Chapter 1

Introduction

Every morning on my way to work, I walk by the same beautiful tree. Each winter, I worry about that tree. Some mornings are bitterly cold. On these days, I realize that I can do something that the tree cannot. I can move. I can walk inside a building, put on a coat, or bring along a cup of hot coffee. The tree, however, just stands there day after day. So, I worry about that tree.

I worry because the tree cannot take action to do what is necessary to protect itself—from the cold, from a chainsaw, or from bark-eating beetles. I also worry about the environment that surrounds that tree. I am happy to see it supported by warm weather and a soft rain, while I fret when the wind blows hard and nutriments are scarce. Unlike that tree, if I want something, then I can just go get it and I'll be fine.

My desire to move is an incredible asset. *Move* is the theme of this book. Indeed, the words motivation, emotion, and motive are all derived from the Latin verb movere, which means "to move." This book is about all the forces that generate and sustain *movere*. It is a story about how motivational and emotional assets help move people toward more effective functioning and well-being.

WHAT IS MOTIVATION? IS IT IMPORTANT?

What is motivation? Of course, one reason to read this book is to find an answer to this question. But as a way of beginning the journey, pause for a moment and generate your own answer, however preliminary, however tentative, however personal and private. Perhaps scribble your definition on a notepad or in the margins of this book.

Later, the book offers a formal definition for both motivation (page 6) and emotion (page 7). However, to get started consider a simple definition: Motivation is *wanting* (Baumeister, 2016). Motivation is a condition inside us that wants or desires a change—a change in the self or a change in the environment. The appeal of this simple definition is that it identifies the active ingredient within any motivational state (i.e., wanting change)—I want to change my behavior, my thoughts, the way I feel, my self-concept, my surrounding environment, the quality of my relationships, and so forth.

Here is a second question to get started: Is motivation study worth your time and effort? There are many benefits, but consider two key reasons.

First, learning about motivation and emotion is a very interesting and personally satisfying thing to do. Few topics spark and entertain the imagination so well. Anything that tells us about what we want and desire, why we want what we want, and how we can improve our lives is going to be interesting. And anything that tells us about what other people want and why they want it is going to be interesting. To give us these insights, we can turn to theories of motivation to learn about topics such as human nature, goal setting, desires for biological sex and psychological intimacy, and emotions like anger and compassion. These theories explain how to increase effort, change behavior, develop talent, spark creativity, grow interest, and function more effectively.

Second, motivation and emotion fuel important life outcomes. Motivation helps us get things done. So, learning about motivation—learning how to get things done—is quite a useful thing to do. It can be useful to know where motivation comes from, why it changes, how to change it, and whether some types of motivation are better than other types. Knowing such things, we can empower employees, coach athletes, counsel clients, raise children, engage students, or change our own ways of thinking and behaving. We can improve performance, enhance well-being, and realize personal growth. If motivation and emotion study can show us how to improve our lives and the lives of others, the journey will be time well spent.

As a case in point, consider exercise. Think about it for a moment: Why would anyone *want* to exercise? Can you explain this? Can you explain why one person might be more willing to exercise than another? Can you explain why the same person sometimes wants to but other times does not want to exercise? Why run laps around a track? Why jump up and down during an aerobics class? Why climb stairs on a machine that does not really go anywhere? Why run when you know your lungs will collapse for want of air? Why jump and stretch when you know your muscles will rip and tear? Why take an hour out of the day to walk 10,000 steps when you just do not feel like it or when your schedule simply will not allow it? Why exercise when life offers so many other interesting things to do? To answer such questions, Table 1.1 lists 16 different motivation-based reasons to explain why someone might want to exercise.

These questions ask about exercise, but they could just as easily ask about the motivation underlying any activity. If you play the piano, why? If you work all night to complete a project, why? If you went through all the effort to learn a foreign language, then why?

Table 1.1 Sixteen Motivational Reasons to Exercise

Why Exercise?	Motivation	Illustration
Fun, enjoyment	**Intrinsic motivation**	Children exercise spontaneously—they run and jump and chase for the sheer fun of it.
Gain money	**Extrinsic motivation**	A smartphone app pays a $5 reward for hitting a 10,000-step milestone.
Personal challenge	**Flow**	Athletes get "in the zone" when their sport optimally challenges their skills.
Told or forced to do so	**External regulation**	Athletes exercise because their coach tells them to do so.
Accomplish a goal	**Goal**	Runners strive to run a mile in six minutes or less.
Health benefits	**Value**	People exercise to lose weight or to strengthen the heart.
Make things better	**Hope**	An elderly man hopes that exercise will improve his cardiovascular health.
Inspiration	**Possible self**	People watch others exercise and become inspired to do the same.
Pursuit of a standard of excellence	**Achievement strivings**	Snow skiers race to the bottom of the mountain trying to beat their previous best time.
Satisfaction from a job well done	**Competence**	By exercising, people can feel more competent, more effective.
An emotional kick	**Opponent process**	Vigorous jogging can produce a runner's high (a euphoric rebound to the pain).
Good mood	**Positive affect**	Beautiful weather can induce a good mood such that people exercise spontaneously, as they skip along without even knowing why.
Alleviate guilt	**Introjection**	People exercise because they think they should—to please others or to relieve guilt.
Relieve stress, depression	**Personal control**	After a stressful day, people go to the gym, which they see as a structured and controllable environment.
Hang out with friends	**Relatedness**	People exercise as a way to hang out with friends.
Positive feelings	**Well-Being**	People can exercise to feel good, satisfied.

MOTIVATIONAL SCIENCE

The study of motivation and emotion is a behavioral science (or a social science). "Science" means that answers to motivational questions require objective, data-based, empirical evidence gained from well-conducted and peer-reviewed research findings. Motivational science does not accept quotes from famous basketball coaches as definitive answers, however inspirational and attention-getting those quotes may be. Instead, motivational science embraces rigorous empirical methods: Testable hypotheses, clear conceptual and operational definitions of each construct, observational methods, and statistical analyses to evaluate each hypothesis objectively.

The ongoing processes of putting one's ideas about motivation and emotion to empirical test explain the title of this book (i.e., *Understanding Motivation and Emotion*). One's ideas about how motivation works need to be continually evaluated against new findings. Inadequate concepts—those that lack supportive empirical evidence—are best tossed aside so that new (better) explanatory concepts can be discovered and existing explanatory concepts can be improved upon. Such research seeks to construct theories about how motivational and emotional processes work.

A theory is an intellectual framework that organizes a vast amount of knowledge about a phenomenon so that the phenomenon can be better described, understood, and explained (Fiske, 2004). Motivation and emotion theories exist to answer the *Why?* questions of behavior, thought, and feeling, such as Why did she do that? and Why does she feel that way? To quote Bernard and Lac (2013, p. 574):

> without an answer to why, we are left only with the description of behavior, and description without explanation is ultimately unsatisfying.

To deeply understand the nature and function of something such as "well-being," a developing theory of well-being needs to do two things. First, it needs to identify the relations that exist among naturally occurring,

observable phenomena. For instance, a theory needs to identify what causes well-being, how it is similar to and different from happiness or self-actualization, and what are the downstream benefits of well-being. As a case in point, a theory will identify the conditions that promote versus detract from well-being, it will recognize that supportive interpersonal relationships and need-satisfying activities are the reliable, naturally occurring causes of well-being, and it will identify outcomes and benefits such as health, meaning in life, prosocial contributions, and the absence of depression as its naturally occurring consequences. Second, it needs to explain why those relations exist. For instance, why does a supportive interpersonal relationship promote greater personal well-being? If you can identify the antecedents and consequences of a motivational or emotional phenomenon, then your understanding will be clearer, sharper. You will be well positioned (better informed) when it comes time to suggest a practical application on how to improve your life or the life of those you care for.

