12.4 Cognitive Process Motivation Models

One of the primary criticisms of the reinforcement-based approaches to motivation and learning has been that the theories do not explain complex reasoning processes. Such thought processes deserve attention, especially in complex environments such as healthcare organizations. In essence, employees are likely to consider their circumstances and then respond in some way. Two cognitive process models of motivation include Adams's equity theory and Vroom's expectancy theory.

Adams's Equity Theory and Organizational Justice

Among the more common factors that might influence a person's behavior on the job is the perception that a given process is fair. Equity theory, as developed by J. Stacy Adams (1963, 1965), explains how employees might react to perceptions of both fairness and inequity. The theory explains various responses in healthcare organizations as well as other settings.

Inputs and Outcomes

At work, people exchange inputs for outcomes. Inputs include everything an employee trades to an organization, expecting something in return. Examples of inputs include education, experience, special skills, levels of effort and productivity, helpfulness to others, creativity or suggestions, grooming and cleanliness, attention to patient needs, maintaining confidentiality, and other duties. Outcomes are the items the organization exchanges for inputs. Outcomes include pay, praise, chances to be promoted, status symbols (corner office; reserved parking space), company benefits, job assignments, recognition, job security, and being included in organization plans and decisions.

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Adams's equity theory has its basis in organizational justice concepts.

Presence of a Referent Other

A *referent other* is a person (or possibly a group) chosen by an employee for purposes of making social comparisons. In other words, most employees tend to single out someone at work or in some other organization for the purpose of examining relative levels of inputs and outcomes. Most of the time, a referent other will be someone who was hired at about the same time and performs the same or a comparable job. In other circumstances, different forms of referents are selected, as displayed in Table 12.7.

Table 12.7 Potential referent other comparisons

Comparison type	Description

Self inside the organization	The employee compares a new position or job to a previous position or job in the same organization.
Self outside the organization	The employee compares a current position or job to a previous position in a different organization.
Other inside the organization	The employee compares a current job or position with another person or group within the same organization.
Other outside the organization	The employee compares a current job or position with another person or group in a different organization.

The Comparison

No matter which type of referent other emerges, the employee compares input–outcome ratios—that is, give–get relationships, or "what I give and get versus what my referent other gives and gets."

$$\frac{\textbf{Personal outcomes}}{\textbf{Personal inputs}} \quad \textbf{versus} \quad \frac{\textbf{Referent other outcomes}}{\textbf{Referent other inputs}}$$

Equity Perceptions

Equity occurs when the ratio comparison is perceived as being equitable, in balance, or fair. For instance, Joe serves as a nurse in a mental health facility. His inputs include distributing medicines on a nightly basis, assisting a patient during exams under the supervision of a physician, tending to a patient's needs when an individual is moved to the infirmary, and providing help in emergency situations. Joe's outcomes include pay of $22 per hour and flexible scheduling in which he can switch shifts with other employees if he desires a particular night free.

Susan is the nursing supervisor. Her inputs include hiring, training, and firing employees; completing daily report sheets; working on a fixed schedule with no shift switching; and assisting with nursing duties when required. Her outcomes include pay of $27 per hour and an extra week of paid vacation (four instead of the three that all other nurses get) each year.

Even though Susan earns $5 per hour more and has more vacation time, Joe believes the differential is equitable. Susan gives more to get more; Joe gives less and receives less. When such a sense of equity or equilibrium exists, *behavior is maintained*. The definition of *motivation* as noted at the start of this

chapter includes "what maintains behavior." In this instance, a sense that things are equitable or fair means Joe will keep working at the same pace and with the same level of intensity.

Perceptions of Inequity

Many times, a review of personal and referent other inputs and outcomes leads to the perception that the formula is not in balance. This circumstance—inequity or disequilibrium—results in a strong motivational force (a cognitive process) to restore equilibrium. In other words, the individual feels compelled to somehow adjust the components in the input–outcome ratio. Table 12.8 represents the types of reactions that are possible.

Table 12.8 Reactions to perceptions of inequity

Activity	Example
Change personal outcomes	Ask for a pay raise
Change personal inputs	Try harder or reduce effort
Influence referent other outcome	Encourage referent other to ask for a raise
Influence referent other inputs	Encourage referent other to try harder or reduce effort
Change referent other	Look at outcomes and inputs of someone different
Rationalize	Add elements to the formula, such as a time horizon
Leave the field	Quit the job

One set of reactions to inequity involves a perception described as *positive inequity*, as reflected in this formula:

$$\frac{\textbf{Personal outcomes}}{\textbf{Personal inputs}} > \frac{\textbf{Referent other outcomes}}{\textbf{Referent other inputs}}$$

This formula suggests that the person involved has determined that he or she is *overpaid*, because the person's outcome–input ratio is more generous or valuable than the ratio the referent other experiences.

