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1900–1925

Biology, Behavior, and Money

Introduction

The term *motivation*, as Steers, Mowday, and Shapiro (2004) pointed out, is a derivation of the Latin word for movement, *movere*. Its importance in the workplace is captured in the equation promulgated by Victor Vroom's former mentor, N. R. F. Maier (1955), more than a half century ago: job performance = ability × motivation. This equation succinctly explains why the subject of motivation is a cornerstone in the fields of human resource management (HRM), industrial and organization psychology (I-O), and organization behavior (OB).[1]

Motivation is an integral aspect of training. The time, money, and resources an organization devotes to ways of increasing a person's abilities

[1]Division 14 of the American Psychological Association changed its name from Industrial Psychology to Industrial-Organizational Psychology (I-O) in 1973. Hence, the abbreviation *I-O psychology* is used throughout this book. The Academy of Management was formed in 1936. Professors Clark Jamison of the University of Michigan and William Mitchell of the University of Chicago sent letters to colleagues inviting them to Chicago on December 28 to discuss the wisdom of forming an organization to advance the philosophy of management. The outcome of the meeting was an agreement to formalize the Academy's name and to support research and the exchange of ideas. The constitution of the Academy was formally adopted December 27, 1947. The human resources management (HRM) and the organizational behavior (OB) divisions were not founded until 1971 when William Wolf was president.

are wasted to the extent that an employee chooses not to learn what is being taught or chooses not to apply newly acquired knowledge and skills in the workplace.[2] Hence, the purpose of performance appraisal/performance management is to focus not only on identifying the requisite abilities an individual requires to be able to perform effectively, it is also to coach the person so as to inculcate a desire for continuous improvement (Latham & Mann, 2006). To facilitate the coaching process, researchers in the area of selection/staffing focus on the identification and development of tests that predict who is predisposed to being highly motivated in a work setting.

Motivation is a core competency of leadership. AstraZeneca, a global pharmaceutical company headquartered in London, expects its leaders to determine the areas that, if acted upon, will generate "breakthrough performance" as well as determine the necessary actions required of people to generate a "breakthrough." They are expected to instill in the people who report to them a sense of urgency and flexibility. Leaders at Microsoft, headquartered in Redmond, Washington, a suburb of Seattle, are expected to create an environment in which the very best people can do their very best work. The strategy at Manulife, a global financial services company headquartered in Toronto, includes a focus on employee commitment to values expressed in the acronym PRIDE (professionalism, real value to our customers, integrity, demonstrated financial strength, and employer of choice).

Among the requirements for performing effectively as a leader in these organizations is the ability to galvanize and inspire individuals to exert effort, to commit to and persist in the pursuit of an organization's values or goals.[3] Hence the importance for leaders of answers to such questions as:

The *I* in *I-O psychology* typically refers to the science and practice of recruitment, selection, socialization, performance appraisal, and training of an organization's human resources. When I-O psychologists were recruited to business schools in the 1960s, the *I* became known as human resources management or HRM. The *O* in *I-O psychology* typically refers to the science and practice of leadership, motivation, job satisfaction, decision making, organization and job design, as well as organization climate and culture. In business schools, this subject matter generally falls within the domain of organization behavior or OB.

[2]All of us have encountered professors who, although loaded with ability in their area of expertise, lacked the motivation to communicate their knowledge in memorable meaningful ways in the classroom. Their performance as teachers was dismal.

[3]I don't know of any study that has looked solely at the implementation of motivational principles on an organization's effectiveness. Inferences can be drawn, however, from existing research. Both Huselid and Becker (1996) and Watson Wyatt (2002), a consulting firm, concluded that HR practices are leading indicators of a

1. Do the keys to unlocking motivation lie within the *personal characteristics* of an individual? If yes:

   (a) Should we focus on a person's needs? Should we expect people who are worried over finding adequate food and clothing for their families to be focusing on ways to attain a specific high goal with regard to increasing a company division's revenue?