Figure 1.1 illustrates the function and utility of a good theory (Trope, 2004). A theory cuts through the complexity and noise of reality to represent how a phenomenon generally works ("Representation" in Figure 1.1). Once formed, theories generate predictions (i.e., hypotheses) about where a motivational state comes from, what it leads to (e.g., behavioral change), and how, when, and under what conditions it might change. Overall, a good theory both enhances our understanding of a phenomenon and generates new ideas to explore (hypotheses) and interventions to solve pressing problems (applications).

How a theory explains a phenomenon may or may not be correct, or complete. So, researchers use the working theory to generate new, testable hypotheses. A hypothesis is a prediction about what should happen if the theory is correct. For instance, one hypothesis about well-being is that "not all goals are equal." Pursuing some types of life goals (e.g., those for personal growth and relationship growth) enhance well-being while pursuing other types of life goals (e.g., those for fame and fortune) do not, and they may even put well-being at risk (Kasser & Ryan, 1993, 1996). With a hypothesis in hand, a research study is carried out to collect the data necessary to evaluate the accuracy of the hypothesis. For instance, the researcher can (1) ask college students what sort of goal they will try to attain over the holiday break, (2) categorize those goals as intrinsic or extrinsic, and then, after the break is over, (3) assess for any change in students' well-being (Koestner et al., 2002).

If the findings support the theory's hypothesis, researchers then gain confidence in the validity of the theory. However, if the findings fail to support the theory, researchers lose confidence in the theory and either revise it or go in search of a better theory (i.e., a better explanation).

After a theory has been sufficiently, rigorously, and objectively validated, it becomes useful. A validated theory serves as a tool to recommend practical applications that can improve people's lives ("Application" in Figure 1.1). A validated theory can inform interventions and real-world applications. With a valid theory in hand, the motivation scientist can translate discovered knowledge into useful applications in schools, workplaces, and society and, therefore, enhance people's motivation and emotion in applied settings.

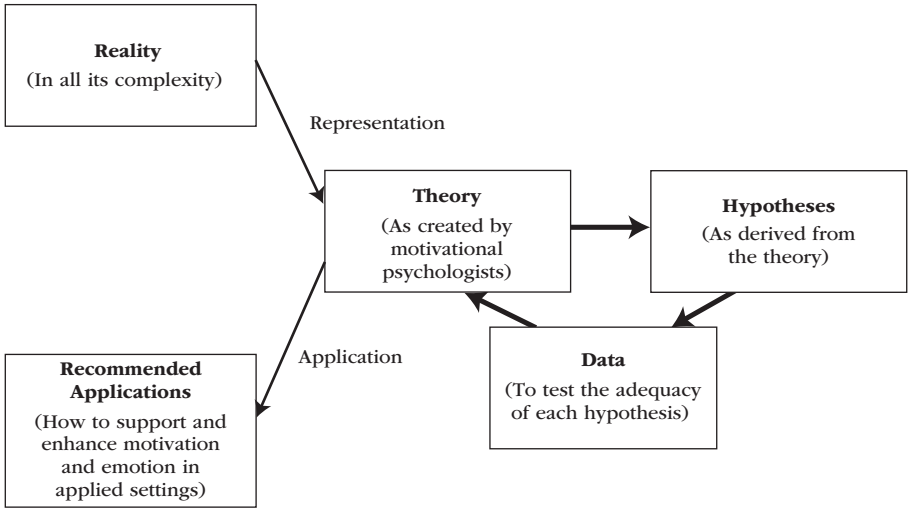

Figure 1.1 Illustration of a Theory

Overall, by proposing and testing their theories, researchers develop a deep understanding of motivation and emotion (i.e., gain theoretical knowledge), and by refining and applying their theories, researchers develop workable solutions to life's motivational problems (i.e., gain practical know-how).

WHAT CAUSES BEHAVIOR?

Motivation's most fundamental question is this: What causes behavior? Or, stated in terms of a *Why?* question: Why did she do that?

We see people behave, but we cannot see the underlying cause or causes that generated their behavior. We watch people show great effort and persistence (or none at all), but the reasons why they show great effort remain unobserved. Motivation exists as a scientific field to identify those hidden causes of behavior. To identify such causes, it is helpful to expand this one general question into six specific questions:

- Why does behavior start?
- Once begun, why is behavior sustained over time?
- Why is behavior directed toward some goals yet away from others?
- Why does behavior change its direction?
- Why does behavior vary in its intensity?
- Why does behavior stop?

In the study of motivation, it is not enough to ask why a person practices a sport, why a child reads books, or why an adolescent refuses to sing in the choir. To gain a sophisticated understanding of why people do what they do, we must ask further why the athlete began to practice in the first place. What got all this athletic

BOX 1 *Why We Do What We Do*

Question: Why is this information important?
Answer: To gain the capacity to explain why people do what they do.

Explaining motivation—why people do what they do—is not easy. Still, people have no shortage of possible motivation theories ("He did that because . . . "). The problem is that many of these intuitive theories are not really helpful.

When I talk to people in everyday life, when I ask students about their own motivation theories during the first week of class, and when I read the advice people give online and during podcasts, the most popular theories people embrace are:

- Self-esteem and praise
- Incentives and rewards

At the top of the list of people's theories of motivation is "boost self-esteem." This view sounds something like, "Find a way to make people feel good about themselves, and then good things will start to happen." "Praise them, compliment them, and give them some affirmation that they are worthy as a person and that brighter days are ahead." The problem with this strategy is that it is wrong. It is wrong because there is practically no empirical evidence to support it (Baumeister et al., 2003).

There is value in healthy self-esteem. The problem is that self-esteem is not a causal variable. Instead, it is an effect—a reflection of how our lives are going. It is a barometer of well-being. When life is going well, self-esteem rises; when life is going poorly, self-esteem falls. This is very different from saying that self-esteem *causes* life to go well. The logical flaw in thinking about self-esteem as a source of motivation is the act of putting the proverbial cart before the horse. Self-esteem is a cart, not a horse.

Next on people's list of motivation theories is "provide incentives and offer rewards." This view sounds something like, "When people are unmotivated, offer them an incentive to get them going." The problem with this strategy is twofold. First, incentives and rewards need to be given carefully, because removing them tends to damage the person's pre-existing motivation to engage in that same task without the re-promise of another reward (Deci et al, 1999). For instance, in school, do you only read the course textbook right before the exam? Have years and years of tests and grades squashed your natural curiosity and early love of reading? Second, if you think about it, the person offering the incentive actually does not bother to try to understand the other person's interests, preferences, or goals. Instead of bribing people into compliance, what works better is to take the other person's perspective, ask about their motivations, and then find ways to support the motivation the person already has.

What we will do on each page of this book is look inside the person to identify those internal processes that energize, direct, and sustain behavior. When we do this, we will discover motivation theories that are much more effective than "boost self-esteem" and "offer incentives."

practicing started in the first place? Now that it has begun, what energizes such effort hour after hour, day after day, and season after season? Why does this athlete practice one particular sport rather than another? Why are they practicing now rather than, say, hanging out with their friends? Why are desire and performance strong and resilient at 3:00 yet weak and fragile at 3:10? Why is this athlete actively and enthusiastically engaged, while her teammate avoids being challenged? Why does this athlete quit for the day, or quit during her lifetime?

These same questions can be asked of children as they read books: Why begin? Why continue past the first page? Past the first chapter? Why pick that particular book? Why read so much yesterday yet so little today? Why stop reading? Will their reading continue in the years to come?

For a more personal example, let me ask, Why did you begin to read this book today? Will you continue reading to the end of this chapter? Will you continue reading until the end of the book? If you do stop before the end, then why? After reading, what will you do next? Why? The discussion in Box 1 continues the struggle to explain why people do what they do.

SUBJECT MATTER

To explain why people do what they do, we need to explain what gives behavior its energy, direction, and endurance. It is some motive that energizes the athlete, it is some motive that directs the student toward one goal rather than another, and it is some motive that keeps the artist painting month after month after month. *The study of motivation concerns those internal processes that give behavior its energy, direction, and persistence*.