Using the potential responses noted in Table 12.8, a person who felt overpaid could try harder and produce more inputs to justify the difference, change comparisons to a referent other who earns more, or rationalize that the pay difference was based on seniority or some other factor not previously considered.

The other form of disequilibrium, sometimes called *negative inequity*, is shown as:

$$\frac{\textbf{Personal outcomes}}{\textbf{Personal inputs}} < \frac{\textbf{Referent other outcomes}}{\textbf{Referent other inputs}}$$

This situation reflects feeling *underpaid*. A person who believes he or she is underpaid could ask for a pay raise; reduce outputs (don't try as hard); conclude that although the employee currently experiences inequitable treatment, management will eventually make things right through a promotion or some other future adjustment to outcomes; or make plans to leave and quit.

Support for Equity Theory and Organizational Justice

There is significant theoretical support to validate equity theory. The idea that people exchange inputs for outcomes in all types of social interactions with others has its basis in *psychological contracts* (Schein, 1982). The idea that people compare themselves to one another is based on *social comparison theory* (Festinger, 1954, 1957).

Furthermore, the premise that inequity exists when input–outcome ratios differ is founded in the principles established by the theory of *distributive justice*—people should receive in proportion to what they give in society, which also applies to the allocation and amount of outcomes. Awareness of equity and inequity are influenced by perceptions of *procedural justice*, or evaluations of the fairness of a process, such as a performance appraisal or pay raise system. Distributive justice and procedural justice combine to create perceptions of overall **organizational justice** (Dailey & Kirk, 1992).

Finally, the tendency to act on disequilibrium derives from conceptualizations of cognitive dissonance (Festinger, 1957). Cognitive dissonance, or mental disharmony, creates a mental force seeking to resolve the discord or dissonance.

Complications

Although organizational research supports the predictions of reactions by individuals to perceptions of inequity (Scheer, Kumar, & Steenkamp, 2003), a series of complications have been associated with the work. One of those complications involves *equity sensitivity*, or the range of reactions to perceptions of inequity. Equity "sensitives" believe firmly in reciprocity and become quickly motivated to resolve feelings of being over- or underpaid. Equity "benevolents" are more altruistic and less bothered by underpaid or negative equity relationships. Equity "entitleds" respond most vigorously to negative equity or underpaid circumstances and may remain frustrated until positive equity or an overpaid comparison appears (Sauley & Bedeian, 2000).

In addition, feeling overpaid does not seem to change a person's behaviors at work, possibly because the individual quickly rationalizes differences in outcomes (Steers, 1996). The theory does not account for the power of the rationalization process in overpaid, as opposed to underpaid, situations.

On a more practical level, the social comparisons that could be made within an organization are both countless and unpredictable. Managers do not choose who someone singles out for a social comparison, and the choice could be completely inappropriate. For instance, a new, fresh-out-of-dental-school hygienist who compares herself to someone with eight years of experience might result in inaccurate perceptions of deserved outputs and inputs.

Finally, equity theory may not represent thought processes in other cultures. Many national cultures do not contain strong feelings regarding distributive justice. Also, in former communist countries, feelings of entitlement can supersede perceptions of equity and distributive justice. Thus, many organizational behavior experts view the theory as culture bound (Giacobbe-Miller, Miller, & Victorov, 1998). Given the number of foreign-born physicians and medical professionals working in the United States today, healthcare managers should consider this issue in implementing the basic concepts.

Managerial Implications

Despite the concerns with equity theory, however, many healthcare managers may find that its principles offer value. To begin, a supervisor can make certain that the equity comparisons made by top performers receive the most attention. Doing so can go beyond pay and benefits. For example, top performers may receive preferential treatment in terms of scheduling breaks during the work day, vacations, and other nonfinancial signals related to their worth. At the same time, each employee should believe that the reward system is fair and is not simply based on the manager's personal preferences.

Managers can also employ equity theory to understand why workers become dissatisfied and seek to leave a company. In essence, it provides a framework for understanding how employees react to how they are treated by the organization and specific managers.

Vroom's Expectancy Theory

Vroom (1964) provided a second cognitive process theory to explain the relationships between organizational circumstances and employee motivation. Several variations of the theory's concepts may be found in the literature. Each version contains three primary elements: expectancy, instrumentality, and valence.