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firm's future financial performance. Similarly, Guest, Michie, Conway, and Sheehanl (2003) found that HR practices are related to high profitability in UK firms. Fulmer, Gerhart, and Scott (2003) studied the "100 Best Companies to Work For." Being included in the top 100 is dependent upon responses to an attitude survey that includes a multitude of motivational items. The authors found that there is indeed a connection using firm level data between the strategy of developing an attractive workplace (the success of which is judged primarily by employees themselves) and having financial performance that is as good, and often substantially better than that of competitors. "In fact, our study demonstrates that an investment portfolio constructed on the basis of employee relations in 1998 (i.e., whether a company was on the 100 Best List) would have yielded a significantly superior cumulative investment returns over the broad market in subsequent years (82% vs. 37% over 1998–2000 in our subset of 100 Best Firms)" (p. 987).

> Another meta-analysis showed that human capital, that is, the knowledge, skills, and abilities (KSAs) in a workforce, as well as tacit KSAs, are strongly related to an organization's performance (Crook, Todd, Combs, Woehr, & Ketchen, 2011). The authors concluded that to "achieve high performance, firms need to acquire and nurture the best and brightest human capital available and keep these investments in the firm." (p. 453)

Of course, using different predictors, different criteria, and different settings can lead researchers to question the findings of others (see Wright, Gardner, Moynihan, & Anen, 2005). Nevertheless, a study of 5,000 companies in Taiwan showed that these results are not restricted to North America. A teamwork-oriented executive strategic human resource management system creates a competitive advantage for a firm (Lin & Shih, 2008). Finally, in a meta-analysis of data collected by Gallup from 2,178 business units in 10 U.S. companies (e.g., hospital, restaurant, sales), Harter, Schmidt, Aspland, Killham, and Agrawal (2010) found that employee perceptions of 12 work conditions (e.g., "I know what is expected of me at work;" "There is someone at work who encourages my development;" "At work, my opinions seem to count") predict proximal performance outcomes, namely employee retention and customer loyalty. These two proximal variables, in turn, predict an increase in an organization's sales and profit. Moreover, improving financial performance increased employees' job satisfaction.

(b) The employees in a telecommunications company where I am a consultant wear lapel pins with the word *attitude*. They do so because of their belief that attitude and motivation are interrelated. Are they correct?

(c) If a person likes the job, will the person be motivated? What is the relationship between an employee's job satisfaction and job performance? Are highly trained happy individuals productive employees? Is it likely that a person who is highly satisfied with multiple aspects of the job has little or no motivation to be a high performer?

(d) What is the importance of a person's affect to job performance? Should we be concerned with a person's moods and emotions?

(e) Instead of or in addition to affect, should we examine cognition in terms of a person's goals, self-efficacy, and outcome expectancies? If we assign people specific high goals, will their performance increase? Are self-set or participatively set goals likely to lead to an even greater increase in a person's job performance? Should we be looking at ways to enable employees to see the relationship between what they do and the outcomes they can expect? If yes, should we be seeking ways to increase their confidence that they can attain a high goal? Are there ways of inducing a "can-do" mindset among those people who perceive one or more goals as unattainable?

(f) If the answer to the question of motivation lies within the person, are some personality traits likely to be more predictive of a high performer than others?

2. Peter Drucker, a highly regarded thought leader for managers throughout much of the 20th century, argued:

> An employer has no business with a man's personality. Employment is a specific construct calling for specific performance, and for nothing else. Any attempt of an employer to go beyond this is usurpation. It is immoral as well illegal intrusion of privacy. It is abuse of power. An employee owes no "loyalty," he owes no "love," and no "attitudes"—he owes performance and nothing else. . . . Management and manager development should concern themselves with changes in behavior likely to make a man more effective. (Drucker, 1973, pp. 424–425)

   - Are there effective motivational techniques for increasing the frequency of desired and decreasing the frequency of undesired behavior? Should the focus be on a person's *behavior* rather than on the person?

3. Do the keys to unlocking employee motivation lie within the *environment?* Do factors external to a person act as inducements for action?

   (a) Does the environment shape one's values?

   (b) Does the environment affect one's behavior?

   (c) Can an environment mask or minimize personality differences among people?

(d) Are there characteristics of a job that will lead to an increase in both a person's job satisfaction and motivation?

