

Chapter 1

An Unavoidable (but reasonable) Assumption

Zoey is a Board Certified Behavior Analyst (BCBA) who has a consulting contract with a provider agency that serves individuals with various developmental disabilities. Her activities usually revolve around developing, implementing, and monitoring programmatic interventions for individuals served at different sites, although she is also involved with staff training and management, not to mention troubleshooting systemic problems within the agency's service components.

Today she is attending a meeting with agency staff concerning an individual named Robert. He attends a day program and gets back to his group home around 3:00 p.m. Although the afternoon schedule includes various activities, he typically refuses to participate. Instead, he pesters other residents, and staff have to spend a disproportionate amount of their time dealing the disruptions he instigates. In addition to Zoey, the meeting includes the usual cast of characters. Liz, the psychologist based in the agency's central office, is there, along with Sharon, a social worker. Of course, the group home manager is present, as is the behavior specialist whose assignment includes this group home, among others. The purpose of the meeting is to consider what to do about Robert's uncooperative and disruptive behavior in the afternoons.

In discussing Robert's refusal to participate in scheduled activities, it doesn't take too long before Liz observes that Robert is free to choose not to participate in activities in which he's not interested, and Sharon agrees. Zoey acknowledges that he shouldn't be forced to participate but tactfully wonders about the reasons for his lack of interest. However, Liz takes the position that he doesn't have to have a reason; he can choose to ignore staff prompts to participate for no reason at all. Zoey

counters with the idea that there must be something that makes him prefer bothering his peers rather than participating in planned activities. She even throws out a couple of possibilities based on what might be reinforcing his behavior.

Liz, perhaps feeling that her status as the agency's psychologist is being threatened, doesn't warm to the implication that reinforcement, or the lack thereof, might be at the root of Robert's behavior. She doesn't want to let go of the idea that there doesn't always have to be a reason for his actions. He may simply not want to participate, just as he may simply want to hassle other individuals. Sharon is no more interested than Liz in the notion that reinforcement might be at work. She argues that although Robert is intellectually disabled, he is no less free than she is to choose one course of action over another. She insists that she can choose to have a salad or a baked potato for lunch today and that the choice is solely hers.

At this point, the group home manager and behavior specialist are more than happy to sit back and stay out of the way. Zoey can now see that this isn't the time to debate philosophical issues and that the discussion certainly isn't helping the group figure out what to do about Robert's problems. She backs off any consideration of whether his behavior represents choices that are free of outside influences and instead tactfully shifts to the particular consequences for his behavior that the home manager and behavior specialist have observed, thereby bringing them into the now more practical discussion.

FREE OR DETERMINED?

Inside versus Outside

The convictions of Liz and Sharon about the causes of Robert's behavior raise an issue that has been around for a very long time. Their view is that he is free to choose one course of action over another, regardless of the different consequences associated with these choices. Another way of describing their position is that his uncooperative and disruptive behavior is not the result of outside influences but of the choices he makes.

This view implies an "inside" versus "outside" distinction about the causes of behavior. The implication is that the causes for behavior originate from inside the person in some way or are at least internally modulated. Even though there might be obvious external influences, such as environmental consequences that would seem to make one course of action more or less likely than another, this view holds that what goes on inside the person ultimately controls the behavior others see. We often implicitly assume that any outside considerations are secondary to the individual's deliberations or choices, which are what lead to action. When someone has behaved in a way that to others seems obviously unwise, for instance, we might incredulously ask, "What were you thinking?"

In other words, from this perspective some sort of mental activity precedes public behavior and may override the influence of environmental consequences. If true, this would mean that behavior can at least sometimes be free of outside influences. Of course, we have no way of directly accessing the mental activity of others, so we can only turn to our own experiences to evaluate the credibility of this argument. Taking Sharon's example, if you are trying to decide whether to have a salad or a baked potato for lunch, it certainly seems that the choice is yours. You might consider reasons for one alternative over the other, but the way you have learned to observe and describe what you are doing might lead you to insist that the outcome is yours alone to determine. In fact, you might decide on the salad but, just as the waiter is about to walk away, switch your order to the potato (loaded, of course). You have learned to see yourself as making a seemingly free choice.

This apparent ability to change our minds, or to come up with more causal options than our history gives us, makes it seem that we are truly free to choose what we want to do. If someone dares to confront us with an explanation of our choice based on outside factors, we can simply change our minds again, thereby emphasizing the point that we control our own behavior. Under these conditions, denying the role of mental deliberation as the final arbiter of public action is just not credible. After all, we can plainly see that this is what we do much of the time. Right?

Talking about Freedom

Our everyday language includes many ways of talking about being free. Perhaps the most obvious sense of freedom has to do with the absence of physical constraints on our behavior. We say we are free if we are able to do what we want. If we are prevented from doing something because our actions are not physically possible, we say that we are not free to act in that situation. Someone who is in jail is unlikely to say he or she is free. Other physical limitations may lack bars and locks, but the effect is the same. We are not free to get a dish from the top shelf of the kitchen cabinet if we do not have something to stand on. We cannot drive to the store if we cannot find the car keys.

