

**Herzberg's Two-Factor Theory of Job Satisfaction:
An Integrative Literature Review**

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Abstract

Herzberg published the two-factor theory of work motivation in 1959. The theory was highly controversial at the time it was published, claims to be the most replicated study in this area, and provided the foundation for numerous other theories and frameworks in human resource development (Herzberg, 1987). The theory states that job satisfaction and dissatisfaction are affected by two different sets of factors. Therefore, satisfaction and dissatisfaction cannot be measured on the same continuum. This paper examines the historical context in which the theory was developed, the methodology used to develop the theory, the controversy and attempts to duplicate the study, and the theory's current relevance to HRD.

Herzberg published the two-factor theory of work motivation in 1959. The theory was highly controversial at the time it was published, claims to be the most replicated study in this area, and provided the foundation for numerous other theories and frameworks in human resource development (Herzberg, 1987). The theory states that job satisfaction and dissatisfaction are affected by two different sets of factors. Therefore, satisfaction and dissatisfaction cannot be measured on the same continuum.

Herzberg's research was conducted during the late 1950s within a thirty mile radius of Pittsburgh, which was at the time a center for heavy industry. It was a time of full employment and nearly 100% utilization of plants and facilities. Although demographical information of the workers studied was not explicitly stated by the authors in the literature, it is implied that the majority of the workers studied were white males. It was also a period of heavy unionization. This is in stark contrast to the current work environment of customer-service oriented jobs, high unemployment rates, idle and closed plants, the diverse workforce, and the decline of unionization.

This paper asks the following research question: is the two-factor theory still relevant considering the historical context in which the theory was developed, the methodology used, and the changed dynamics of the workforce? I attempt to answer this question by conducting an integrative literature review. I will first give an overview of the theory. I will then describe my research method and provide an overview of the literature reviewed. Next, I will discuss key findings. Finally, I will discuss the theoretical and practical implications of this paper.

Overview of the Theory

The two-factor theory of job satisfaction was the result of a five year research program on job attitudes initiated by a grant from The Buhl Foundation. There was an urgent need at the time

for more and better insight about the attitudes of people towards their jobs due to the prevalence of job dissatisfaction indicators such as strikes, slow downs, and filing of grievances (Herzberg, Mausner, Peterson, & Capwell, 1957). During the first stage of the program, Herzberg and his colleagues conducted a comprehensive literature review of over 2000 writings published between 1900 and 1955. The literature yielded contradictory results, and the research designs of the studies varied widely in quality and the methodologies used (Herzberg, Mausner, & Snyderman, 1959). Based on their review of the literature, Herzberg et al. (1959) made core assumptions on which to base their hypothesis and research design. First, there was enough evidence to assume that there was some relationship between job attitudes and productivity. Second, the characteristics of dissatisfied workers had been well-defined in the existing literature. Third, the factors related to job attitudes had also been previously well-defined.

Herzberg et al. (1959) developed an initial hypothesis that satisfaction and dissatisfaction could not be reliably measured on the same continuum. Herzberg et al. next conducted an empirical study to test the hypothesis. After two pilot programs, the design and hypothesis were further developed and expanded (Herzberg et al., 1959). The main hypothesis stated that factors leading to positive attitudes and those leading to negative attitudes will differ. The second hypothesis stated that factors and effects involved in long-range sequences of events would differ from those in short-range sequences.

The major study used the critical incident technique and was conducted at nine sites within a 30 mile radius of Pittsburgh. A total of 203 accountants and engineers were studied. Participants were led through a semi-structured interview in which they were asked to describe any time when they felt either exceptionally good or bad about their job. After describing the story in detail, they were asked for another story at the other end of the continuum. The

participants were then asked to rate their experience on a scale of one to 21, with one indicating that the experience hardly affected their feelings, and 21 indicating that it was an experience with serious impact. These stories were then categorized into high and low sequences. High sequences had a high impact on job attitude, and low sequences had minimal impact on job attitude.

Herzberg et al. (1959) found that Maslow's theory of personal growth and self-actualization became the keys to understanding the good feelings in these sequences. The authors found certain trends in the characteristics of high and low sequences. In the high sequences, only a small number of factors were responsible for good feelings about the job. All of those factors were related to the intrinsic factors of the job and were predominantly long lasting. When good feelings about the job were short lasting, they stemmed from specific achievements and recognition about those achievements as opposed to the job itself.