(e) To what extent do organizational procedures, processes, and systems affect a person's feelings of trust and fairness, and hence his or her subsequent behavior?

(f) Can an employee's motivation be bought? If yes, when and how should money be given for performing effectively?

4. Will answers to motivation be found in *person–environment fit?* As I noted in the Preface, they have for me. Is person–environment fit likely to prove beneficial for others? If yes, in what ways?

5. Are there reasons to believe that the keys to unlocking the secrets to motivation are to be found in "all of the above"? Is there *reciprocal determinism* among characteristics of the person, the person's behavior, and characteristics of the environment?

To answer these questions, the history of work motivation research and theory in the 20th century must be examined, as must the progress that has been made in the present century in understanding and explaining this fascinating topic.

Few areas should be more exciting and more worthwhile reading to facilitate understanding the present than history. Yet few books are more tedious to read than those written by many historians. This is often because the subject matter is explained void of the motivation of people and the circumstances that affected them. For example, most people know that the British won Canada by defeating the French on the Plains of Abraham in 1759. But how many know that the victory was due, in part, to the lack of motivation of a French officer to rally his troops? His *choice, effort,* and *persistence*—the three pillars that define motivation in the workplace—were to remain in bed with his mistress despite being warned that the British were scaling the cliffs of Quebec City. Most people have studied the conquests of Alexander the Great. How many know that he burned the city of Persepolis in Iran the morning following the request of a woman to do so as proof of his love for her? Little wonder that, as recently as the middle of the 20th century, sex was said to be a motivator of an employee's job performance (Harrell, 1949).

Biology

At the opening of the 20th century, Freud (1913) argued that a person's motivation is a function of the unconscious and that it is biologically, that is, sexually, based. When asked to define the capabilities of a healthy person,

he responded: "To work and to love" (Kelloway & Day, 2005).[4] Trained as a physician, Freud formed his conclusions on the basis of what he heard from people who came to him because of difficulties they were experiencing in their personal lives as opposed to those who confronted difficulties primarily in the workplace. He did not conduct empirical research to test his theory. This is because psychoanalysis is more an art, a philosophy, and a practice than it is a science.[5]

Freud believed that crucial developmental experiences with our parents affect how we later adapt to authority. The crux of his theory is Eros-Thanatos. Eros concerns the biological need to develop bonds with others. Thanatos concerns the need to dominate others. Freud argued that human relationships are ambivalent because of these two motivating needs. Thus, friendships, argued Freud, are tinged with implicit if not explicit resentment as well as competition.

A century later, in his historical review of psychotherapy, Bandura (2004a) noted that Freud's theories were discarded by behavioral scientists because they lack predictive power. Moreover, outcome studies showed that

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[4]As Kelloway and Day (2005) noted, Freud's theory, for the most part, has not held up to empirical inquiry. But his identification of an intimate connection between work and mental health is consistent with a vast body of scientific literature (e.g., Kelloway, Francis, & Montgomery, 2005; Kornhauser, 1965; Quick, Quick, Nelson, & Hurrell, 1997).

[5]From the outset of the 20th century, "the atmosphere at the American Psychological Association meetings was so distinctly experimental that the mere mention of Sigmund Freud . . . was occasion for either complete silence or violent debate" (Cleeton, 1962, p. 32). Toward the middle of the 20th century, little had changed in this regard:

> The experiments and observations examined in this report stand testimony that few investigators feel free to accept Freud's statements at face value. The reason lies in the same factor that makes psychoanalysis a bad science—its method. Psychoanalysis relies upon techniques that do not admit of the repetition of observation, that have no self-evident or denotative validity, and that are tinctured to an unknown degree with the observer's own suggestions. . . . When the method is used for uncovering psychological facts that are required to have objective validity it simply fails. (Sears, 1943, pp. 133–135)

Nevertheless, Freud's work influenced Hogan's (2004) socio-analytic theory of personality, a theory discussed in Part II.

one could predict the type of insights a client gained from psychoanalysis based on knowledge of a therapist's particular orientation. Finally, these outcome studies showed that it is difficult to change a person's behavior only by talking to a therapist. These studies would lead to a paradigm shift in the 1950s and 1960s from unconscious psychic dynamics to a causal analysis of the interplay among personal, behavioral, and environmental influences without reference to the unconscious.