Expectancy summarizes an individual's belief that a given level of effort will result in successful performance of a task. A medical student who expresses complete confidence that she will pass her licensure exams expresses a high expectancy. Another student who believes passing the exam on the first try will not be possible has an extremely low expectancy value. Any provider who does not believe he can

cure a patient experiences a lower level of expectancy; when the same provider has great confidence the patient can be cured, expectancy takes on a high value. Expectancy can be depicted as follows:

Effort → Performance

Instrumentality reflects an individual's belief that successful performance of a task will result in a specific outcome or reward. A physical therapist who believes he can treat an injury and will be fully financially compensated by the patient and his insurance company expresses a high instrumentality score. An intern who believes her supervising physician holds a grudge and will not write a positive endorsement of her work, no matter the quality of that work, has an instrumentality score that is low or even zero. Instrumentality may be expressed as this linkage:

Performance → Reward

Valence consists of two components. The value of the reward to the person constitutes the first. If a pharmaceutical company holds a sales contest in which the reward for winning is an all-expenses-paid vacation to Hawaii, the majority of salespeople will highly value the prize. Thus, the valence of the outcome will be high. If the same contest yields a prize of a free dinner at a local restaurant, and most of the salespeople dine out all the time as part of their travels (which means they are not excited at all about the reward), then the valence of the outcome will be low or zero. The second component of valence is the value associated with achieving a goal or successfully completing a task. Winning the contest provides a valence associated with doing the best job during a specific time period on a given task.

Calculating a Motivational Force

Individual authors have presented several versions of the combinations of these variables. A common method uses a multiplicative model, as follows:

Motivational force (effort) = Expectancy × Instrumentality × Valence

Values can then be assigned to each variable. Expectancy may be rated from 0 to 1 or 0 to 100%. A score of 0 means the individual believes no linkage between effort and performance exists, or "No matter how hard I try, I can't do it." A score of 0.5 or 50% indicates the person believes he or she has a 50–50 chance of success, given a specific level of effort. A rating of 1 or 100% indicates the person has complete confidence that given a certain level of personal effort, the individual can complete the task or achieve the goal.

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Motivation only occurs when valences, expectancies, and instrumentalities all reach high levels.

The same formulation applies to instrumentality. A score of 0 means the person does not believe a reward will be delivered for successful performance. A score of 50% suggests the individual is uncertain about whether the reward would be delivered. A value of 100% means the person expresses complete confidence that achieving a goal or successful performance will be rewarded.

Assigning values to valence is more problematic. Scales can be used to indicate the value of a reward from 1 (no value) to 7 (great value), or sets can be used to indicate low, medium, and high degrees of valence. The concept behind these ranges is to note that some valences are more powerful than others.

Using this approach makes it possible to see differences in the degree of motivational force and to make predictions about the level of effort that will be given (see Table 12.9).

Table 12.9 Degrees of motivational force

Motivational Force	= Expectancy	× Instrumentality	× Valence
High	= High	× High	× High
Moderate	= High or Moderate	× Moderate	× High
Low	= Low or Moderate	× Low or Moderate	× Low or Moderate

The highest level of effort would be expected when the individual believes he or she can successfully complete a task (high expectancy), that successful completion of the task will result in a reward (high instrumentality), and that the reward itself has value (high valence). Under any other circumstance, the degree of motivation diminishes. Notice also that if a score of 0 is assigned to any of the three variables, the resulting level of motivation will also be 0.

Advantages of Expectancy Theory

Expectancy theory has been a well-respected approach to understanding motivation in the workplace for several decades and for several reasons. First, the theory concentrates on workplace motivation rather than motives in other circumstances. It applies to specific employment activities, goals, and rewards.

Second, using the formulation shown in the previous section, expectancy theory explains not only circumstances in which employees will be motivated but also situations in which they will not be motivated. An organization that has not given pay raises or any other incentives for performance over the past three years should not be surprised by the levels of effort exhibited by its employees. When a linkage

between effort and performance cannot be identified, motivational levels decline. Furthermore, managers who fail to recognize the things that employees value may offer rewards with little or no meaning to those employees.

Third, the theory incorporates both intrinsic and extrinsic motives. An **intrinsic valence** is the reward a person experiences after achieving a goal, such as a feeling of pride, accomplishment, or self-efficacy. Intrinsic valences accompany the **extrinsic valences**, or the strength of the rewards given by others (Porter & Lawler, 1968). In medical circumstances, helping others, relieving suffering, healing patients, and providing quality care to patients and their loved ones all constitute a powerful set of intrinsic motives for many healthcare employees in a variety of jobs. Managers should never underestimate the importance of these intrinsic valences.