This way of talking about freedom may be extended to situations in which we are not free to act because of less obvious limitations that are beyond our immediate control. For example, we may lack a required skill, thereby preventing us from acting in some way. Without training, we are not free to walk a tightrope, fly a plane, or solve a quadratic equation. These ways of talking about freedom do not conflict with the idea that behavior is instead determined because they only refer to situations in which some action is not possible.

Another way we talk about freedom has to do with how we feel about constraints on our behavior. If we are threatened into behaving a certain way, we are unlikely to say that we feel free. If someone holds a gun on us and asks for our money, we will certainly not feel free to refuse or walk away. We may feel no less free when the threat is less direct, immediate, and personal. If we are driving to the beach and notice police using radar guns and stopping speeders, we are not likely to feel free to drive above the speed limit.

Sometimes the threat is not about encountering unpleasant consequences but about losing something we enjoy. Social relationships often embody this kind of contingency. A husband may supply social reinforcers for his wife behaving in a certain way with the hope that she will feel compelled to comply with his wishes. Even if his enthusiasm does not carry any suggestion that she might lose these reinforcers were she to act differently, our experience in social relationships helps us understand this risk. In other words, the “soft” coercion of positive reinforcement may feel no less constraining than a more obvious risk of punishment. As a more obvious example, just because we might earn a high salary in a job may not prevent us from feeling trapped doing work we do not enjoy.

Our vocabulary of freedom is often based on having choices. If we can identify alternatives when facing decisions, we are more likely to talk in terms of our freedom to choose a course of action. Conversely, if we see only one course of action available, we would probably not say we are free to act as we wish. The more choices we have, the more we might describe the freedom of our situation.

Problem solving is often seen in this light. As Chapter 5 will explain, problem solving involves situations in which someone is not able to act in a way that resolves a condition of deprivation or aversive stimulation (Skinner, 1953). Put another way, we have a problem when we cannot choose a course of action that will solve the problem. Even one choice may do the trick, but more than one option may provide what we describe as even greater freedom. So, if you misplace your apartment key and cannot open the door, you would not say you are free to get into your apartment. If you do not have a spare key available, live on the second floor, and the apartment complex office is closed, you may have no reasonable way to get in. If you left a key with a neighbor, or live on the first floor and can (worse case) break a window, or the office is open, you have choices that might encourage you to say you are still free to get in your apartment.

We may sometimes talk about a kind of spiritual freedom. This sense of freedom is not about having religious choices but about freedom from material or worldly attachments or from social pressures or pursuits. This kind of freedom is often expressed in terms of liberation from things and

experiences that may be strong reinforcers, such as expensive houses and furnishings, nice clothes, fine cars, eating at fancy restaurants, taking far-flung vacations, or achieving lofty social status. Pursuing such reinforcers is likely to be constraining for most because it may require sacrifices in the kind of work we do, how much time we spend working, and how we allocate our time. Spiritual freedom tends to connote release from chasing social reinforcers or approval.

Spiritual freedom is said to be available when our behavior is more influenced by non-material reinforcers such as helping others, especially to the point of self-sacrifice. Such actions benefit particular individuals or society at large and not, apparently, ourselves. If the consequences for our actions benefit us in some obvious way, we (and others) may be less inclined to say they lead us to an experience of spiritual freedom. If helping others seems to depend on a history in which we have learned this social value, especially if such behavior is stronger than more materially motivated behavior, we may be more likely to talk about experiencing a kind of spiritual freedom.

Table 1.1
Different Ways of Talking About Freedom

- Freedom from physical constraints
- Feeling free
- Having choices
- Spiritual freedom

Are We Really Free to Choose?

The assumption that we can make choices that are free of outside influences is the essence of a long-standing philosophical position called **free will**. This position implies that our choices are not caused by environmental or even hereditary factors but are free of such influences. In this context, choice is said to be free because it is not determined by physical variables. The assumption that the individual can make decisions that are independent of physical influences leaves only mental deliberation as the source of the resulting behavior.

Free will: A philosophical position that generally holds that human behavior can be free of physical determinants and can result solely from an individual's decisions, choices, and mental activity.

The expression “free will” means that our will, our ability to control our own actions, is entirely our own, which means that it is not susceptible to other influences. When we talk about our “willpower,” for instance, we

imply that our capacity to make ourselves do something is the result of something internal, a power that is uniquely our own. That is, what determines whether we can resist ordering a big fat slice of coconut cream pie as dessert is a personal choice controlled by something indefinable that is at the root of who we are as an individual. Although our decision may take our waistline or cholesterol level into consideration, the actual choice may ignore such unpleasantness and is therefore free.