William James (1890) published one of the earliest textbooks on psychology, *Principles of Psychology.* He was concerned with "the description and explanation of states of consciousness" (James, 1892, p. 1). Unlike Freud, he eschewed hypothetical constructs of unconsciousness (i.e., id, superego, ego) and the use of dreams as a methodology for studying behavior. Instead, he studied his own consciousness through introspection.[6] Long before the empirical findings of experimental psychologists (e.g., Hebb, 1949; Kolb, 2003), James argued the importance of biological/physiological variables on behavior. Learning, he said, leads to the formation of pathways in the nerve centers. Hence, habits, he believed, were formed early in life. By the age of 30, they were "set like plaster" (James, 1892, p. 375).

James's research interests did not include employee behavior in the workplace. This was not true of Hugo Munsterberg, the father of I-O

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[6]To my knowledge, few people followed up on this suggestion. As Locke and I noted (Locke & Latham, 2004), Freud and his followers rejected introspection as a methodology because they believed that motivation is in the unconscious and, hence, is not accessible to direct awareness. The behaviorists, as is discussed shortly, rejected the concept of consciousness as relevant to psychology. Cleeton (1962, p. 31) observed that in the 19th century,

> description and hypothesis in psychology was augmented by experimentation to such an extent that it became almost unprofessional to introspect or speculate. In fact, it would appear that for a time in the history of psychology, the only two men who were permitted by their professional colleagues to exercise insight in the observance of behavior were William James and G. Stanley Hall. (p. 31)

Questionnaire studies in our field, however, implicitly rely on introspection by the respondents. Locke and I argued that the benefits of training people in introspection would likely increase understanding of the relationship between traits and underlying motives, the factors that influence choices, including one's values and organizational circumstances, and the reciprocal effects between motivation and knowledge.

psychology (Hothersall, 1984).[7] Rather than rely on introspection or Freud's methodology, he engaged in systematic observations as well as interviews of factory workers (Munsterberg, 1913). This work is a precursor to the study of employee motivation in that it pointed to the need for overcoming "dreadful monotony" and "mental starvation" in the workplace (p. 196). His call went largely unheeded for nearly two decades. Munsterberg himself was far more interested in the issue of employee selection than he was in motivation.[8] He remained fascinated by the differences he had observed as a doctoral student among the participants in the experiments conducted in Wundt's laboratory. Landy (2005) has made the argument that it was, therefore, in Wundt's laboratory that the groundwork for the field of differential psychology was laid. This is ironic because, as Landy noted, Wundt did not allow his student Munsterberg to publish the results on these individual differences. Wundt feared that doing so would undermine his search for universal laws of consciousness.

Behavior

The philosophy of behaviorism was articulated in this time period by its founder, John B. Watson. This philosophy advocated a focus on the effect of environmental stimuli on observable behavior. Disagreeing with James,

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[7]Munsterberg, who did his doctoral work under Wundt in Germany, followed James as director of the psychology laboratory at Harvard University. Ciske (2004) argued that it is the establishment of a laboratory that marked the transition of psychology from philosophy to science. Wundt is credited for establishing the first laboratory in psychology in 1879.

[8]Arguably, selection was a logical starting point for the emerging science of industrial psychology. One has to select people before worrying about ways to motivate them. Soon, the U.S. military would be asking for the assistance of psychologists in selecting people for service in World War I. Walter Dill Scott was also an expert on selection. Ferguson (1962, p. 16), who was credited by Gilmer (1962) as "America's important industrial psychology historian," stated that Munsterberg has erroneously been given credit for being the first industrial psychologist: "Scott preceded him by eight years at least." In 1921, Bruce Moore was the first person to receive a Ph.D. in industrial psychology. His mentor was Walter Bingham. Moore went to the Pennsylvania State University, where he offered the first seminar on industrial psychology given under that title. Thurstone, upon learning of Moore's intention to do so, urged him not to limit it to selection and placement but to "bring in some material on dynamics, motivation, and group behavior" (Moore, 1962, p. 5).