The high sequence events provide contrast to the low sequence events. It was found that a great many things can be a source of dissatisfaction, but only certain factors can contribute to satisfaction (Herzberg et al., 1959). Low sequence factors were rarely found in the high sequences. Salary was the exception to these findings as it was mentioned with similar frequency in both the high and low range stories. However, when viewed within the context of the events, it became apparent to the researchers that salary is primarily a dissatisfier. When salary was mentioned as a satisfier, it was related to appreciation and recognition of a job done well and not as a factor in itself.

From this data, the original hypothesis was restated and became the two-factor theory of job satisfaction (Herzberg et al., 1959). Factors that affect job satisfaction are divided into two categories. Hygiene factors surround the doing of the job. They include supervision, interpersonal relations, physical working conditions, salary, company policy and administration,

benefits, and job security. Motivation factors lead to positive job attitudes because they satisfy the need for self-actualization. Motivation factors are achievement, recognition, the work itself, responsibility, and advancement. The opposite of satisfaction is no satisfaction. The opposite of dissatisfaction is no dissatisfaction. The satisfaction of hygiene needs can prevent dissatisfaction and poor performance, but only the satisfaction of the motivation factors will bring the type of productivity improvement sought by companies (Herzberg et al., 1959).

The researchers also examined the impact of the sequences on performance, turnover, attitude toward the company, and mental health (Herzberg et al., 1959). They found that attitudes influence the way the job is done and that favorable attitudes affect performance more than unfavorable attitudes. In terms of turnover, negative attitude resulted in some degree of physical or psychological withdrawal from the job. In relation to attitude toward the company, the study showed that a company can expect the degree of loyalty to vary with the degree of job satisfaction. Finally, the results showed no clear evidence for any effect on mental health, although the participants themselves perceived that a relationship existed.

It is important to understand the conventional ideas of job satisfaction at the time Herzberg et al. published this theory in order to fully understand the implications. Conventional explanations of job satisfaction at the time considered satisfaction and dissatisfaction as extremes on a single continuum with a neutral condition in the midpoint in which the individual is neither satisfied nor dissatisfied (Behling, Labovitz, & Kosmo, 1968). Workers shift along this singular scale as factors are changed or introduced. Accordingly, organizations focused on hygiene factors in an attempt to improve productivity. Herzberg et al. (1959) argued that this was the wrong approach. In order to increase satisfaction, the motivation factors must be improved. According to Herzberg et al. (1959), jobs should be restructured to increase the ability of

workers to achieve goals that are meaningfully related to the doing of the job. Job satisfaction can also be reached by matching the individual's work capacity to the work he will need to do during the selection process. It is equally important to recognize the supervisor's role in job satisfaction. They must provide recognition when needed and effectively plan and organize the work. Finally, although it is not realistic to allow the worker to set their own goals in most circumstances, the worker can often determine how they will achieve their goal. This will give workers a greater sense of achievement over their work.

There are several criticisms of the two-factor theory. They are: (a) the theory appears to be bound to the critical incident method; (b) the theory confuses events causing feelings of satisfaction and dissatisfaction with the agent that caused the event to happen; (c) the reliability of the data could have been negatively impacted by ego-defensiveness on the part of the employee; (d) factors overlapped as sources of satisfaction and dissatisfaction; (e) the value of the factors differed as a function of the occupational level of the employee; and (f) the theory ignores the part played by individual differences among employees (Gaziel, 1986).

Finally, although the initial publication of the theory involved Herzberg and additional colleagues, the theory is mainly credited to Herzberg only. The literature refers to it as Herzberg's theory, the two-factor theory, and the motivation-hygiene theory. For simplification, this paper will refer to the theory as the two-factor theory.

Research Method

The two-factor theory can be traced as the foundation on much of the current literature in Human Resource Development (HRD) in areas such as job satisfaction, employee motivation, and even reward and compensation systems. Because of the abundance of literature available that deals both indirectly and directly with this theory, I defined the scope of the research quite

narrowly to include only the material that directly correlated itself with the theory. A search of the EBSCO Megafile database was conducted with a keyword search of “Herzberg” in April 2010. This yielded 1006 results which I further narrowed down by selecting only peer-reviewed journal articles. This search yielded 831 results, which I finally narrowed in scope by requesting only those articles with availability of the full text. My final search consisted of 420 articles. I included all 67 articles which pertained to the two-factor theory in this final review of the literature.