- *Energy* gives behavior strength—it is strong, intense, and resilient.
- *Direction* gives behavior purpose—it is aimed toward a particular goal or outcome.
- *Persistence* gives behavior endurance—it sustains behavior over time.

As shown in Figure 1.2, motives are internal experiences—needs, cognitions, and emotions. External events and social contexts are important too, because they act as antecedents to motives. Using a movie metaphor, internal experiences (needs, cognitions, and emotions) are the stars of the show while external events and social contexts are the supporting characters.

Internal Motives

A motive is an internal process that energizes, directs, and sustains behavior. It is a general term to identify the common ground shared by needs, cognitions, and emotions. The difference between a general motive versus a specific need, cognition, or emotion is simply the level of analysis. Needs, cognitions, and emotions are just three specific types of motives (see Figure 1.2).

Needs

Needs are conditions within the individual whose satisfaction is essential and necessary for the maintenance of life and for the nurturance of growth and well-being. Hunger and thirst exemplify two biological needs that are required nutriments for the maintenance of life. Competence and belongingness exemplify two

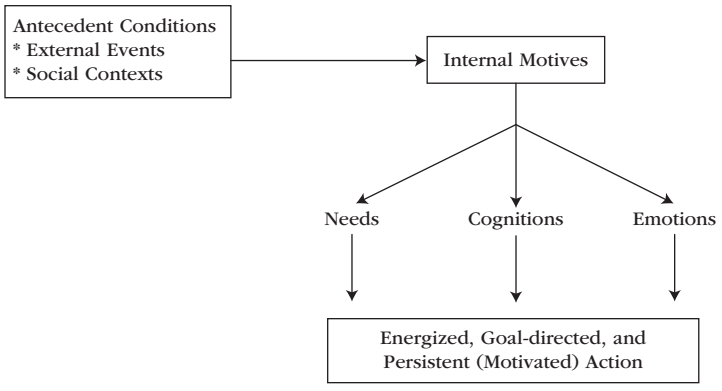

Figure 1.2 Three Categories of Internal Motives

psychological needs that are required nutriments for growth and well-being. Needs serve the life, growth, and well-being of the organism. They do so by (1) generating wants, desires, and strivings that motivate whatever behaviors are necessary for the maintenance of life and the promotion of growth and well-being and (2) generating a deep sense of satisfaction from doing so. Part I of this book discusses two types of needs: biological (Chapter 4) and psychological (Chapter 5).

Cognitions

Cognitions are mental events, such as thoughts, beliefs, expectations, plans, goals, strategies, appraisals, attributions, and the self-concept. Cognitive sources of motivation arise out of the person's way of thinking. For instance, as students, athletes, or salespersons engage in a task, they have in mind some plan or goal, they harbor expectations about how things will go, they have ways of interpreting or appraising what is happening to them, and they have an understanding of who they are striving to become. Part II discusses four types of motivated cognition: plans and goals (Chapter 7), mindsets (Chapter 8), beliefs and expectations (Chapter 9), and the self (Chapter 10).

Emotions

Emotions are complex but coordinated feeling-arousal–purposive–expressive reactions to the significant events in our lives (e.g., an opportunity, a threat, and a loss). Emotions generate brief, attention-getting bursts of emergency-like coping and adaptive behavior. That is, given a significant life event, emotions rapidly and rather automatically generate and synchronize four interrelated aspects of experience into a unified whole:

- *Feelings*: Subjective, verbal descriptions of emotional experience.
- *Arousal*: Bodily mobilization to cope with situational demands.
- *Purpose*: Motivational urge to accomplish something specific at that moment.
- *Expression*: Nonverbal communication of our emotional experience to others.

By generating and synchronizing these four aspects of experience into a coherent reaction, emotions allow us to adapt successfully to the important events in our lives, such as a challenge or a threat. For instance, upon encountering a threatening event, we rapidly and rather automatically feel fear, our heart rate increases, an urge to escape arises, and the corners of our lips are drawn backward in such a way that others can recognize our fear experience. Other emotions, such as anger and joy, show a similar coherent pattern that organizes our feelings, arousal, function, and expression in ways that allow us to prepare for and to cope successfully with a different set of circumstances. Part III discusses the nature of emotion (Chapter 11), its different aspects (Chapter 12), and individual emotions and feelings (Chapter 13).

It might sound perplexing to think of emotions as motivational states—that is, to think of emotion as a subset of motivation. Emotions certainly can be studied on their own. But each emotion does serve a distinct motivational function. For instance, fear motivates escape and a search for safety, hope encourages us to keep pursuing a desired goal, and guilt creates a desire to make amends to undo the harm we caused.

External Events and Social Contexts

External events are environmental, social, and cultural circumstances that affect a person's internal motives. Environmental events include not only attractive stimuli such as money and social support but also unattractive stimuli such as a foul odor or being yelled at. Social contexts include general situations (a collection of many external events), such as a classroom or workplace climate, a parenting style, or the culture at large.

It is tempting to think that external events are themselves direct sources of motivation. For instance, if someone says, "I'll give you $20 if you touch your nose," then it seems obvious that the $20 bill is directly responsible for your sudden urge to touch your nose. But the motivational power of incentives and rewards ($20) is actually traceable to the dopamine discharge that occurs in your subcortical brain when you expect a valued reward (see Chapter 3; Schultz et al., 2000). So, it is actually the (1) dopamine discharge and (2) cognitive expectation of a forthcoming benefit (*internal* processes), not the extrinsic reward itself, that energizes, directs, and sustains behavior (nose touching). If the dopamine discharge or the expectancy of reward did not occur, then the observed motivated behavior would not have occurred. What the $20 does (what an external event does) is rouse an internal motivational state (recall Figure 1.2).

Motivation or Influence?

One reason to read a book on motivation might be to learn the techniques necessary to get other people to do what you want them to do. For instance, parents might want to know how to get children to clean their room, and workplace managers might want tips on how to persuade employees to make more sales. In these examples, what people want is not motivation per se but, rather, influence.

Influence is the social process in which one requests that the other change their way of thinking or behaving (Hogg, 2010). Synonyms include persuasion, compliance, conformity, obedience, and leadership. In contrast, motivation is a private, internal process. What motivated people have are the sources of energy and purpose they need to engage in and to cope with the environment in an open-ended, adaptive, problem-solving sort of way. Therefore, the study of motivation is not about manipulating or controlling people. Rather, it is about understanding and creating the conditions under which people can energize and direct (i.e., motivate) their own behavior (Deci, 1995).

EXPRESSIONS OF MOTIVATION

How do you know motivation when you see it? Watch someone for a few minutes to ask yourself about this person's motivational state. For instance, as you watch two people—say, two teenagers playing a tennis match—how do you know that one person is more motivated than the other? Do the two players have the same type of motivation, or do they have two different types of motivation?

Motivation is a private and unobservable (internal) experience. You cannot see another person's motivation. That is, as you walk down the street, you cannot look at the passer-byer and actually see their thirst, grit, interest in art, or the goals they strive for. Instead, we observe what is public and measurable to infer such motivations. Below are the five tell-tale ways that you can know (or measure) motivation when you see it—behavior, engagement, psychophysiology, brain activations, and self-report.

Behavior

Seven aspects of behavior express the presence, intensity, and quality of a motivational state (Atkinson & Birch, 1970, 1978; Bolles, 1975; Ekman & Friesen, 1975): effort, persistence, latency, choice, probability of response, facial expressions, and bodily gestures (see Table 1.2). When behavior shows intense effort, long persistence, short latency, high probability of occurrence, facial or gestural expressiveness, or when the individual pursues one specific goal-object in lieu of another, such is the evidence to infer the presence of an underlying motive. When behavior shows lackadaisical effort, fragile persistence, long latency, low probability of occurrence, minimal facial and gestural expressiveness, or when the individual pursues an alternative goal-object, such is the evidence to infer an absence of an underlying motive, or at least a relatively weak one.