Watson advocated epiphenomenalism, the argument that consciousness has no causal efficacy: "The time seems to have come when psychology must discard all reference to consciousness; when it needs no longer to delude itself into thinking that it is making mental states the object of observation" (Watson, 1913, p. 158). Consciousness "has never been seen, touched, smelled, tasted or moved" (Watson & McDougall, 1928, p. 14). Thus, Watson embraced the philosophy of positivism, a philosophy that only social, directly observable knowledge is valid. Scientific data for the behaviorists in that era were restricted to muscular movements or glandular secretions in time and space that lent themselves to quantitative analyses. Thus, from the outset, systematic measurement was a cornerstone of behaviorism. An enduring legacy of behaviorism in I-O psychology is an emphasis on measurement, particularly the ability to draw causal conclusions when $n = 1$ (see Komaki, 1977).

Motivation, as an internal psychological concept, was of no interest to the behaviorists. They were only interested in the prediction and influencing of responses. "By response we mean anything the animal does—such as turning toward or away from a light, jumping at a sound, or more highly organized activities such as building a skyscraper, drawing plans, having babies and the like" (Watson, 1925, pp. 6–7). Behavior was viewed as automatic or reflexive to a stimulus rather than cognitive or intentional; thus, the focus of the behaviorists was on learning rather than motivation. The objectives of the behaviorists were twofold: (1) Predict the response knowing the stimulus; and (2) identify the stimulus knowing the response. A belief, fundamental to the behaviorists, is that there is an immediate response of some sort to every effective stimulus. In short, they imposed a strict cause-and-effect determinism in behavior. For them, human choice or "free will" is an illusion.

Watson's (1913) methodology led him to the study of affect, particularly the conditioning and reconditioning of emotional responses in infants and children, as well as the elimination of conditioned fears.[9] In 1920, Watson left the academic community for the field of advertising, where he stayed until he retired. He did not publish empirical research conducted in organizational settings. The subject of emotion was largely ignored by I-O psychologists until the end of the century.

The behaviorists acknowledged that although human behavior is more complex than that of animals, it is influenced by similar underlying principles. Thus, animals, particularly rats and pigeons, were studied for reasons

[9]A film of Watson working with children can be seen in the Archives of the History of American Psychology housed at the University of Akron.

of cost and convenience. The behaviorists attached no importance to the reasoning capacity of a human being.

E. Thorndike, among the most famous experimental psychologists in this time period, found that by presenting a reward (e.g., food) immediately after a behavior targeted by the experimenter occurred, the frequency of the behavior increases. Thorndike (1911) labeled this discovery the law of effect:

> Of several responses made to the same situation, those which are accompanied or closely followed by satisfaction to the animal will, other things being equal, be more firmly connected with the situation, so that, when it recurs, they will be more likely to recur; those which are accompanied or closely followed by discomfort to the animal will, other things being equal, have their connections with that situation weakened, so that, when it recurs, they will be less likely to occur. The greater the satisfaction or discomfort, the greater the strengthening or weakening of the bond. (Thorndike, p. 244)

Thorndike (1917) later conducted an empirical study on satisfaction with work that was published in the first volume of the *Journal of Applied Psychology.* Specifically, he examined the productivity and satisfaction of 29 adults who graded 10 printed compositions for 2 hours on 2 days. Speed of work and quality of work as well as satisfaction were measured every 20 minutes. The results indicated that the quality and quantity of work remained the same during the 2-hour period, but "satisfyingness" decreased steadily. Thorndike concluded that lack of rest affected a person's interest, willingness, or tolerance rather than the quality and quantity of the product produced. The seeds were now planted for what was to become a major controversy throughout the 20th century, namely, the relationship between job satisfaction and performance.

With minor exceptions, little or no attention was given by psychologists in this time period to the subject of motivation in the workplace.[10] Widespread application of the methodology of behaviorism to motivation in organizational settings was ignored until the 1970s, some 50 years later.