I reviewed the literature with the research question and other considerations in mind. I initially read the literature in chronological order, looking for any progression or change in the way in which the theory was applied as the workplace evolved. I wanted to know if the academic research ever conclusively validated or invalidated the theory. I tracked key themes in the literature as I reviewed it. Finally, I analyzed the body of literature holistically to identify key learnings and future implications.

Critical Analysis of Literature Reviewed

Upon analyzing the literature, key themes began to emerge. The first theme existed around the core assumptions upon which Herzberg created his theory and will be discussed first. Another theme within the literature criticizes the methodology behind the two-factor theory. These articles criticize both the actual method used and the notion that the two-factor theory is bound by this method. These studies will be discussed next. I will then discuss the studies which disagreed with Herzberg's findings and those which supported his findings. I end the review of existing literature with the literature regarding the practical application of the two-factor theory.

Studies Questioning the Core Assumptions

Lodahl (1964) felt that the relationship between job satisfaction and motivation was shallow and conducted a study designed to measure job attitudes on a broad scale by determining the underlying structure and then relate that structure to measurements of the job performed. It was concluded that his study constituted a replication of Herzberg's findings using different methods and a different sample, indicating that there may be generalizability in Herzberg's findings across a wide range of technologies and people (Lodahl, 1964).

Lawler (1970) examined the studies regarding the relationship between satisfaction and performance and found that satisfaction is an indicator of an employee's motivation to come to work, satisfaction influences the motivation to perform a job effectively only very indirectly, and that performance can influence satisfaction directly under certain conditions. In looking at satisfaction and performance through this frame of reference, their relationship is important and should be monitored not to determine if satisfaction leads to performance, but because it tells something about how awards, both intrinsic and extrinsic, are being given out in an organization (Lawler, 1970).

Schwab, DeVitt, and Cummings (1971) also conducted a study to examine the link between satisfaction and performance. Schwab et al. (1971) sampled 124 male employees in a public accounting-management consulting firm and found no discernable performance implications due to hygiene and motivation factors. However, their findings did support the categories used by Herzberg as factors impacting satisfaction.

Studies Criticizing the Methodology

In 1968, Ewen, Hulin, Smith, and Locke conducted an empirical test of the two-factor theory using almost 800 male employees from various jobs. Ewen et al. (1968) found Herzberg's

use of retrospective accounts suspect and stated that other studies replicating the study could not give unequivocal support to the two-factor theory. Ewen et al. (1968) instead used a previously validated method, the Job Descriptive Index. Using this method, the researchers were only able to validate the importance of the work itself on job satisfaction. In the same publication, Graen (1966) provided an addendum to Ewen et al.'s work which also called Herzberg's methods into question and agreed with Ewen et al.'s suggestions to classify contributors to job satisfaction as intrinsic and extrinsic variables instead. Smerek and Peterson (2007) tested the two-factor theory on 2700 employees at a large public research university. Their findings replicated Ewan's findings in that only the factor of the work itself acted in accordance with Herzberg's conceptualization (Smerek & Peterson, 2007). Dunaway (2009) studied nurse practitioner job satisfaction using the two-factor theory. Again, these findings did not support Herzberg's findings in any area except that the work itself has an impact on employee satisfaction.

House and Wigdor (1967) reviewed the theory, the criticisms, and the empiric investigations to date. They summarized the findings of 31 empiric investigations using methods other than the critical incident technique and noted the inconsistent findings (House & Widgor, 1967). They also cite numerous criticisms regarding Herzberg's original study, including: the study is methodologically bound, the study was based on faulty research, and that the study was inconsistent with past evidence (House & Widgor, 1967). The authors went on to re-analyze Herzberg's data and formed new conclusions based on the same data. In a reply to House and Widgor, Winslow and Whitsett (1967) defended Herzberg's theory by publishing a critique of House and Widgor's analysis of the data and summary of the empirical studies presented.

King (1970) also reviewed the literature to date on the two-factor theory. King attributed the controversy surrounding the theory to the fact that Herzberg did not explicitly state the theory

himself and left it for others to interpret. King (1970) identified 5 different versions of the two-factor theory that had been used in the literature in the eleven years since the original publication of Herzberg's findings. Because none of the versions of the theory were supported by two or more different methods of testing, none of the versions had been validated (King, 1970). Gardner (1977) agreed with King's opinion and tested the two-factor theory using King's model of the five versions. Gardner (1977) found that all of the interpretations are possible and noted how difficult this makes it to compare the studies against each other. Gardner stated that there is no single test of validity for the two-factor theory, but a multiplicity of hypotheses which should be tested in a multiplicity of ways (Gardner, 1977).

