's abilities and knowledge, having independence in doing one's work, contributing to society, receiving esteem from others, gaining job status and having influence and pride in the organization." (Knoop, 1994: 688)

A third, more recent study using the motivation-hygiene theory was conducted by Bassett-Jones and Llyod (2005). They examined the impact of motivator and hygiene factors to better understand what influences employees to make or not to make contributions to a suggestion system. These researchers found that economic incentives were not the critical factors for contributing suggestions. Rather, it was the recognition by some line managers of the creativity of employees and the encouragement of their growth and development, such that there was a "fostering of a culture of contribution" in the organization that made a difference. (Bassett-Jones & Lloyd, 2005: 940).

Thus, Bassett-Jones & Lloyd (2005) concluded that Herzberg's two-factor theory was a useful tool for understanding why employees are motivated to make suggestions by its identification of intrinsic drivers, rather than movers, i.e. the financial incentives, Care was taken to overcome methodological concerns raised against Herzberg by using a

survey based approach focused on observable behavior versus affective responses so as to be less vulnerable to "post-hoc rationalisation and ego defence bias." (Bassett-Jones & Lloyd, 2005: 940). At the same time it should be mentioned that this study used minimal statistical analysis, reporting just the percentage of responses to survey items.

Some Specific Suggestions for Further Research

First, other methods, besides the original method of narrative storytelling, must be used to differentiate between job satisfaction and job dissatisfaction. Perhaps a methodology similar to the one used by Kouzes and Posner (1997) to identify key leadership principles and practices would be helpful. Kouzes and Posner (1997: xxi) began their research in 1983 by asking people to describe what they "did when they were at their 'personal best' in leading others." In depth surveys were conducted with open-ended questions to more than 550 people, as well as 42 in-depth interviews. While initially they focused on middle- and senior-level managers in both private and public organizations, they have since expanded their "research to included community leaders, student leaders, church leaders, government leaders, and hundreds of others in nonmanagerial positions." (1997: xxii)

Kouzes and Posner (1997) developed a model of leadership based on their analysis of the "personal best cases." It was a model, which was very behaviorally oriented, i.e. it identified specific leadership practices. Next, they developed a quantitative instrument,

"The Leadership Practices Inventory," which measured five leadership dimensionss. Initially, they surveyed "over 3000 leaders and their constituents, to assess the extent to which these leaders exemplified the practices." (1997: xxii) The data base of Kouzes and Posner had grown by 1995 to over "ten thousand leaders and fifty thousand constituents" (1997: xxii). Profiles were developed, that allowed users of the survey to compare their leadership characteristics on the five major dimensions of leadership to those in the sample.

It may be that a method analogous to that of Kouzes and Posner (and even somewhat similar to that of Herzberg and his colleagues) could be used initially, such that individuals would identify situations when they were very satisfied and performing very well at work, as well as identifying those situations when they were very dissatisfied with their working situation and performing very poorly. By means of in depth open-ended surveys and interviews, participants could be encouraged to describe the factors impacting those situations. A large sample of employees at different levels within organizations in several industries should be used.

Outside observers could then perform a content analysis of the responses. A model of job satisfaction and of job dissatisfaction tied directly to performance at work could then be developed based on the above situations and empirically tested for its validity. Dimensions of job satisfaction and of job dissatisfaction could be investigated through factor analysis and individual profiles of job satisfaction and of job dissatisfaction to performance could be developed based on those factors. It should be noted that when

Herzberg and his colleagues first proposed their motivation-hygiene theory in 1959, computerization was in its infancy. Consequently, large scale empirical testing of their model was not feasible, nor was it possible to test the model on different levels of analysis.

Second, situational constraints must be studied in more depth. For example, what are the situations in which workers have very limited control? Paul Spector (1978: 818) recognized such constraints in his "Model of Organizational Frustration." He (1978: 820) suggested that frustration of "task performance and personal goals" could be caused by such things as: 1) uncontrollable, natural factors, such as the weather; 2) company policy, such as restrictive rules and procedures of the organization; or 3) "in other people – supervisors, coworkers, and subordinates, as well as people outside the organization." Other constraints also come to mind including the economy or inadequate tools and equipment to perform the job. It is suspected that many of these constraints would be identified using the methodology suggested at the beginning of this section, i.e. employees would be asked to identify those situations in which they were very dissatisfied and performed poorly at work.

Third, individual differences must be considered. As noted by Hackman and Oldham (1980), a distinction should be made between those employees with a need for growth and those without such a need. Hackman and Oldham (1980) realized that this individual characteristic moderated whether or not a person would respond positively and productively to an enriched job. Also, other demographic differences such as

gender, age, tenure, and number of children should be considered when re-examining the theory.

Fourth, the "crossovers" variables, which predict both satisfaction and dissatisfaction (such as good working conditions, interpersonal relationships) need to be more fully considered. It may be that this would occur as individual differences are more fully investigated. For example, it could be that some working conditions such as daycare or health insurance are stronger motivators for some individuals than others. A single mother may be very motivated by both daycare and health insurance, whereas an older individual without children, whose spouse already has family health coverage, would probably not be motivated by either daycare or health insurance.

Fifth, openness to the breaking of old paradigms, when new ones provide a better explanation, is naturally required of all investigators. Should the concept of job satisfaction as a unipolar concept be incorrect, then the work involved in a review of previous studies would need to be embraced and new studies undertaken to examine separately factors related to job satisfaction and factors related to job dissatisfaction.

In summary, Herzberg has offered researchers and practitioners rich ideas for improving productivity. However, he has frequently been misunderstood or dismissed for various reasons detailed in this paper. Consequently, this author would encourage researchers to yet once again examine the validity of the motivation-hygiene theory. The key concepts to be investigated are 1) whether job satisfaction is caused primarily

by intrinsic work satisfaction and job dissatisfaction primarily by a dissatisfying work environment and 2) whether the concepts of job satisfaction and job dissatisfaction are two separate constructs.

The current time is particularly important because the information age, which enables and encourages the increased use of both flexible schedules and flexible locations, requires that employees work independently and creatively. This also means that individuals must be self-motivated, i.e. have intrinsic motivation, if organizations hope to maintain and encourage greater productivity from its workforce.

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