Of course, most people do not think about these matters as they describe or explain their own behavior. We casually say we've "made up our mind" or "changed our mind." We proudly report that we "made ourselves" go to the gym yesterday. We talk about "deciding" to do this or that. Everyday language includes countless phrases that suggest that individuals act in ways that are ultimately the result of mental deliberation, no matter how obvious other possible influences might be. This mental deliberation may be labeled as thinking, deciding, or choosing, but the key is that the outcome is ultimately free of any influences we can identify.

Sometimes there is no reference to a mental process at all. We may explain the actions of ourselves or others without any implication of careful thought or decision making. We may report that we "decided on the spur of the moment" or "simply decided" to do something as a way of tacitly admitting we are not aware of having made a considered choice. We often just report that we "don't know" why we did something, which carries with it the insinuation that there was no reason for doing it. We are especially likely to make this assessment for others, given that we are not privy to their thinking. For example, we might describe a friend's behavior as unthinking, capricious, or irrational. However, lack of awareness of a deliberative process involves the same assumption we make when we refer to having deliberately chosen a course of action—that the behavior of interest occurs without influence by known or unknown variables.

This is all terribly familiar. We grew up learning to describe our behavior and the actions of others as if behavior can be free of environmental influences. We are quite comfortable with the idea that we alone decide what we are going to do, overriding the possible contribution of other factors. This does not mean that most people would not be willing to concede that some portion of our behavior is swayed by physical variables. After all, behavior such as breathing is obviously largely controlled by biological processes, and most would admit that many daily activities such as driving a car are substantially influenced by environmental factors. Whether we put our foot on the brake or steer one way or another is certainly not independent of what is going on around us. However, if someone were to argue that we *never* have the luxury of free choice, most people would be offended. In rejoinder, they might point to choices involving the future,

such as where to go for dinner, and argue that no matter what realities might intrude (for example, one restaurant could be closed, another too expensive, etc.) we are still free to choose. They might “prove” their point by changing their mind at the last minute. And how could anyone provide convincing evidence that our choices are not free?

Or Is Our Behavior Determined?

To deny that we can make choices that are free of hereditary or environmental influences is to take the position that our behavior is determined by such factors. That philosophical position is called **determinism**, and it is just as much a fundamental assumption as is the argument for free will. Fortunately, assuming that behavior is determined by physical variables does not require knowing exactly what variables are at work in each instance. In fact, it might be wise to concede that just because we are able to point to certain environmental factors as possible causes for our behavior does not mean we are right or that other factors are not also operating. After all, we are often not especially aware of our behavior and its environmental context. Even when we are paying attention to our actions, any convictions about their causes are hardly the result of skilled and unbiased observation.

Determinism: A philosophical position that generally holds that human behavior is entirely the result of physical influences.

The assumption that behavior is determined by physical variables is usually interpreted as allowing no exceptions. In this view, all behavior has such causes, even though we are usually unaware of the details. When confronted with this argument, most people are likely to be threatened by what appears to be an unavoidable loss of autonomy. The assumption that we have free will seems to put us in control of our own behavior, whereas the deterministic assumption means this is only an illusion. It means our behavior is instead fully controlled by variables of which we are usually unaware.

Not surprisingly, it is difficult for most people to accept that the choices they make to behave one way or another are not free but are actually controlled by physical variables. This would mean there is no such thing as free choice or free will. After a lifetime of explaining behavior in terms of such apparent freedom, it is understandably difficult to accept what appears to be a helpless or passive role, instead of a controlling authority, as we are pushed this way and that by forces we are likely unaware of and might not be able to control anyway. It simply makes sense to us that whether to adopt a puppy from the shelter, for example, is an act that is ours to decide, rather than a behavior that is entirely the result of current environmental variables in tandem with our cumulative learning history.

In spite of any discomfort with the implications of determinism, the assumption that physical events are fully explainable in terms of other physical events has a long and respected position in the natural sciences. After all, if your job is to explain how the physical universe works, it makes little sense to start with the assumption that the phenomena you are trying to explain may sometimes occur or vary for no reason at all. Scientists assume that there are physical causes for whatever they are studying because they have a long track record of finding such causes and because to assume otherwise would mean their work is pointless. If a cause-effect relation discovered today might not hold tomorrow, scientists could not accumulate a body of reliable findings that could serve as the basis for practical technologies. Behavior is a physical event, of course, and there is no scientific reason to assume it should be an exception to this general assumption of determinism.

Competing Assumptions

These beliefs about the nature of behavior are unavoidably assumptions. It is not possible to gather direct evidence proving that behavior can be free of physical causation or that it is always determined by physical variables. Proving free will would require showing that behavior can occur without influence by hereditary or environmental factors. Not only is it impossible to eliminate the role of these variables, we cannot rule out the possibility that we are simply unaware of their possible contributions, and searching for them would require an endless scientific effort.