Engagement

Engagement refers to how actively and productively a person is involved in a task (Reschly & Christenson, 2023). As shown in Figure 1.3, engagement is a multidimensional construct that consists of the three distinct, yet intercorrelated and mutually supportive, aspects of behavior, cognition, and agency. As a whole,

Table 1.2 Seven Behavioral Expressions of Motivation and Emotion

Effort	Exertion put forth during a task. Percentage of total capacity used.
Persistence	Time between when a behavior first starts until it ends.
Latency	Duration of time a person waits to get started on a task upon first being given an opportunity to engage it.
Choice	When presented with two or more courses of action, preferring one course of action over the other.
Probability of response	Number (or percentage) of occasions that the person enacts a particular goal-directed response given the total number of opportunities to do so.
Facial expressions	Facial movements, such as wrinkling the nose, raising the upper lip, and lowering the brow (e.g., a disgusted facial expression).
Bodily gestures	Bodily gestures, such as intentionally moving the legs, arms, and hands (e.g., a clenched fist).

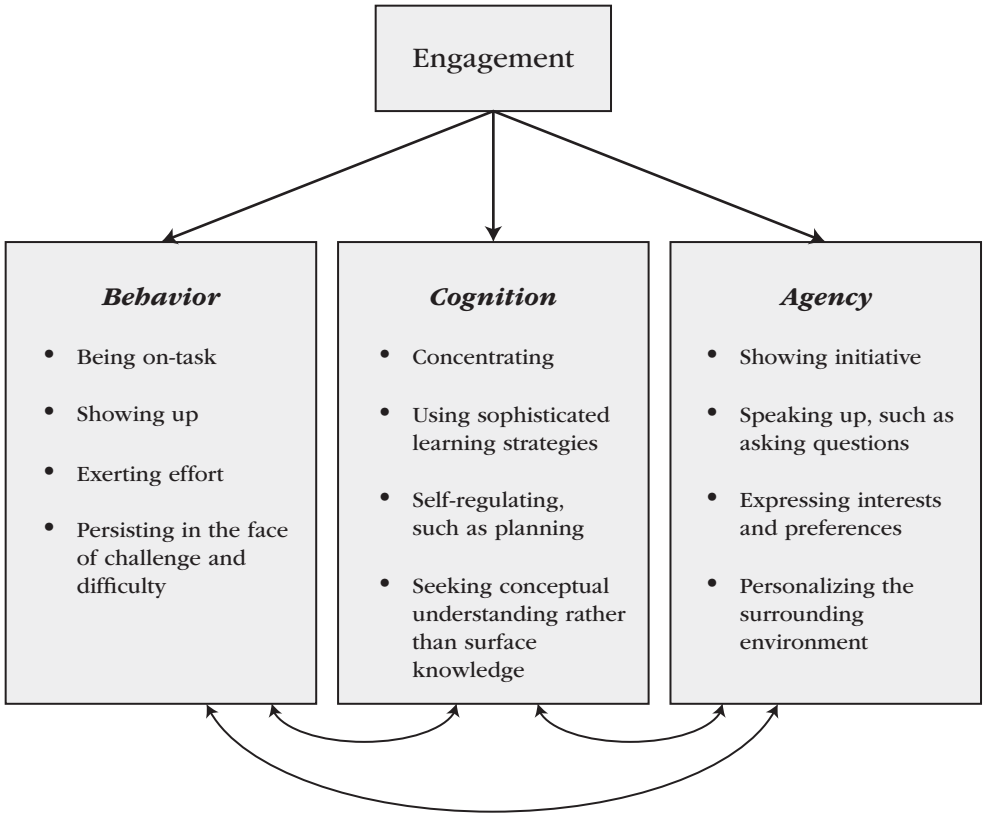

Figure 1.3 Three Interrelated Aspects of Engagement

engagement provides a broad (multidimensional) portrait that expresses or reveals the underlying quality of the person's motivational state. Behavioral engagement refers to being on-task and exerting effort and persistence, especially in the face of challenge and difficulty. Cognitive engagement refers to mental effort in terms of concentration, problem-solving, and using sophisticated learning strategies and critical thinking to meet the demands and challenges of the task. Agentic engagement is the proactive and constructive initiative the person shows to catalyze their own learning and create a more supportive learning environment for themselves, such as by asking questions, offering input and suggestions, expressing their interests and preferences, and letting others know what they want and need. For one example, to infer the underlying motivation of the student who sits next to you during class, observe their on-task attention, effort, and persistence (behavioral engagement), how much they deeply process and mental manipulate the material they are trying to learn (cognitive engagement), and how much input, initiative, and personal voice they contribute into the ongoing flow of the class (agentic engagement). These are the reliable tell-tale signs of the presence, intensity, and quality of that person's underlying class-specific motivation.

Psychophysiology

As people engage in various activities, the nervous and endocrine systems manufacture and release various chemical substances (e.g., neurotransmitters and hormones) to provide the biological underpinnings of motivational and emotional states (Andreassi, 2007). The term *psychophysiology* refers to the process by which psychological states (motivation and emotion) produce downstream physiological and biological changes. For example, during a public speech (or a first date, or athletic performance), the brain and body manufacture and release into the bloodstream various hormones, such as epinephrine (adrenaline and the fight-or-flight hormone) and cortisol (the stress hormone), and these hormonal changes produce changes throughout the body, such as increased heart rate, blood pressure, respiration rate, and sweating, that can be picked up and measured by blood tests, saliva tests, and various types of psychophysiological equipment. Using these measures, motivation researchers monitor a person's hormonal activity, heart rate, blood pressure, respiratory rate,

Table 1.3 Five Psychophysiological Expressions of Motivation and Emotion

Hormonal activity	Chemicals in blood or saliva, such as cortisol (stress) or catecholamines (fight-or-flight reaction).
Cardiovascular activity	Contraction and relaxation of the heart and blood vessels (as in response to an attractive incentive or a difficult/challenging task).
Ocular activity	Eye behavior—pupil size (extent of mental activity), eye blinks (changing cognitive states), and eye movements (reflective thought).
Electrodermal activity	Electrical changes on the surface of the skin (as in response to a significant or threatening event).
Skeletal activity	Activity of the musculature, as with facial expressions, bodily gestures, and behavioral engagement.

pupil diameter, skin conductance, skeletal muscle activity, and other indicators of physiological functioning, as listed in Table 1.3, to infer the presence, intensity, and quality of underlying motivational and emotional states. It is through all these psychophysiological changes that the brain and body translate motivation and emotion into acting, coping, and performing.

Brain Activations

Brain activations underlie every motivational and emotional state, as will be discussed in Chapter 3. When thirsty, the hypothalamus activates. During disgust, the insular cortex activates. When angry, the amygdala activates. Because motivational and emotional states all arise out of a pattern of neural activity, researchers use very sophisticated equipment (e.g., EEG, or electroencephalograph) and machinery (e.g., fMRI, or functional magnetic resonance imaging) to detect, monitor, and measure these brain activations. Thus, by observing a rise in hypothalamic, insular, and amygdala activity, researchers can see the brain in the process of generating thirst, disgust, and anger, respectively.