Farr (1977) examined the two-factor theory in relation to new methods suggested in the field of occupational psychology. In his opinion, although Herzberg contributed valuable insight into people's perceptions of their everyday working environment, he made a serious error as an investigator by coming to believe that the data yielded information of a casual nature and that his research had uncovered the "causes" of job satisfaction and dissatisfaction (Farr, 1977).

One of the criticisms of Herzberg's methodology is the tendency for people to give socially desirable answers in their responses, resulting in factors that impact dissatisfaction as being attributed to external factors instead of internal factors. Wall and Stephenson examined the existing literature using this criticism as a frame of reference. They found that Herzberg's data is a result of this tendency and is therefore untenable as a description of job attitudes (Wall & Stephenson, 2007).

Studies Criticizing the Findings

Lindsay, Marks, and Gorlow (1967) conducted a study using a 3 X 3 X 2 factorial design model of job satisfaction. This study found that the same factors could impact both job

satisfaction and dissatisfaction and the researchers concluded that Herzberg's use of two distinct continuums for job satisfaction and job dissatisfaction should be re-evaluated. A study by Wolf (1967) indicated similar findings: job context and content can be related to both job satisfaction and dissatisfaction indicating a single continuum as opposed to a dual continuum. Brenner, Carmack, and Weinstein (1971) studied 500 certified public accountants throughout the United States, also using a different method than Herzberg. They found that respondents received both job satisfaction and dissatisfaction from both the motivating and hygiene factors (Brenner et al., 1971). Maidani (1991) tested the two-factor theory among public and private sector employees using a questionnaire rather than the critical incident technique. These findings showed that motivator factors are sources of satisfaction rather than dissatisfaction, but hygiene factors were also sources of satisfaction indicating a single continuum also (Maidani, 1991).

Kendall and Robinson (1975) replicated Herzberg's study on research personnel to learn what effect motivational factors have on technical job performance. Their findings were mixed in that they supported the satisfaction effect of motivational factors, but were unable to support the dual continuum of the factors (Kendall & Robinson, 1975). Shipley and Kiely (1986) studied British salespeople and found that some of the motivators and dissatisfiers identified by Herzberg were also identified by participants in their study, but they could not find evidence for the dual continuum nor could they clearly distinguish between the satisfiers and dissatisfiers. Taber (1991) used interpretative research methods to measure job satisfaction of telephone operators. The findings were the same as others: while the factors presented by Herzberg were validated, the dual continuum aspect of the theory was not (Taber, 1991). Another study of faculty members in higher education in the U.S. reached the same conclusion (Iiacqua, Schumacher, & Li, 1995).

Pennings (1970) challenged the two-factor theory by relating it to value systems of white-collar workers. Pennings (1970) argued that if Herzberg's model was valid, then all employees would have the same value systems within which they evaluate their job and work environment. Instead, in his empirical investigation he found considerable and meaningful deviations in the value systems of employees (Pennings, 1970). Because the values of women in the workforce were assumed to be different than male workers at the time but there was no empirical evidence to support this point of view, Hill and Ridgeway (1970) conducted an empirical study of the two-factor theory focused on labor turnover in women workers. They gathered no evidence to support the two-factor theory, although they did gain practical applications from their study that are similar to those recommended by Herzberg when applying the two-factor theory (Hill & Ridgeway, 1970).

Ondrack (1974) undertook a construct replication rather than an operational replication of prior studies. His findings did not support Herzberg's findings in that it identified a new factor not used by Herzberg, motivation and hygiene factors were found to impact both satisfaction and dissatisfaction, and three new response-classification categories were necessary to account for all responses (Ondrack, 1974). In a study of classroom motivation among students, Katt and Condly (2009) also found a need to create new categories during coding to account for all responses.

Wood and LeBold (1970) argued that job satisfaction is multivariate in nature and the two-factor theory is an over-simplification of a complex system of feelings and reactions with interrelationships among the various factors. Shipley and Kiely (1986) agreed that the two-factor theory was a good starting point for managers but is not recommended for strict implementation due to the over-simplification of the theory. Fatehi-Sedeh, Derakhshan, and Manoochehri (1987) also argued that the two-factor theory is an over-simplification of job satisfaction and cannot be

used as a reliable model. A study of faculty members of higher education in Uganda agreed, concluding that any given factor could either evoke satisfaction or induce dissatisfaction depending on situational variables in the working environment (Ssesanga & Garrett, 2005).