On the other hand, proving determinism would require demonstrating the physical causes for any behavior, an impossibly exhausting task as well. Even with the advantages of studying behavior in a laboratory setting using non-human species, the challenge is daunting. Although you might be able to show that when a rat will press the right lever versus the left lever depends on a specific training history, the animal's behavior will usually vary somewhat from otherwise regular patterns. To show that these variations are themselves determined by other factors, we would have to identify them and their contribution. Trying to identify all of the influences on behavior in our everyday environments is doomed from the start.

The fact that one position cannot be proven over the other gives us the latitude to consider which assumption is the most useful. Perhaps utility should be the criterion guiding our decision about which assumption we should make. The issue comes down to how one assumption or the other affects our ability to understand behavior and live happily ever after. What, then, are some of the implications of assuming that behavior can be free of physical causation versus assuming that it is always influenced by physical variables?

First, consider what it means to say we have free will. It means that we can control our choices about what we do and our actions and that those choices are not necessarily influenced by any other factors. The argument is that “you” are the source of control over what you do, but for your choice to be free, there must not be any physical factors influencing your decision. “You” must ultimately be completely free to choose. This is a demanding definitional standard. If your choice is influenced by past experiences with similar behavior, should it be called free?

If true, the assumption of free will has other consequences as well. Researchers would not be able to understand all of the factors influencing behavior, no matter how thorough their efforts. Regardless of what they discovered or how much they learned about operant selection, for example, it would always be possible for behavior to occur without the contribution of physical influences—in other words, for no reason. This limitation means that our ability to resolve behavioral problems would be constrained as well. For instance, we might learn from a functional analysis about some of the variables apparently controlling self-injurious behavior in a child with autism and design an intervention that takes advantage of this information. However, the assumption of free will means we must admit our efforts to reduce the occurrence of the target behavior might be unsuccessful simply because the behavior can occur without the input of hereditary or environmental factors, regardless of any intervention. This would be a discouraging assumption for practitioners and those they are trying to help, not to mention for our culture in general.

In contrast, the assumption of determinism means there are always causes for behavior, regardless of the characteristics of the particular behavior of interest. Whether it is a life-changing act such as getting married or the seemingly trivial act of combing your hair, the position of determinism assumes that all actions are the result of hereditary or environmental factors. The causes may be multifaceted and complex, and it is wise to accept that we do not yet fully understand them, but the assumption of determinism allows for no exceptions. No instance of behavior is considered free of physical causation.

It is also wise to admit that we are rarely in the position of being able to explain with any certainty what factors are at work for a particular behavior at a particular moment or to predict what a person will do in a specific instance. This inability is not a weakness in the argument for determinism. In addition to the possibility that we still lack a full understanding of the underlying laws involved, we always lack information about the variables operating in a specific instance. Other sciences face comparable limitations. Even specialists in fluid dynamics cannot predict the path of a leaf falling from a tree or exactly where it will land, but we understand the laws

of fluid dynamics well enough to bet our lives on the science underlying airfoil design when we get on an airplane. The limitation is simply one of having enough information on the relevant variables in a specific instance.

The assumption of determinism also means that we must steadfastly resist the temptation to assign causal status to a non-physical (mental) domain. Eliminating the familiar roster of explanations that specify or at least imply mental causes for behavior is quite disconcerting at first, but it has the advantage of avoiding interpretations that distract us from considering the real variables that might be at work. Avoiding fanciful, unsupported, or unnecessarily complicated explanations of events is an important feature of scientific method. Scientists are **parsimonious** in their approach to explaining how things work because it helps them avoid unnecessary research, wild goose chases, and dead ends. In offering explanations of a phenomenon, they have learned that it is wise to exhaust well-established variables and relationships before turning to possibilities that are novel, overly complex, or difficult to evaluate. Instead of offering fanciful explanations of some event, scientists cautiously insist on trying to explain the event in terms of empirical evidence they already understand because the odds of successful resolution are usually better than with more “far out”

Parsimony: An approach to scientific explanation that emphasizes simplicity and reliance on well-established knowledge.

notions. This approach urges us to explain the observable facts of behavior with reference to variables in the physical world, which the natural sciences understand pretty well, before inventing a non-physical world of the psyche, which certainly goes beyond the laws of nature as we understand them.

Explaining behavior in terms of mental “events” that by definition have no physical status clearly violates parsimony as a scientific value. This is not the only problem. How would scientists investigate such supposed phenomena? How can you measure something that has no physical dimensions? How do you conduct experiments in which you must control the features of mental events as the independent variable? The solution to these challenges cannot depend on verbal reports from the person whose mental activity is under consideration. This indirect source of information has weaknesses that have long been documented. The solution is to avoid inventing mental explanations for behavior in the first place.