Self-Report

A fifth and final way to collect the data needed to infer the presence, intensity, and quality of a motivational or emotional state is simply to ask the person. People can typically self-report their motivation, as in an interview or on a questionnaire. An interviewer might assess anxiety, for instance, by asking how anxious the interviewee feels in particular settings or by asking the interviewee to report anxiety-related symptoms, such as an upset stomach or thoughts of failure. Questionnaires (paper-and-pencil, and online) have several advantages. They are easy to administer, can be given to many people simultaneously, and can target very specific information (Carlsmith et al., 1976). But questionnaires also have pitfalls that raise a red flag of caution as to their usefulness. Many researchers lament the lack of correspondence between what people say they do and what they actually do (Quattrone, 1985). Furthermore, there is also a lack of correspondence between how people say they feel and what their psychophysiology indicates that they probably feel (e.g., "Oh, I'm not tired, I'm not hungry, I'm not afraid."). Hence, what people say their motives are sometimes only loosely align with what people's behavior, engagement, psychophysiology, and brain activations suggest their motives are. What conclusion, for instance, can one draw when a person verbally reports low anger but shows a rapid acceleration in heart rate and a facial expression in which their eyebrows clinch together downwardly? Because of such discrepancies, motivation and emotion researchers typically trust and rely on behavioral, engagement, psychophysiological, and brain-based measures more than they trust and rely on self-report measures. Self-reports can be useful and informative, but they always need to be backed up and verified by the person's behavior, engagement, psychophysiology, and brain activity.

FRAMEWORK TO UNDERSTAND MOTIVATION AND EMOTION

Figure 1.4 integrates motivation study's perennial question, subject matter, and public expressions into a framework to understand motivation and emotion. Antecedent conditions affect (cause, facilitate, and diminish) the person's underlying motive status. The rise and fall of these motives (needs, cognitions, and emotions) is expressed through a display of behavior, engagement, psychophysiology, brain activation, and subjective self-report that then contributes constructively to producing important life outcomes.

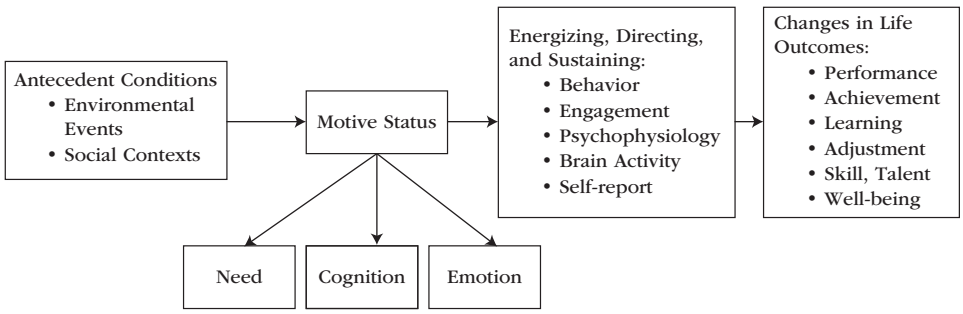

Figure 1.4 Framework to Understand Motivation and Emotion

This summary framework (Figure 1.4) illustrates how motivational psychologists understand how motivational and emotional states work. The framework explains what causes motivation and emotion (antecedent conditions), illustrates the subject matter of motivation study (needs, cognitions, and emotions), articulates how motives publicly express themselves and can be measured (behavior, engagement, psychophysiology, brain activations, and self-report), and explains why the study of motivation and emotion is so important to people's lives (important life outcomes).

TEN UNIFYING THEMES

The scientific study of motivation and emotion includes a wide range of assumptions, hypotheses, theories, findings, and domains of application. All of this information can be a bit overwhelming at first. Fortunately, 10 unifying themes help to bring all this information together in a sensible and cohesive way, including:

- Motivation and emotion enable effective functioning.
- Motivation and emotion are "intervening variables."
- Types of motivations exist.
- Motivation study reveals human nature (what people want).
- We are not always consciously aware of the motivational basis of our behavior.
- Motivational and emotional states are dynamic and often reciprocally related to the events and outcomes that cause them.
- To flourish, motivation needs supportive conditions.
- Some motivational strategies work better than others.
- Needs, emotions, cognitions, and well-being interrelate.
- There is nothing so practical as a good theory.

Motivation and Emotion Enable Effective Functioning

Circumstances, relationships, activities, and feedback constantly change, as do the environments we live in (at home, school, and work). Demands on our time rise and fall, opportunities come and go, threats emerge, and previously supportive relationships turn sour. When faced with a constantly changing stream of opportunities and threats, people need the means to take corrective action. Motivations and emotions enable such corrective action.

The rise and fall of motivational and emotional states allow people to function as *complex adaptive systems*. For instance, when others treat us unfairly, we often get angry and that anger motivates corrective action to do what it takes to counter the exploitation. Or when a stranger goes out of her way to help us when we really need it, we feel gratitude and that warm glow motivates corrective action to develop a new friendship or to "pay forward" that kindness. Take away the corrective motivational and emotional states, and people would lose a vital resource to adapt effectively, function productively, and maintain well-being.

When motivation depletes, personal adaptation, functioning, and well-being all suffer. People who feel helpless in exerting control over their fates tend to give up when challenged (Peterson et al., 1993). People

who are bossed around and excessively managed or controlled by others turn passive and unable to motivate themselves (Deci, 1995). People who expend much energy coping with one problem (resist temptation—don't eat those chocolate chip cookies) have a difficult time generating new motivation to cope with the next problem (now, try to solve this math problem; Baumeister et al., 1998, 2007).

In contrast, when students are excited about school, when workers are confident in their skills, and when athletes set high goals, then their teachers, supervisors, and coaches can rest assured that these individuals are on course to adapt successfully, function optimally, and basically be well. Interest and passion, confidence and self-efficacy, and self-endorsed personal goals fuel effective functioning. The conclusion is that people with high-quality motivation and emotion tend to adapt and thrive, while people with motivational and emotional deficits and depletions tend to flounder and suffer.

Motivation and Emotion Are "Intervening Variables"

Motivational and emotional processes arise in response to environmental events and, once aroused, cause behavior and outcomes (as illustrated in Figure 1.4). Motivation and emotion are therefore variables that intervene (or "mediate") between these causes (antecedents) and effects (outcomes) to explain the *why* that underlies these cause–effect relations.

Figure 1.5 graphically illustrates what is meant by a variable that intervenes between cause and effect. The left-hand side of Figure 1.5 shows the direct antecedent-to-outcome relation between what happens in the environment (X) and how well we adapt and function (Z). For instance, you might travel to a new place and then respond with exploration and sightseeing. In the language of Figure 1.5, the new place causes your exploration ($X \rightarrow Z$). However, what motivation and emotion researchers and practitioners do is to ask why you behaved the way you did (i.e., why did you explore the new surroundings?). The right-hand side of Figure 1.5 presents a different way of thinking about cause–effect relations. Rather than directly effecting outcomes, antecedents cause changes in motivation and emotion (line "a"). Then changes in motivation and emotion produce changes in life outcomes (line "b"). For instance, if the new environment led you to experience interest, then that interest (not the new environment itself) is what led to the exploration. Had the new environment led you to experience a different motivation or emotion—say, anxiety, stress, or boredom—then you would not have explored. Instead, you would have acted differently, such as by doing something safe. When the explanatory function of motivational and emotional states are considered, the causal $X \rightarrow Z$ direct effect disappears (hence, the line "c" changes from a solid and significant line on the left-hand side of the figure to a dashed and non-significant line "c′" on the right-hand side). In the end, the environmental X effect is said to be a distal or indirect cause, while the motivational or emotional state is said to be the proximal or direct cause of Z (line b).

Because motivational and emotional states "intervene" to explain why environmental events cause behavior, it is typically more profitable to offer a motivational and emotional explanation for behavior and life outcomes than it is to offer an environmental explanation. For instance, "Joe did well in the course because he had such high interest and confidence," rather than "Joe did well in the course because he had a supportive teacher." This is not to say that the environmental antecedent is not important, because something needs to get the motivational and emotional state going in the first place. In fact, environmental antecedents (X) are so important to motivation study that this book devotes a full chapter to "Interventions" (Chapter 15).