Fourth, there is consistent research to support expectancy theory (Donovan, 2001; van Eerde & Thierry, 1996). Many managers believe that the theory offers down-to-earth, concrete methods for seeking to improve employee effort and levels of motivation. In essence, applying expectancy theory involves three things: working to make sure employees can complete assigned tasks, linking performance to the reward system, and making sure employees are rewarded with the things they value.

Does Money Motivate Healthcare Workers?

Motivational Strategies

One continuing debate in organizational behavior focuses on the role of money as a motive. In some of the theories presented in this chapter, pay only manages to dissatisfy employees. In others, money includes the concept of valence, or something that holds value and thus serves to motivate individuals.

Money in healthcare holds an even more unique role. People working in the industry clearly do so to support themselves and their families. And yet much of their work concentrates on the helping aspects of serving patients. Employees balance considerations, such as the desire for a quality standard of living, with other factors.

Recently, many private practice physicians have encountered circumstances in which some patients have made fewer trips to the doctor's office, and others have decided to forgo more expensive (and lucrative to physicians) elective procedures. The result has been an increase in doctors filing for bankruptcy (Kavilanz, 2013) and, as a result, some regions are losing access to certain forms of

healthcare. In several instances, the physicians had not lost any major medical malpractice lawsuits and were considered to be highly respected doctors. Instead, economic downturns had shaped patient decisions regarding healthcare. In addition, declining insurance reimbursements, changing regulations, the rising costs of malpractice insurance, drug costs, and other business necessities were deemed as culprits.

In the coming years, the role of money as a motivator for individuals in the healthcare system will continue to receive scrutiny. Doctors, nurses, and others employed in the system battle expensive training programs, long hours on the job, work-related stress, and other factors, all while seeking to serve others. Those involved in managing the system will need to discover ways to make sure the industry attracts and retains quality employees. The role money plays in that system remains to be seen.

CASE
Debbie's Dilemma

Debbie Vestica decided to look for a new job on a day that should have been filled with joy. She had just completed a master's degree in nursing and had been given a substantial increase in pay, along with new benefits. Other factors, however, greatly diminished the reward she had just received.

Debbie began working as a nurse in a local pediatric physician's medical group. Three doctors and three nurses made up the medical staff. Two of the nurses completed training at the licensed practical nurse (LPN) level, while Debbie held the rank of registered nurse (RN). Due to this difference in educational attainment, Debbie was expected to supervise the other two nurses. The problem she faced was that the two nurses often treated her more as a peer, or even as a subordinate, rather than as a supervisor.

To complicate matters, the two LPNs had been on staff for four and five years, respectively, while Debbie had only been employed by the organization for two years. Still, when hired, she was told to assume a supervisory role. At first, Debbie chose not to confront the two more experienced nurses, hoping that over time she would be able to manage them more effectively by not trying to use forceful or directive tactics.

One year later, Debbie discovered that although her pay was slightly above average for RNs in the area, her pay differential with the LPNs was only $3 per hour. She earned $30 per hour ($60,000 per year), whereas the LPNs earned $27 per hour ($54,000 per year). Their pay ranked them above nearly all LPNs in the state. Given the additional duties she was expected to complete, Debbie found the pay differential to be unsatisfactory.

After two years on the job, Debbie began a master's program designed to achieve the designation of clinical nurse specialist with an emphasis in children's health. She devoted considerable time and

money to obtaining the degree, although the physician's group did contribute 50% of her tuition and book costs.

On graduation day, Debbie met with the three physicians. They all generously praised her efforts and promised her a new status level that included having her own office in the complex. They also granted her a raise of $7 per hour, raising her annual salary to $74,000, in return for additional duties and responsibilities.

The turning point occurred when Debbie overheard the two LPNs talking in the office break room. Upon finding out about Debbie's new pay raise and status, the LPNs confronted the three physicians, demanding an additional increase in pay as well. Sensing a major confrontation, the physicians had decided to raise the pay of the two by $5 per hour, to $32 per hour or $64,000 per year. That amount was higher than what Debbie had earned as an RN and as an RN attending graduate school. Believing that she would never receive the proper pay differential that she deserved in this practice, Debbie decided it was time to seek employment elsewhere.

1. Use Herzberg's two-factor theory to explain Debbie's level of motivation.
2. Use Adams's equity theory to explain Debbie's decision to look for work elsewhere.
3. Use Vroom's expectancy theory to explain this situation.
4. If you were advising the three physicians in the organization, what would you tell them they should have done when confronted by the two LPNs? Defend your advice.