Schroder (2008) used the two-factor theory as the theoretical framework for a study of 835 university employees in order to understand the impact of demographical factors on job satisfaction. The researcher found that overall job satisfaction was related to age and educational level, and that levels of intrinsic and extrinsic job satisfaction were not the same for different occupational groups – findings that contradicted Herzberg's findings (Schroder, 2008).

The two-factor theory was also tested among construction workers in Bangkok (Ogunlana & Chang, 1998). The study did not provide support for the theory, but it was hypothesized that the conflicting results were due to the lower placement of Thailand's construction workers on Maslow's hierarchy of needs. Because survival was still a basic need of these workers, they were not able to desire self-actualization and place value on Herzberg's motivators (Ogunlana & Chang, 1998).

Studies Supporting the Two-Factor Theory

Herzberg continued to publish articles supporting the two-factor theory for the two decades following the original publication of his research. In 1965, Herzberg replicated his original study with lower level supervisors in Finland. His findings in this study supported his original findings and provided cross-cultural validation of the two-factor theory. During the same time period, the Sociological Research Laboratory at the University of Leningrad was conducting the first empirical investigation of job motivation in the Soviet Union and Herzberg published two journal articles about this study (Herzberg, 1965, 1965). This study sampled 2665 workers in a variety of heavy and light industries. The researchers concluded that the most

effective and important attitudinal factor for effective job performance is satisfaction with the kind of work (Herzberg, 1965, p. 248). This conclusion agrees with Herzberg's identification of the work itself as a motivational factor in his original study.

Behling, Labovitz, and Kosmo (1968) reviewed the controversy surrounding the two-factor theory by examining studies that both supported and discredited Herzberg's findings. Their opinion was that the debate had turned into little more than a series of "I'm right and you're wrong" claims and counterclaims that did little to advance knowledge in the field while forgetting about the restraints present in studying a theoretical construct such as job satisfaction (Behling et al., 1968). In noting that the studies replicating Herzberg's method generally provided support for the two-factor theory and studies using other methods conflict with the theory, the authors remind us that there is no evidence that a singular truth exists. Researchers and practitioners must deal with many different, and often conflicting, ideas regarding job satisfaction (Behling et al., 1968).

Schwab and Heneman (1970) employed Herzberg's methods in order to test some of the criticisms of the two-factor theory. Their results were similar to Herzberg's and others who had replicated his study, but they found that they could not accurately predict individual responses to favorable and unfavorable sequences by applying the two-factor theory in this way (Schwab & Heneman, 1970).

Due to the complex nature of salary in Herzberg's original findings, Macarov (1972) found value in studying the two-factor theory in an environment in which salary is not and cannot be a factor. An Israeli kibbutz provided this opportunity as hygiene needs are fulfilled by the kibbutz. The findings of this study supported Herzberg's findings (Macarov, 1972).

Brockman (1971) summarized the literature of the past decade. This was a comprehensive examination of over thirty studies, their methods, and their findings. Although the author self-reported a bias towards Herzberg in the article, she stated that the conflicting results of the studies were a result of measuring different things and not necessarily an invalidation of the two-factor theory (Brockman, 1971).

Addressing the criticism that the two-factor theory is method-bound, French, Metersky, Thaler, and Trexler (1973) conducted a study to determine whether results obtained by using a Herzberg-type written questionnaire were significantly different from those obtained using the critical incident technique. French et al. (1973) found that it is possible to obtain statistically similar results when using both oral and written techniques by controlling crucial aspects in the experiment process, findings that they hoped would put the debate around the methodology to rest.

Cummings (1975) tested the two-factor theory using employees at various levels within the hierarchy of a single work organization and utilized a different method than the original study. In general, his findings substantiated Herzberg's findings although there was an exception within one group of employees. Upon further investigation, he realized that it was due to a different management approach in that particular group, indicating the ability of management to create motivational job satisfaction at all levels by applying contemporary methods (Cummings, 1975).