A Few More Issues

Non-physical causation. In considering free will and determinism, here are a few more issues to think about. For instance, if behavior is assumed to be at least sometimes free of physical causes and susceptible to our choices, what is the mechanism by which our behavior results from these choices? That is, how can non-physical factors (that is, mental quali-

ties) influence physical events such as behavior? We understand different means of physical causation, but it is hard to understand how “events” in a non-physical domain can cause events in the physical universe. If they have no physical dimensions, they cannot involve the same kinds of causation that apply with physical events; if they do, they would have to have physical dimensions.

Responsibility. Another issue that often comes up when discussing this topic concerns the notion of personal responsibility. Much of our culture is rooted in the idea that each person is responsible for his or her own behavior. We teach this value to our children and enforce it in our legal system. If we assume that behavior is determined by outside factors, does this mean that the individual is not responsible for his or her behavior? Could we just ignore the consequences of our actions? Could we plead that we are not in control of our own behavior when our actions cause problems for others? Would the position of determinism mean that our behavior cannot be blamed on a personal failure to behave in an acceptable way?

Well, yes and no. It is true that the position of determinism means that each person’s behavior, including the behavior we label as “making choices,” is fully influenced by hereditary and environmental variables. In this sense, we can always point to such factors that might have influenced our actions, and we must acknowledge that there is no inner controlling agent that is independently in charge of our behavior. So, yes, we are not responsible for our behavior in a scientific sense because the individual is not a controlling authority who makes decisions about his or her behavior that are independent of physical variables.

On the other hand, another way of talking about responsibility is in terms of consequences. We cannot avoid confronting the effects of our behavior on the environment, which in turn greatly impacts the kind of behavior that produced these outcomes. This means we are responsible for our behavior in the sense that we must live with its consequences. If we have too much to drink when out with friends and act out in ways that offend them, they may be less inclined to ask us to join them next time. In this instance, we may not be able to avoid the social consequences of our behavior.

This sense of responsibility is also enshrined in cultural mores and laws, which insist that individuals should consider the possible consequences of their behavior before they act and then deal with these consequences after the fact. For behavior that is especially important to the culture, rules are established that hold individuals responsible for the outcomes of certain behavior. Consequences are also established for abiding by or violating those rules. Sometimes these **behavior-consequence contingencies** are informal and personal, as when a parent requires a teenager to be home

Behavior-consequence contingency: A dependent relation between responding and its environmental consequences, often involving a response resulting in a reinforcer.

by a certain hour at night. Of course, we are all familiar with rules sanctioned by government in the form of laws that prohibit certain kinds of behavior and set out penalties for breaking those laws. These contingencies are important in helping to manage behavior that is especially important to society.

The reality of consequences therefore means that the question of whether we can dispense with the obligation of personal responsibility can also be answered in the negative. Accepting that behavior is determined does not mean we can abandon the everyday notion of responsibility. Although we do not control our behavior independently of environmental influences, we cannot avoid dealing with the consequences of it. By arranging particular consequences for different kinds of behavior, we (both individually and collectively) encourage or discourage others to behave in certain ways. So, when parents tell their teenage daughter she has to be home by midnight or she will be grounded for a month, this contingency is likely to affect her behavior, given a history of her parents following through on similar contingencies in the past. Although we may describe the parents as holding their daughter responsible or the daughter as being responsible for her behavior, it is the past and current contingencies that are responsible for her compliance.

That is, in accepting that behavior is determined, we assign the responsibility for behavior not to the individual but to sources of control in the physical environment. From this perspective, holding individuals responsible for their behavior by specifying the consequences for certain actions remains an important contingency because it helps manage those tendencies to act in one way or another. The outcome—behavior that complies with cultural values—results not from choices by each individual but from a history of consequences for behaving appropriately. (Chapter 7 considers the topic of responsibility in detail.)

Choice. Another outcome of assuming that behavior is fully determined by physical variables is that it conflicts with everything we have been taught about our ability to make choices. As already pointed out, determinism unavoidably means that the idea that we can make choices that are free of environmental influences is an illusion. The decisions we make are not our own in the sense that they are free from outside influences. When we cast our vote for a particular political candidate, we may believe this is a free choice, but we are simply unaware, or unwilling to acknowledge, all of the factors that influence our voting behavior. By seeming to put the cause for action inside the person, the language of choice conveniently avoids the need to specify outside influences. (See Box 1.1 for the difference between choice and preference.)

At the least, this way of talking is efficient; it is much simpler to describe ourselves merely as the agent for our actions than to list all of its possible influences. The price of this efficiency is that we fail to appreciate the factors that are actually responsible for our behavior. In learning the language of our culture, we satisfy the grammatical necessity of specifying a noun associated with a verb by identifying ourselves as the cause for much of our behavior (“I decided to go to the movies”). In doing so, however, we fail to consider the implications of putting causes for our behavior in a mental or non-physical domain. What does it mean to say that the behavior occurred because “I decided,” or “I made up my mind,” or “I chose?”