Types of Motivations Exist

In many people's minds, motivation is a unitary concept. Its key feature is its amount, and what matters about motivation is "How much?" The thinking is that more motivation is better than less motivation. Practitioners (teachers, parents, managers, and coaches) ask, "How can I increase motivation in my students, children, workers, or athletes?"

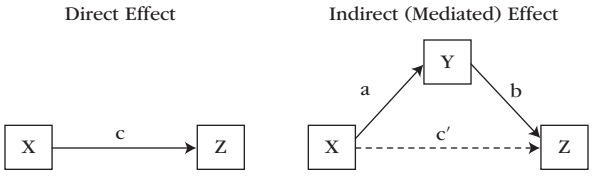

Figure 1.5 Motivation and Emotion as "Intervening Variables"
Note: X represents the antecedent cause, Z represents the life outcome, and Y represents the intervening motivational or emotional state.

In contrast, motivation theorists emphasize that *types* of motivations exist (Elliot & Murayama, 2008; Ryan & Deci, 2017) and that human beings are motivationally complex (Vallerand, 1997). For instance, intrinsic motivation is different from extrinsic motivation (Ryan & Deci, 2017), and the motivation to approach is different from the motivation to avoid (Elliot, 1997). Similarly, emotion is not a unitary concept, because many types of emotions exist (Izard, 1991). For instance, a person who is intensely angry behaves quite differently from a person who is intensely afraid or grateful. All three are highly emotional and "how much?" matters, but "which type?" (of emotion) is an equally (or even more) important question to consider, because people who are angry behave very differently than do people who are afraid who, in turn, behave very differently from people who are grateful. So a complete motivational and emotional analysis answers both questions—How much? and What type?

Watch as an athlete practices, an employee works, and a doctor cares for a patient, and you will see variations in the intensity of their motivation and emotion. This is a fairly easy observation to make. But it is equally important to ask why the athlete practices, why the employee works, and why the doctor cares. Some types of motivation and some emotions yield a higher quality of experience, more favorable performances, and psychologically healthier outcomes than do other types. For instance, students who learn out of an intrinsic motivation (via interest and curiosity) show more creativity and conceptual learning than do students who learn out of an extrinsic motivation (via stickers and deadlines; Ryan & Deci, 2017). In achievement situations, students whose goal is to approach success ("My goal is to pass.") outperform equally able students whose goal is to avoid failure ("My goal is to not fail.") (Elliot, 1999).

Instead of thinking of motivation as a single unitary phenomenon (e.g., "My motivation is high or low."), it is more scientifically profitable to recognize that human beings have a complex and rather extended motivational repertoire of many different types. Often, it is better to ask why a person is doing something (e.g., "What type of motivation do you have?") than it is to ask how much motivation the person has. A full understanding of the rich fabric of human motivation includes an appreciation for both growth-oriented, approach-based, and flourishing-related motivations and emotions (e.g., interest, curiosity, intrinsic motivation, hope, joy, gratitude, goals, growth mindsets, achievement motivation, sensation-seeking, and self-actualization) as well as defense-oriented, avoidance-based, and suffering-related tendencies (e.g., pain, distress, fear, dissonance, anxiety, tension, pressure, frustration, perfectionism, depression, helplessness, stress, and insecurity) (Bartholomew et al., 2011; Carver, 2006; Elliot, 2006; Vansteenkiste & Ryan, 2013).

Motivation Study Reveals Human Nature (What People Want)

The study of motivation and emotion reveals what people want and why they want it. It reveals what people need, and it reveals what makes people be happy. It literally reveals the contents of human nature.

The subject matter of motivation and emotion concerns what we all hope for, desire, want, need, and fear. It examines questions such as whether people are essentially good or evil, active or passive, prosocial or antisocial, and free to choose or determined by biological and societal demands.

Theories of motivation reveal what is common within the strivings of all human beings by identifying the commonalities among people from different cultures, different life experiences, different ages, different historical periods, and different genetic endowments. All of us harbor biological needs such as hunger, thirst, sex, and pain. All of us inherit reward and fear neural circuits in the brain. We all share a number of basic emotions, and we all feel these emotions under the same conditions. We are all hedonists (approach pleasure, avoid pain), but we want personal growth and optimal experience even more (Seligman & Csikszentmihalyi, 2000).

Theories of motivation also reveal those motivations and emotions that are learned through experience and are socially engineered through cultural forces (and hence outside human nature). For example, through our unique experiences, exposures to particular role models, and awareness of cultural expectations, we acquire different goals, values, expectations, aspirations, and views of self. These ways of behaving originate not from inherited human nature but, rather, from internalized environmental, social, and cultural forces. The study of motivation therefore informs us what part of want and desire stem from human nature but also what part of want and desire stem from personal, social, and cultural learning. It reveals what part of motivation and emotion is universal and inherent versus what part is enculturated and acquired.

We do not so much have a single human nature as we have multiple natures (Ryan, 2013). Part of our nature is to be inherently malevolent, selfish, lazy, and antisocial, while another part of our nature is to be benevolent, cooperative, active, and prosocial. We all have both natures. Whether we tend toward malevolence or benevolence depends on the social contexts and interpersonal relationships that surround us (Donald

et al., 2022). When the social environment and relationships are supportive, our benevolent nature arises and regulates our ongoing stream of behavior, but when the social environment is thwarting and when our interpersonal relationships neglect and frustrate us, our malevolent nature arises and regulates our ongoing stream of behavior. Because environments can be both benevolent and hostile, it helps to have a complex human nature that prepares us well for whatever comes our way.

We Are Not Always Consciously Aware of the Motivational Basis of Our Behavior

Motives vary in how accessible they are to consciousness and to verbal report. Some motives originate in language structures and the cortical brain (e.g., goals) and are thus readily available to our conscious awareness (e.g., "I have a goal to sell three insurance policies today."). For these motives, if you ask a person why he or she selected that particular goal, the person can confidently list the rational and logical reasons for doing so. Other motives, however, have their origins in nonlanguage structures and the subcortical brain and are therefore much less available to conscious awareness. Not many people, for instance, say they feel hungry because of low leptin in the bloodstream, and not many people say they acted violently because it was so hot. These are the motives that originate in the unconscious subcortical brain rather than in the language-based cortical brain.

Many experimental findings can be offered to make the point that motives can and do originate in the unconscious. Consider that people who feel good after receiving an unexpected gift are more likely to help a stranger in need than are people in neutral moods (Isen, 1987). People are more sociable on a sunny day than on a cloudy day (Kraut & Johnston, 1979). People are more violent in the summer months than at other times of the year (Anderson, 1989). Major league baseball pitchers, for instance, are more likely to intentionally hit batters on the opposing team when the temperature is hot rather than when the temperature is cold or moderate (Reifman et al., 1991). In each of these examples, the person is not consciously aware of why he or she committed the prosocial or antisocial act. Few people would say they committed murder or hurled baseballs at the heads of opponents because of the hot temperature. Still, these are conditions that cause motivations. The brief lesson is that the motives, cravings, appetites, desires, moods, needs, and emotions that regulate human behavior are not always immediately obvious or consciously accessible. That is, we are not always consciously aware of the motivational basis of our behavior.

Motivational and Emotional States Are Dynamic and Often Reciprocally Related to the Events and Outcomes That Cause Them

Motivational and emotional states are dynamic. They change constantly—from one moment to the next and from one day to the next. One reason they change is because of the environmental circumstances that caused them change. If the situation were different (interacting with a friend or an enemy), then the motivation or emotion would be different. Similarly, if the motivation or emotion were different (interest vs. boredom), then the situation you put yourself in would be different. In other words, motivational and emotional states are dynamic and often reciprocal with the events that cause them.