The two-factor theory was used as a theoretical framework to measure job satisfaction among nurse practitioners (Kacel, Miller, & Norris, 2005). This study provided support for the two-factor theory in that the highest satisfaction scores were all intrinsic factors and the lowest satisfaction scores were all extrinsic factors. However, it seems that these authors misunderstood

the theory in the recommendations provided. They stated that employers need to improve extrinsic factors such as salary and fringe benefits to improve enhance job satisfaction of nurse practitioners, but according to Herzberg these actions will only decrease dissatisfaction and not improve satisfaction.

Using a different method than Herzberg on elementary school principals in Israel, Gaziel, (1986) found distinction between motivation and hygiene factors. This provided additional cross-cultural support for the two-factor theory, although the author does state that the two-factor theory is contingent on individual factors also (Gaziel, 1986). In 2008, a study used the two-factor theory as the theoretical framework to examine the possible relationships between ability utilization, compensation, co-workers, and job satisfaction among psychiatric nurses (Sharp, 2008). The findings supported the two-factor theory by showing moderate correlations among nurses' ability, utilization, achievement, and job satisfaction.

Practical Application

Herzberg (1968) published an article dedicated to the practical implications of his theory. In this article, he stressed the difference between “kick in the pants” (KITA) management and management through motivation (Herzberg, 1968). In essence, KITA management continues to focus on hygiene factors and results in only short term movement, while management through motivation taps into the potential of the employees and provides an opportunity to derive satisfaction out of work and results in long term motivation. It is the first article of many that will focus on job enrichment in the workplace.

In an interview in 1971, Herzberg again addressed the practical implications of the two-factor theory. By this time the theory was highly controversial and had been replicated over 50 times by Herzberg's count (Dowling, 1971). In this interview, Herzberg compares managers to

animal trainers. Animal trainers simply move people into action by managing hygiene factors. Managers capitalize on the human desire for achievement by fitting the right people into the right jobs and giving them the opportunity to get satisfaction out of doing a good job.

In 1974, Herzberg again stressed the importance of job enrichment to increase job satisfaction. Sirota (1973) addresses this application by asking the question: is job enrichment for real? His answer is yes, but only when it is applied appropriately. Herzberg (1974) and Sirota (1973) agree that it is not possible, nor advantageous, to enrich every job. A thorough diagnosis is required to determine if job enrichment is the right solution. Job enrichment will only solve one problem: the under-utilization of over-qualified employees (Sirota, 1973). Hague also stated that enriching jobs can provide satisfaction but only when job monotony is the problem (Hague, 1985). Others agree with this point of view, and stress the importance of preparing employees for the newly enriched job through management support and proper training and development programs (Reif, Ferrazzi, & Evans, 1974). Herzberg (1979) reviewed the results of the Orthodox Job Enrichment projects implemented at Hill Air Force Base over four years, and found that most of the mature projects had succeeded in implementing vertical job loading and reaching true job enrichment.

Ford (1969) looked at the impact of job enrichment as a way of increasing employee satisfaction. Recognizing that there will always be pressure for change, Ford (1969) stated that we must ask not only what a proposed job change will do to our customer, our cost, and our product, but also what it will do to the relation between the employee and whatever it is that they value in their daily tasks. Ford's opinion was that employees derive meaning in life from the work they do, and they want to be used well. Almost any job has the capacity to be enriched, but

the natural history of a job is to get worse so we must be intentional about our efforts to make it better instead (Ford, 1969).

Sokolik (1969) examined a different practical application of the two-factor theory.

Herzberg at one point suggested reorganizing personnel departments into two divisions which mirror the division of the factors impacting job satisfaction and dissatisfaction: one department to deal with hygiene factors and the other department would deal with motivational factors. After discussing the merits of this type of practical application, Sokolik (1969) determined that Herzberg's suggestion would not be successful and instead introduces his own model for reorganizing personnel departments.

Davis and Allen (1970) examined the length of time that high and low feelings persisted for a group of employees using Herzberg's factors. The authors felt this was an important study because management may be able to improve motivation and satisfaction by giving primary attention to increasing the motivators which tend to persist for the longest time and decreasing the maintenance factors which tend to persist for the longest time (Davis and Allen, 1970). While noting that further studies were needed, they found a clear persistency phenomenon by which high feelings were reported as longer lasting than low feelings. The practical implication of this finding is that management should trigger responses for the longer run by focusing on motivating factors, which would enable employees to view dissatisfiers as short-term interferences within a long term positive attitude.