If we are interested in a science of behavior, we cannot ignore this question or its implications. I have already mentioned the methodological

Box 1.1 Choice versus Preference

If someone asks you to make a choice or state your preference, it seems they are asking the same thing because the terms choice and preference are often used interchangeably in daily discourse. This chapter argues that both terms purchase a serious conceptual problem if they imply that the origins of the behavior involved in choosing or preferring lies in mental deliberations. Although we do not typically characterize a preference as “free,” as we might a choice, we seem to mean the same thing when we refer to a “personal” preference. If describing preferences as personal implies the same mental origins as free choice, the same conceptual problems arise.

Despite these similarities, everyday dialect also seems to allow for a distinction between the two terms. For example, we say someone has a preference when he or she is more likely to choose one alternative over another. Our reference to this preference is merely a statement of a behavioral tendency, whether transient or relatively stable. Although we may allow a role for mental deliberation in explaining the origin of a preference, we may at least acknowledge the influence of different consequences in a history of choosing from alternatives. In fact, this history is all that is necessary to explain a preference. The way we behave when faced with alternatives comes from our previous experiences with those alternatives. Any mental attributions are gratuitous.

In contrast with the idea of an existing preference, the everyday notion of choice—the behavior of choosing—implies a decisive action, presumably based on a preference. However, if preference is taken as no more than a behavioral tendency rooted in our experience with various alternatives, there is no reason to view the act of choosing as having different influences. That is, making a choice (an instance of preferring) may be viewed as behavior fully explained by the past consequences of such behavior under similar circumstances. Of course, this view conflicts with the idea that the behavior of choosing can be free of environmental influences.

complications of studying events that cannot be directly measured. Nevertheless, the physical sciences successfully address this challenge when there is empirical evidence supporting the existence of the events in question. The field of physics spends huge sums of money to identify and understand various subatomic entities, even though some might never have been directly observed. Although their existence might be theoretical, the depth and precision of the supporting evidence is such that this investment is deemed worthwhile. What physicists tend not to do, however, is pursue purported phenomena that apparently do not have physical dimensions at all and for which there is no empirical evidence of their existence.

This is the case when we specify ourselves as the cause for behavior. The mere fact it seems obvious that we make decisions or choices that are entirely up to us does not constitute scientifically credible empirical evidence for the existence of free will. We talk about making decisions or choices because that is how we learned to describe our behavior as we were growing up. In the Renaissance and Elizabethan times, you would have learned that there were four humors (sanguine, choleric, phlegmatic, and melancholic) that were responsible for both medical conditions and personality. This view, no doubt, seemed perfectly obvious at the time, although in light of modern scientific knowledge it now seems quite naive.

Even if you appreciate why it is not a good idea to assume that we can make choices about our actions that are free of outside influences, it is difficult to let go of the notion that we have free will. This view is so pervasive in our culture and language that putting it aside is more than a little bit disconcerting. At first, you will find that avoiding phraseology implying freedom of choice makes it more difficult to talk about behavior because you have not yet developed a more appropriate way of talking. You will develop this facility as you read the following chapters. For now, focus on identifying words and phrases that place causes for behavior in a mental domain. Try replacing that language with simple descriptions of actual behavior and past and present environmental factors that might be

Table 1.2
Other Issues Raised by Free Will versus Determinism

- How can non-physical “events” influence behavior?
- How can the assumption that behavior is fully determined deal with the concept of personal responsibility?
- How can the deterministic position deal with the idea that we can make free choices?

responsible for it. For example, instead of saying “I made up my mind” as a way of both describing and explaining some action, identify the behavior that actually occurred (for instance, going to a particular movie) and consider its possible influences (similarity to other movies you have enjoyed, a review you read, a friend’s recommendation, and so forth).

Yes, Your Assumption Is Itself Determined

It may have occurred to you by now that if our behavior is determined, it means your “decision” concerning where you stand regarding free will versus determinism is not your choice but is determined by various influences. Of course, the arguments in this and succeeding chapters are likely to be one such influence, as will be the discussions you have about these issues with your classmates. In any event, how you talk about free will and determinism is, after all, just verbal behavior. The way behavior actually works will not be changed by how you talk about it. However, the position on this issue taken by you and other behavior analysts will greatly impact the effectiveness of our science and technology.

Just remember you cannot have it both ways. It is either possible that our behavior can at least sometimes be free of outside influences, or it is always the case that whatever we do is determined by hereditary or environmental factors, although we should acknowledge that such influences are complex and usually not fully appreciated in individual instances. People who are most comfortable with the idea that we have free will may admit that our behavior may often be controlled by physical variables but insist that they can still make choices that are independent of outside influences. A conviction that our behavior is fully determined allows no such equivocation, however. This position means that choice is an illusion. In other words, if you want to decide moment by moment whether particular actions are susceptible to physical influences or available for your free choice, you do not accept the assumption that behavior is determined.