Consider the reciprocal relation between teacher support and student motivation (based on Jang et al., 2023). The more supportive teachers are, the more motivated students become (lines "a" in Fig. 1.6). Similarly, the more motivated students are, the more supportive teachers become (lines "b" in Fig. 1.6). Of course, the opposite is equally likely. The less supportive teachers are, the less motivated students become; and the less motivated students are, the less supportive teachers become. It is a chicken-and-egg thing. It is hard to say if teacher support causes student motivation or if student motivation causes teacher support. It is hard to say because both effects are true (i.e., teacher support and student motivation are reciprocally related: a causes b, and b causes a).

Actually, many motivational and emotional states are like this. Consider self-concept and achievement. If self-concept improves, then achievement rises. If achievement rises, then self-concept improves (Marsh & Martin, 2011). The same for self-efficacy and anxiety: As people increase their self-efficacy (or confidence), anxiety goes down; and as anxiety goes down, people gain self-efficacy (Bandura, 1986). The same relation exists for achievement and the emotions of enjoyment, boredom, and anxiety—namely, greater enjoyment and lesser boredom and anxiety all increase future performance, just as greater performance increases future enjoyment and decreases future boredom and anxiety (Lichtenfeld et al., 2023).

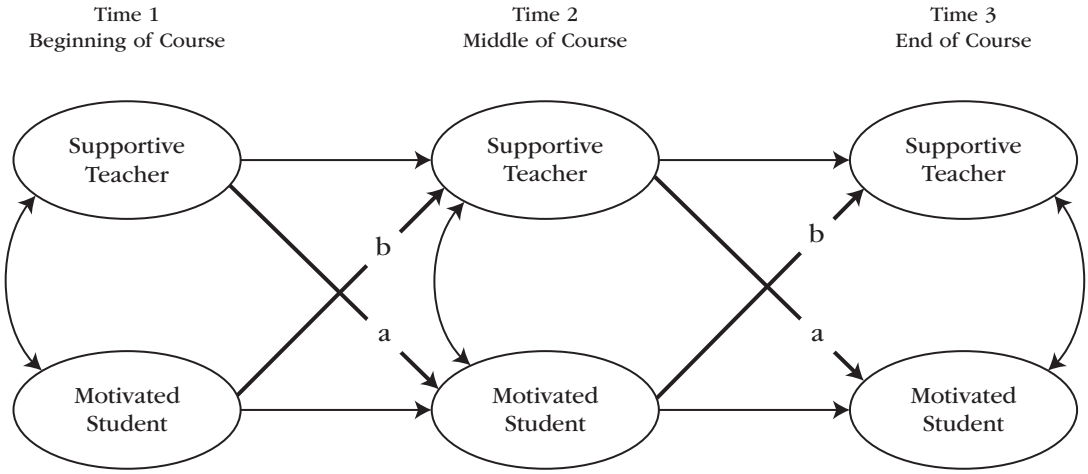

Figure 1.6 Reciprocal Relations between Motivation and Its Supportive Conditions

Reciprocal causation is important because many people think of motivation as a singular personal event that exists wholly inside the individual (e.g., "I am motivated, I am interested, I am confident, I am angry, I am anxious"). But our motivations and emotions are so intertwined with our environmental surroundings that it is difficult to disentangle one from the other. Environments and motivations move together like a flock of birds—when one moves the other follows right behind. If you are lonely, your social interaction partners become more distant, which increases your loneliness, and so forth. Thus, to understand motivation and emotion, you also need to understand how environments affect and are affected by those motivations and emotions.

To Flourish, Motivation Needs Supportive Conditions

A person's motivation cannot be separated from the social context in which it is embedded. This means that motivational and emotional states are often "situated," which means that the motivation or emotion the person is experiencing at that moment depends on the situation they are in. For instance, a child's motivation is affected by and somewhat dependent on the social context provided by his or her parents. Environments can be nurturing and supportive or they can be neglectful, frustrating, and undermining. People in supportive environments tend to thrive motivationally and emotionally, while people who are abused and neglected tend to suffer motivationally and emotionally (Keyes, 2007; Ryan & Deci, 2000). Recognizing that motivation needs supportive conditions to flourish, four environmental domains of application are particularly important:

- Education
- Work
- Sports and exercise
- Therapy

In education, the situated nature of motivation, emotion, and engagement puts a spotlight on how supportive teachers, classroom climates, and school cultures are. At work, when organizations would like to promote employees' efficacy, goal striving, productivity, and job satisfaction, they need to make a special effort to provide optimal challenges, variety, opportunities to exercise personal control, and cooperative interpersonal relationships. In sports, athletes flourish (develop interest, skills, talent, and a sense of belongingness) when environments provide challenges, feedback, and supportive interpersonal relationships. In therapy, people gain greater mental and emotional well-being when the therapist listens, understands, and provides unconditional positive regard. If these same settings were to provide frustrations and toxic interpersonal relationships, motivation and emotion would sour and suffer in kind.

Some Motivational Strategies Work Better Than Others

All motivational strategies are designed to energize and engage people and to give behavior purpose. However, some motivational strategies do this better than others. For example, the "Tiger Mom" approach (Chua, 2011) appears to be very motivating at first, as the Tiger Mom pushes and pressures their child to succeed, win, and be the best. Such a laser-focus on achievement and results (e.g., high grades, get into a prestigious school) paired with admonishments to "toughen up" and "be a winner" can be motivating (energizing). So, it is understandable to ask, "What is so wrong with pushing students hard to make good grades, get into Harvard, be the valedictorian, become an M.D., and make the family proud?" The problems start when one person begins to force another to sacrifice their personal interests, intrinsic motivation, self-set goals, and even their well-being in order to achieve these desired outcomes (e.g., "I don't care whether you like it or not. Just do what I told you to do!"). Sacrificing one's interests, goals, and well-being are serious side-effects.

Motivational psychologists take these side effects very seriously because (1) the sacrificed interests, personal goals, and well-being are the very sources of motivation the person needs most (e.g., killing the goose that lays the golden eggs) and (2) these sacrifices are totally unnecessary. A parent (or teacher, coach, and therapist) does not have to pressure, threaten, coerce, or yell to motivate the child. There are other motivational strategies that empower both (1) productivity and achievement and (2) interest and well-being. A good analogy occurs in the development of new pharmaceutical drugs. New drugs are developed to produce a particular benefit, but they often produce other unintended (side) effects. For instance, Benadryl eases allergies, but it also creates drowsiness. Opioids alleviate pain, but they also cause nausea, vomiting, constipation, and dizziness and can be addictive. Given these side effects, a fair question is whether the benefits of the drug are worth it. When translated into motivation research, what practitioners (parents, teachers, coaches, managers, doctors, and therapists) want are motivational strategies that enhance both achievement and well-being. A motivational strategy that facilitates "productive and happy" is the equivalent of "effective and safe" in pharmaceutical research.

A motivational strategy that yields "productive" but sacrifices "happy" is problematic. Yelling, threatening, bribing, or shaming may grab the other person's attention and energize them into immediate action, but they also produce side effects that can be so detrimental that they overwhelm any potential benefit from the motivational strategy—side effects such as crushing the person's interest and poisoning the interpersonal relationship. Similarly, a motivational strategy that yields "happy" but sacrifices "productive" is also problematic, but in a different way. Here the issue is not one of side effects, but effectiveness. A motivational strategy that does not spark interest and engagement is about as effective as an aspirin that does not alleviate a headache.

Needs, Emotions, Cognitions, and Well-Being Interrelate

When you flip through the contents of this book, you might have a reaction such as, "Oh my, there are many different motivations and emotions." The sheer number of motivations to learn about might seem a little overwhelming. But there is actually an organized structure that binds all these pieces of the puzzle together into a comprehensible whole. If you look at the Table of Contents, you will see sections presented in this order: Needs, Cognitions, Emotions, and Well-Being. This order is not accidental. The organized flow that integrates needs, emotions, cognitions, and well-being is as follows (based on Dweck, 2017):

- Motivation begins with basic human needs, including both biological and psychological needs.
- These needs are present at birth. They are often rooted in brain structures and biological systems (e.g., neuroscience).
- The desire for need satisfaction gives rise to goals.
- During goal pursuits, people develop expectancies and beliefs.
- These cognitions—expectations, values, beliefs, strategies, attributions, schemas, mindsets, self-concept, identity, meaning, and mental models of the world—guide and inform future goals.
- As they pursue goals, people differentiate supportive from non-supportive environments and relationships.
- Need satisfaction, goal attainment, and cognitive consistency generate well-being and adaptive functioning.
- Need frustration, goal failure, and cognitive dissonance generate ill-being and maladaptive functioning.
- These motivational and emotional dynamics contribute to development, personality, and lifestyle.