Stead (1972) applied the two-factor theory to Berlo's person-to-person communication model. When tested, it was found that this type of application resulted in a communication breakdown because messages were coded as intrinsic by the manager but decoded as extrinsic by

the employee. This seems to be a misinformed application of the theory and does not warrant further consideration here.

Atchison and Lefferts (1972) conducted a study designed to predict turnover using Herzberg's job satisfaction technique. They found that Herzberg's categories were not as clear as the theory states, and that the motivators may have a closer relationship to the decision to produce while dissatisfiers are more closely associated with the decision to participate (Atchison & Lefferts, 1972). In another study relating the two-factor theory to turnover, Spillane (1973) found that there were no differences in job satisfaction scores between those who remained on the job and those who left; intrinsic job factors affected both satisfying and dissatisfying events.

Herzberg (1974) developed organizational profiles based on the two-factor theory. The profile is built by administering the original sequence-of-events survey used to develop the theory to a representative group of employees in the organization. The frequency of the different factors in the responses is then analyzed and an organizational profile is built (Herzberg, 1974). The different profiles represented the mismanagement of hygiene or motivational factors. The profiles help organizations assess dissatisfaction and make the indicated corrections.

Lahiff (1976) conducted a study to investigate the relationship between interview content and empathy with special attention to the motivator and hygiene factors and the relationship between the factors and empathy. Lahiff found a significant difference in empathy scores between the two types of factors and that the highest degree of empathy was found in the motivators (Lahiff, 1976).

Knoop (1994) applied the two-factor theory to stress. Knoop related Herzberg's factors to work values and hypothesized that intrinsic factors would have an inverse relationship to stress, but extrinsic factors should not lead to stress reduction. His findings supported his hypothesis

and found that organizations can reduce stress by providing a job that is stimulating and caters to what people seek to attain through work (Knoop, 1994).

The two-factor theory was used as a framework to explain consumer reactions of dissatisfaction and satisfaction with customer service strategies (Tuten & August, 1998). The authors presented a Bidimensional Model of Service Strategies based on combinations of Herzberg's hygiene and motivational needs (Tuten & August, 1998). The resulting model identifies four quadrants of customer service strategies with hygiene factors on the vertical axis and motivational factors on the horizontal axis. Although no empirical evidence was provided to support their model, the authors presented anecdotal evidence and called for further research.

An attempt was also made to apply Herzberg's motivational and hygiene factors to recruiting and retaining technical personnel at a U.S Department of Energy site (Tamosaitis & Schwenker, 2002). Consistent with the two-factor theory, the authors found that hygiene factors are major factor influencing turnover and that the work itself provides job satisfaction, but they also found an emphasis on hygiene as a retention factor which was inconsistent with Herzberg's theory. Also relating the two-factor theory to retention, Udechukwu (2009) studied turnover among correctional officers using the two-factor theory as frame of reference. This is a field that suffers from a high level of turnover, and the author suggests that it is due to "less-than-hospitable" conditions on the job, impacting hygiene factors among these employees (Udechukwu, 2009). The author concluded that because of these hygiene factors, the field will always be plagued by high turnover which can only be combated with deliberate and aggressive attempts to create defined career paths and feasible promotional opportunities for its officers (Udechukwu, 2009).

Rogers (2005) applied the two-factor theory to aid educational institutions in identifying potential future leaders. Rogers (2005) reviewed the existing literature and hypothesized that Herzberg's model is relevant to characterizing leadership aspiration and potential since elements in the model can distinguish leaders from non-leaders. Employees who lack job satisfaction are likely to withdraw from job involvement and not be motivated to make broader contributions or set higher goals.

The two-factor theory was used as a theoretical framework in a study that compared manager's views of the impact of motivation and hygiene factors in Korea and Japan. This study did not seek to validate or replicate the two-factor theory; instead, the factors identified by Herzberg were used as the framework to study the difference between two countries. The authors found consistency in the views of some employee motivation factors between managers in Korea and Japan, but these views were not always consistent with Herzberg's view (Usugami & Park, 2006).

New Knowledge Gained from the Literature

When the literature is read chronologically, the progression of the theory could be traced. The two decades following the publication of the two-factor theory were marked by replication, analysis of the original study, and academic debate about the validity of the study. It was also a period of prolific publication on the topic. In the 1980s, publication on the two-factor theory became an occasional article mostly found outside the field of HRD. In the mid-1990s, the two-factor theory again gained popularity both within HRD and in other fields. Some still discuss the controversy, while others now regard the theory as an established and valid framework.