CONSEQUENCES FOR PRACTITIONERS

So, why does it matter what practitioners think about this issue? As the preface emphasized, practitioners talk with clients, families, and other professionals every day. The ordinary dialect of these conversations is rooted in a causal model in which individuals are assumed to be able to control their own behavior at least some of the time. This assumption that we are free to choose to behave one way or another is at least implicit, and often explicit, in discussions about the behavior of both clients and caregivers. Because such behavior is seen as originating from within the individual, it

complicates ABA practitioners' efforts to convince all concerned to focus on environmental factors that may be important in changing the behavior of interest.

The vignette at the beginning of this chapter highlights this challenge. The view held by Liz and Sharon that Robert's disruptive behavior may be the result of his free choice, rather than environmental factors, quickly gets in the way of Zoey's effort to generate a discussion focusing on those factors. Her ability to lead the group toward possible environmental interventions depends on her familiarity with this issue. She must be able to recognize the underlying philosophical issue, have already figured out her position based on her professional training, and know how to lead others to see that focusing on environmental variables is likely to be useful. If Zoey was unfamiliar with this issue, she would be less likely to be able to lead the discussion in a clinically beneficial direction. Worse, she might wind up agreeing with Liz and Sharon and fail to consider constructive environmental options for intervention planning.

Consider the approach to treatment that might follow from an assumption that Robert's misbehavior is the result of his choices, which are free of outside influences. The focus of an intervention would likely be on Robert's behavior of choosing, not his disruptive behavior. If this behavior were truly free, there is nothing anyone can do that will impinge on his decisions. Caregivers may try presenting choices differently or teaching him to choose one course of action over another when presented with the opportunity, but these approaches imply that his choice is not free but can be influenced by the learning experiences arranged for him.

A focus on the behavior of choosing is not necessarily a problem, however, as long as we reframe the way we approach choosing. If we recognize that Robert's choice behavior is merely the result of different contingencies for cooperative versus disruptive behavior, then a focus on choosing *per se* is merely misleading. He does not choose in the sense of having the option of selecting behavior A or behavior B independent of his history and the present contingencies. He simply engages in one or the other because of the history of consequences for each alternative. Describing this as choosing is gratuitous, tends to focus on the individual rather than the environment, and comes from how we have been taught by our everyday verbal community to label his actions. If he engages in behavior A, we are taught to say that he chooses to behave this way instead of the other way, though we do not observe any private behavior of choosing. Even if we formally present both options ("Robert, would you like to do A or B?"), describing his response as belonging to a particular response class called "choosing" can be misleading if we attribute characteristics to it that are different from any other behavior.

In other words, the assumption of free will makes a focus on the behavior of choosing pointless. A deterministic assumption accommodates a focus on choosing as long as it is seen as a behavior like any other—that is, fully influenced by environmental variables. This perspective leads to consideration of why Robert engages in (“chooses”) disruptive behavior instead of more desirable behavior, which leads to an analysis of the past and present consequences for both ways of behaving. Out of this come ideas for ways of changing behavior-environment contingencies that will change his behavior at the group home.

There is much more that can be written on the issue of free will and determinism, a topic that has occupied philosophers, psychologists, and other ne'er-do-wells for ages. Because we cannot prove either position, debating the issue might seem a pointless exercise, and in a sense it is. Intellectual calisthenics aside, however, there are important consequences that follow from each assumption. Moreover, this is not a matter on which one can have no conviction. The nature of the two assumptions ensures that everyone takes one view or the other—or some sort of awkward mixture—even if they are unaware of their philosophical posture. Absent reflection, most people probably follow the implications of everyday dialect and assume that at least some behavior is the result of mental deliberations and therefore free of physical causation. You are now aware of some of the consequences of this perspective, and the assumption that all behavior has physical causes should now be more appealing.

Have you arrived at this point? Are you reasonably comfortable with the deterministic assumption? Are you willing to accept this assumption as the foundation of the philosophy of our behavioral science and technology? Your answers to these questions are important as this first chapter comes to a close. If you find it too difficult to let go of free will and its implications, you will struggle mightily with the content of the remaining chapters. Worse, you may be tempted to retreat to the argument that particular instances of behavior under discussion do not have hereditary or environmental causes, thereby licensing you to speculate about mental possibilities. The material in upcoming chapters may bring you around on this issue, but the going will be much easier if you can appreciate at this stage that it is possible that all behavior has hereditary or environmental causes, even though we may often be uncertain what they are. Where do you stand?

CHAPTER SUMMARY

1. Assuming that one is free to choose how to behave implies that the ultimate causes of behavior may lie inside the person rather than outside in the environment. The notion that we control our own behav-

ior means that some form of mental activity may often precede public behavior and that our behavior can at least sometimes be free of outside influences.