Each time you open this book and each motivation class you attend can feel like opening one of those boxes with 1000 different jigsaw puzzle pieces. It may take a while and it is not obvious which puzzle pieces go together. But you start with the border pieces (needs, emotions, cognitions, and well-being) and gradually figure out where all those individual pieces go. In the end and over time, a grand picture reveals itself. When things go well, needs birth goals, which generate constructive cognitions, which open the door to well-being and flourishing.

There Is Nothing So Practical as a Good Theory

Consider how you might answer a motivational question, such as "What causes Joe to study so hard and for so long?" To generate an answer, you might begin with a common-sense analysis (e.g., "Joe studies so hard because he has high self-esteem."). Additionally, you might recall a similar instance from your personal experience when you studied very hard and then generalize that experience to this particular situation (e.g., "The last time I studied that hard, it was because I had a big test the next day."). A third strategy might be to find an expert on the topic and ask her (e.g., " My neighbour is a veteran teacher; I'll ask her why she thinks Joe might be studying so hard."). These are all fine and informative resources to answer motivational questions, but a truly golden resource is a good theory.

As introduced earlier in Figure 1.1, a theory is a set of variables (e.g., self-efficacy, goals, and effort) and the relationships that are assumed to exist among those variables (e.g., strong self-efficacy beliefs encourage people to set goals, and once set, goals encourage high effort). Theories provide a conceptual framework for interpreting behavioral observations, and they function as intellectual bridges to link motivational questions and problems to satisfying answers, solutions, and applications. With a motivation theory in mind, the researcher approaches a question or problem along the lines of, "Well, *according to goal-setting theory*, the reason Joe studies so hard is because . . ."

Table 1.4 introduces 37 motivation and emotion theories that appear in the chapters to come. The theories are listed here for two reasons. First, the list introduces the idea that the heart and soul of a motivational analysis of behavior is its theories. Instead of existing as dry and abstract playthings of scientists, a good theory is a practical, usable tool for solving the problems faced by students, teachers, workers, employers, managers, athletes, coaches, parents, therapists, and clients. A famous quote from Kurt Lewin is this: "There is nothing so practical as a good theory" (Lewin, 1951, p. 169). Theories are useful because they provide evidence-based guidance for how to understand and solve a motivational problem. Second, you can use the list of theories to monitor your growing familiarity with contemporary motivation and emotion study. At the present time, you probably recognize few of these theories, but your familiarity will grow week by week. Months from now, you will feel more comfortable with these 37 different theories. If so, then you can be confident that you are developing a sophisticated and complete understanding of motivation and emotion. When you know motivation theories, you know motivation.

SUMMARY

Basically, motivation is wanting. People who are motivated want change—in themselves or in the environment. The term "motivational science" means that answers to motivational questions require objective, data-based, empirical evidence gained from well-conducted and peer-reviewed research findings—findings that are used to develop, evaluate, refine, and apply theories of motivation and emotion.

The perennial question in the study of motivation and emotion is this: What causes behavior? This general question invites more specific questions: What starts behavior? How is behavior sustained over time? Why is behavior directed toward some ends but away from others? Why does behavior change its direction? Why does behavior vary in its intensity? Why does behavior stop? Motivation and emotion exist as scientific disciplines to answer these questions.

Motivation's subject matter concerns those internal processes that give behavior its energy, direction, and persistence. Energy implies that behavior has strength—that it is relatively strong, intense, and hardy or resilient. Direction implies that behavior has a purpose—that it is aimed toward achieving some particular goal or outcome. Persistence implies that behavior has endurance—that it continues and sustains over time. The three internal motivational processes are needs, cognitions, and emotions. Needs are conditions within the individual that are essential and necessary for the maintenance of life and for growth and well-being. Cognitions are mental events, such as beliefs, expectations, and the self-concept, that represent ways of thinking.

Table 1.4 Thirty-Seven Theories in the Study of Motivation and Emotion (with Supportive Reference)

Motivation Theory	Supportive Reference Citation for Further Information
Achievement goals	Elliot (1997)
Achievement motivation	Atkinson (1957)
Arousal	Berlyne (1967)
Attribution	Weiner (1986)
Big fish, little pond	Marsh and Seaton (2015)
Broaden-and-build	Fredrickson (2009)
Cognitive dissonance	Harmon-Jones and Mills (1999)
Cognitive evaluation	Deci and Ryan (1985a)
Differential emotions	Izard (1991)
Drive	Bolles (1975)
Dynamics of action	Atkinson and Birch (1978)
Effectance motivation	Harter (1981)
Ego depletion	Baumeister, Vohs, and Tice (2007)
Ego development	Loevinger (1976)
Emotion regulation	Gross (2002)
Expectancy × Value	Eccles and Wigfield (2002)
Facial feedback hypothesis	Laird (1974)
Flow	Csikszentmihalyi (1990)
Goal setting	Locke and Latham (2002)
Implicit motives	Schultheiss and Brunstein (2010)
Interest development	Hidi and Renninger (2006)
Learned helplessness	Peterson, Maier, and Seligman (1993)
Mindsets	Dweck (2006)
Motivation intensity	Brehm and Self (1989)
Opponent process	Solomon (1980)
Positive affect	Isen (1987)
Psychodynamics	Westen (1998)
Reactance	Wortman and Brehm (1975)
Regulatory focus	Higgins (1997)
Self-actualization	Rogers (1959)
Self-concordance	Sheldon and Elliot (1999)
Self-determination	Ryan and Deci (2017)
Self-efficacy	Bandura (1997)
Self-schemas	Markus (1977)
Sensation seeking	Zuckerman (1994)
Stress and coping	Lazarus (1991a)
Terror management	Greenberg, Solomon, and Pyszczynski (1997)

Emotions are complex but coordinated feeling-arousal–purposive–expressive reactions to significant life events, such as threats and challenges to our goals or well-being.

Motivational and emotional states express themselves in five ways: behavior (i.e., effort, persistence, latency, choice, probability of response, facial expressions, and bodily gestures); engagement (i.e., behavior, cognition, and agency); psychophysiology (i.e., changes in heart rate, blood pressure, respiratory rate, and the discharge of hormones such as epinephrine and cortisol); brain activations (i.e., increased activity in particular regions of the cortical and subcortical brain); and self-report (i.e., questionnaire or interview). These self-reports can be useful and informative, but they also need to be backed up and verified by the person's behavior, engagement, psychophysiology, and brain activity.

Ten unifying themes help introduce motivation and emotion study:

1. Motivation and emotion benefit adaptation and effective functioning.
2. Motivation and emotion are "intervening variables."
3. Types of motivations exist.

4. Motivation study reveals human nature (what people want).
5. We are not always consciously aware of the motivational basis of our behavior.
6. Motivational and emotional states are dynamic and often reciprocally related to the events and outcomes that cause them.
7. To flourish, motivation needs supportive conditions.
8. Some motivational strategies work better than others.
9. Needs, emotions, cognitions, and well-being interrelate.
10. There is nothing so practical as a good theory.

These 10 themes help organize and unify the otherwise diverse assumptions, hypotheses, theories, findings, and applications within contemporary motivation and emotion study. Figure 1.4 provides one overall framework to highlight the big picture in motivation and emotion.