From this review of the literature, it is clear that the two-factor theory was never validated or invalidated. In general, research that replicated the study was able to uphold the

theory. However, studies that used different methods generally did not support the theory. Although empirical testing has declined since the 1970s, there is an occasional test in the literature still. However, at some point the theory became generally accepted as reflected in the change of tone in the literature. There are mild references to a controversy and more practical applications available. Based on his work with Herzberg as a graduate student and new directions in positive psychology, Sachau (2007) called for a resurrection of the two-factor theory. However, by following the progression of the theory, the number of publications based on the theory since the mid-1990s, and the various methods of applying the theory throughout the last five decades, I argue that the theory never died.

Although Herzberg made mistakes and the two-factor theory has been the subject of several misinterpretations over the years, there are strong correlations between the two-factor theory and recent research in intrinsic motivation (Sachau, 2007). The theory still resonates with both scholars and practitioners with its common-sense approach and the simplicity of the model. The two-factor theory has already been applied in organizations in a variety of ways, and could still be applied in new and different ways. The original research question asked if the two-factor theory is still relevant today. Based on this review of the literature, I state that the two-factor theory is as relevant today as it was in 1959 when it was first developed.

Implications

Implications for further study

This study was limited to one database and one key word in order to contain the scope of the project. Additional studies could use different keywords in the same database or the same keyword in a different database to review literature that was not included in this study. However, within my search results I did reach a point of saturation in my research where many of the

articles were reaching the same conclusions and citing the same references. Therefore, I believe that my findings are a representative sample of the existing literature.

I recommend that future studies no longer attempt to validate the two-factor theory and instead focus on practical applications or using the two-factor theory as the theoretical framework to examine other theories or phenomena. The findings are inconclusive after 60 years of replication and will continue to be inconclusive regardless of any new studies generated. Let us instead focus on advancing the theory by applying it in reasonable ways provided by examining the existing literature. Examples of this are found in the recent studies referenced above that have used the two-factor theory as the theoretical framework to study phenomena in the workplace.

Implications for practice

One of the main criticisms of Herzberg's theory was his use of the critical incident technique because the data depends on the respondent's memory and personal testimony. While the technique itself may be subject to problems, I believe that the data points are valid to HRD practitioners. Are practitioners not in the business of human perception and the impact these perceptions have on employees? The implications of practitioner decisions are not determined by intentions; they are determined by how these intentions are perceived by employees. When evaluating a concept such as job satisfaction, it seems that employee's own perceptions and memories are the most valid source of data available.

With that said, it is not advised to implement the two-factor theory strictly as modeled. The majority of the evidence presented here points to inconclusive findings and does not support Herzberg's findings. However, Herzberg made a valuable contribution to HRD by identifying the factors impacting employee satisfaction. The basic tenets of the two-factor theory provide insight

into areas managers can influence in order to increase the satisfaction of their employees. The factors identified by Herzberg should be monitored by organizations to gauge the attitudes of its employees regularly. And while it cannot be concluded that only the motivational factors will provide job satisfaction and the hygiene factors will prevent dissatisfaction, employers can use these factors to discover what each employee values in order to motivate them appropriately.

Perhaps the most valuable contribution to come out of the two-factor theory was the idea of job enrichment. As the world continues to change at a more rapid pace than ever, the nature of jobs also continues to change rapidly. It is essential that organizations continue to use their human resources well by ensuring that the right people are in the right job at the right time and being used to the best of their potential. These are ideas that were suggested by Herzberg in 1959 and are still true today.

Conclusion

I sought to learn if the two-factor theory had ever been validated in the literature, and if this old concept was still relevant in a modern workplace. Was this theory a relic from a different time and no longer relevant in the more complex and diverse workforce of today? Although the majority of the empirical evidence invalidates the two-factor theory, it should not be dismissed. It is a simple model that made a significant contribution to our knowledge of employee attitudes about their jobs. It was ground-breaking at the time, and although not perfect it provided future scholars with a foundation upon which to continue to build new and better theories of job satisfaction and work motivation.

I agree with Smerek and Peterson (2007), who stated, "Testing a theory is not always an appropriate means to determine its value." A theory that stands the test of time, integrates itself into basic points of view about managing people, and continues to provide ideas for new

generations of scholars is a theory that has proven its value. Herzberg's two-factor theory of job satisfaction belongs in this category.

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