2. The assumption that we can make choices that are free of outside influences is a philosophical position called *free will*. This position implies that choices are not caused by environmental or even hereditary factors and are therefore assumed to be free of such influences. The assumption that the individual can make decisions that are independent of physical influences leaves only mental deliberation as the source of the resulting behavior.
3. To deny that we can make choices that are free of hereditary or environmental influences is to take the position that our behavior is instead determined by such factors. This position is called *determinism*. The assumption that behavior is determined by physical variables is usually interpreted as allowing no exceptions and proposes that all behavior has physical causes, even though we are usually unaware of the details.
4. It is not possible to gather direct evidence proving that behavior can be free of physical causation or that it is always determined by physical variables. Proving free will would require showing that behavior can occur without influence by hereditary or environmental factors. It would be impossible to eliminate the role of these variables. On the other hand, proving determinism would require demonstrating the causes for any behavior, an impossibly exhausting task as well.
5. Assuming free will means we can control our own actions, we can make choices about what we do, and those choices are not necessarily influenced by any other factors. It means behavior may occur without physical causation. This position would mean that researchers would not be able to understand all of the factors influencing behavior, no matter how thorough their efforts.
6. Determinism means there are always causes for behavior, regardless of the particular behavior of interest. This position assumes that all actions are the result of hereditary or environmental factors. The causes may be multifaceted and complex, and we do not yet fully understand them, but the assumption of determinism allows for no exceptions. No instance of behavior is considered free of physical causation. The assumption of determinism also means that we must resist the temptation to assign causal status to a non-physical domain.
7. One challenge for the assumption of free will is to explain the mechanism by which our behavior results from those choices. That is, how

could non-physical factors influence physical events such as behavior?

8. A second issue is to rationalize the notion of responsibility. If we assume that behavior is determined by outside factors, does this mean that the individual is not responsible for his or her behavior? We are not responsible for our behavior in a scientific sense because the individual is not a controlling authority that makes decisions about his or her behavior that are independent of physical variables. On the other hand, we cannot avoid confronting the effects of our behavior on the environment, which in turn greatly impacts the kind of behavior that produced these effects. This means we are responsible for our behavior in the sense that we must live with its consequences.
9. A third issue concerns choice. Determinism means that the idea that we can make choices that are free of environmental influences is an illusion. Although it is much simpler to merely describe ourselves as agents for an action than to list all of its possible influences, the price of this efficiency is that we fail to appreciate the factors that are actually responsible for our behavior.
10. Practitioners talk with clients, families, and other professionals every day. The ordinary dialect of these conversations is rooted in a causal model in which individuals are assumed to be able to control their own behavior at least some of the time. This assumption that we are free to choose to behave one way or another is at least implicit, and often explicit, in discussions about the behavior of both clients and caregivers. Because such behavior is seen as originating from within the individual, it complicates practitioners' efforts to convince all concerned to focus on environmental factors that may be important.

TEXT STUDY GUIDE

1. What does it mean to say that being free to choose one course of action over another implies an "inside" versus an "outside" distinction about the causes of behavior?
2. If mental activity of some sort precedes public behavior, why would that suggest behavior can be free of environmental influences?
3. If someone challenged your view that you can change your mind, how might you defend your conviction?
4. Explain the philosophical position called free will.
5. Identify some common expressions that imply a belief in free will.
6. Explain the philosophical position called determinism.

7. Why must the position of determinism allow for no exceptions?
8. Explain why in each case the positions of free will and determinism can only be assumptions.
9. List some of the practical consequences of assuming that we have free will.
10. List some of the practical consequences of assuming that our behavior is determined.
11. What is the problem of explaining non-physical causation presented by the assumption of free will?
12. How can you answer the question of whether the individual is responsible for his or her behavior if we assume behavior is determined?
13. How might you defend the argument that there is no such thing as choice?
14. If assuming free will versus determinism is just verbal behavior, why does it matter what view one holds as a behavior analyst?
15. Why is it important that practitioners understand this issue?

BOX STUDY GUIDE

1. What is the problem in explaining instances of behavior in terms of preference or choice?

DISCUSSION TOPICS AND EXERCISES

1. List some everyday phrases you might hear as a practitioner that imply free will.
2. Pick some of these phrases and make reasonable guesses about the environmental factors that might be influencing behavior.
3. There are important legal ramifications for the conflict between the everyday notion of personal responsibility and the assumption that behavior is always determined by physical causes. Discuss this issue in the context of different examples of criminal behavior.
4. Choose some examples of situations in which it might seem that you can make free choices, and then consider alternative explanations of your behavior in terms of environmental factors.

SUGGESTED READINGS

- Hayes, S. C. (1984). Making sense of spirituality. *Behaviorism*, 12, 99–110.
- Skinner, B. F. (1961). Freedom and the control of men. In B. F. Skinner, *Cumulative Record* (pp. 3–23). New York: Appleton-Century-Crofts.
- Skinner, B. F. (1971). *Beyond freedom and dignity*. New York: Alfred A. Knopf.

SUPPLEMENTARY WEBSITE READINGS

- 1.1 The politics of behavior
- 1.2 Can you really distinguish between professional and personal?