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[10]As noted earlier, the very concept of motivation was rejected by behaviorists because the term suggests a causal force that is internal and therefore cannot be observed directly.

McDougall (1908), a social psychologist, was among the very few in this era who rejected a stimulus-response view of behavior. He was a proponent of instincts and their effect on active strivings toward anticipated goals. He was so struck by the goal-seeking quality of behavior that he later described himself as a purposive psychologist (McDougall, 1930).

The emphasis of I-O psychologists in this time period was on selection and placement. World War I had ushered in the importance of staffing, particularly of military officers. In the decade following the war, the North American economy boomed. The research of I-O psychologists was supported by organizations in which there was great demand on hiring an efficient and effective workforce (Katzell & Austin, 1992). Burtt's (1926) comprehensive textbook on *Principles of Employment Psychology* contained no mention of the concept of motivation. The focus, instead, was exclusively on such topics as job analysis, mental tests of intelligence, the criterion, and rating scales. The implicit study of motivation, as defined by efficient/effective behavior, was left to engineers.

Money

With the ongoing shift from small, independent, family-run businesses in the 19th and early 20th century to large industrial organizations, Gilbreth, an engineer, founded the Society for the Promotion of the Science of Management. He and his wife Lillian, who had a Ph.D. in psychology, advocated "The One Best Way to Do Work" (Gilbreth, 1914; Gilbreth & Gilbreth, 1923) that could be identified through time study and motion study. Gilbreth (1920) believed that motion-study and time-study data would benefit

> the work of the industrial engineer, the machine designer and the behavioral psychologist—that their various pieces of information, usually obtained through entirely different channels and methods of attack, may be automatically brought together to the same filing folders under the same filing subdivision. (p. 151)

He argued that the identification of the *One Best Sequence* would lead to the greatest speed and least effort and fatigue in learning because it would result automatically in the shortest possible learning period with least habit interference.

Frederick Winslow Taylor (1911), also an engineer, developed what he called scientific management. Adopting scientific management, argued Taylor, would result in a mental revolution on the part of the workers as to their duties toward themselves and toward their employers, as well as a mental revolution in the outlook of employers whereby they would set out to do something on behalf of their members, to which the workers would respond by giving a share of their initiative. The principles of scientific management are:

1. The systematic gathering of knowledge about work by means of time and motion study of workers

2. Foreshadowing goal-setting theory, Taylor advocated giving each employee a task, that is, a specific difficult amount of work to complete, of a certain quality, on the basis of a time-and-motion study
3. Scientific selection of the workers followed by training and development
4. Offering a monetary incentive to the worker
5. Redividing work completely to bring about democracy and cooperation between management and workers

The outcome of applying these five principles is a revolutionary outlook, argued Taylor, whereby both the workmen and the management come to see that a "*surplus*" (i.e., money) can be made so great that there is no occasion to quarrel. Each side can get more than ever before. In short, Taylor believed that employees should be paid substantial bonuses for goal/task attainment because compensation for work done efficiently and effectively, he believed, leads to satisfied employees. This is one of the earliest explications of the notion that performance, which leads to rewards, leads to satisfaction. This notion would be later promulgated by Lawler and Porter (1967).

Concluding Comments

The enduring discoveries from this time period are Thorndike's law of effect and the importance that Taylor placed on tying money to performance. The conditions under which money affects our performance would be examined in the remaining three quarters of the 20th century. Behaviorism would not be embraced by our field until the beginning of the 1970s. The importance that James attached to the study of consciousness proved to be omniscient as cognitive variables would be shown in the third quarter of the 20th century to explain the findings of the behaviorists. His use of introspection to study consciousness has, to this date, been rejected by our field; but, as will be shown in the next chapter, from the second quarter of the 20th century to the present day, introspection is used implicitly through attitude surveys of employee morale and job satisfaction. Freud's focus on the unconscious was rejected immediately by our field. Not until the opening of the present century would behavioral scientists become aware of the importance of studying subconscious motivation for predicting, understanding, and influencing a person's behavior in organizational settings. As will be discussed in Part II of this book, we are doing so without embracing Freud's theory.