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For most of us, sex is important. Some of our first close friendships are initiated when we discuss sex – adolescent boys and girls navigating puberty and sexual desires. We may spend countless hours fantasizing about and planning our first sexual experience. Dating for many becomes an important rite of passage. As adults, we look for partners who can provide a satisfying sexual experience. In fact, most people have their first sexual experience long before they fall in love or meet a long-term partner. Sex means different things to different people, and within the same person, sex means different things to us at different times in our lives and changes based on emotional development and life stages. Simply put, sex is complicated.

Even in nonphysical ways, sex seems to permeate our everyday lives. Movies and television series are more enticing if there is a sexual theme. Jokes and conversations are riddled with double entendres. Magazine covers, news, and advertisements sell themselves or products using half-naked people by alluding to fantasies of sex or in many cases graphically telling us about people's sex lives. Sex is obviously more than just a physical act. It also incorporates psychological, social, political, and even spiritual dimensions.

Why is sex so important? The University of Michigan conducted a national poll on healthy aging and found that most older adults (76 percent) reported that sex is

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an important part of a romantic relationship at any age. The Center for Sexual Health Promotion at the Indiana University School of Public Health has been conducting surveys on sexual health for years, and they recently found that among adolescents, approximately 81 percent described their sexual behavior as anywhere from moderately to extremely pleasurable. Across the lifespan, it appears that for many, sex can be characterized as rewarding. “Rewarding” can mean many things and sex delivers most of them (although sexual reward can be very different for each person). Sex gets our hearts racing; we feel joy, exhilaration, calm, and/or peace. It allows us to escape problems and forget about bills, relatives, and issues at work. For a few minutes or hours, we can feel transported; we feel needed, loved, wanted, and desired. Sex allows us to bond with another person. It is a great mix of reality (the physical nature of sex) melded with the fantasy lives of most of us (we can believe we are sexy even if pudgy and out of shape; we believe our partner is amazing even if we know little about them). This is all very rewarding, and this type of reward is more potent and potentially more reinforcing than most other types of behavior. And so sex is one of the most rewarding behaviors we can engage in, and that reward then leads us to want more sex.

The topic of sex also raises issues regarding the complex interplay between the physical and the mental worlds. Part of sex is obviously physical. Our bodies get stimulated and we respond wanting greater stimulation and ultimately release. The other part of sex, however, exists in our mental universe or space. Beginning in adolescence,

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sex is forged in fantasy. Some have said that a great sex life depends upon a great fantasy life. Justin Lehmiller, author of the book *Tell Me What You Want*, reports that 97 percent of Americans fantasize about sex. How the mental informs the physically sexual and vice versa is complicated. Some people tell themselves they are in love in order to have fulfilling sexual experiences – are they in love? Does it matter what they tell themselves? People may have difficulties having sex when they are angry at each other – why? Are there differences between people who can have sex while angry with their partners and those that cannot? Sex and sexuality raise many difficult but interesting questions.

This complex interaction between the psychological and the physical seems to start when sexual desire begins. At puberty, sex seems often to carry with it the baggage of insecurity. Am I sexually attractive? Are my breasts/penis large enough? Am I more attractive than the other boys or girls? How do I know if I am a good kisser? These mental gymnastics associated with sex begin at puberty and last most of our lives. Even when partnered as adults, people frequently have doubts revolving around sex. Am I still sexy to my significant other? Is my sex life as exciting as that of my friends? Would having a more athletic or thinner body mean better sex? Do I perform as well sexually as my best friends? Do I get as much sex as my best friends, and even the “average” person?

Why does something as rewarding and enjoyable as sex seem to produce such insecurities? Why do people always seem to have so many questions about sex? In part, we struggle with understanding sex due to its very

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importance for most of us: it is hard to view sex through an objective or impassionate lens. We also have questions about sex because we rarely get any good answers. Although the vast majority of parents would like to have sexual education in schools, only 38 percent of US high schools and 14 percent of middle schools teach all 19 of the sexual health topics considered essential by the Centers for Disease Control (e.g. how to create and sustain healthy and respectful relationships, information on how sexually transmitted infections are spread, and tips about ways partners can communicate to prevent pregnancies or infections). Additionally, in the USA, only 24 states mandate sex education in schools, and of those, only 10 require that it be medically accurate. Despite the all-pervasive nature of sex in modern society, people in school may learn very little about sex and much of it may be inaccurate. That leaves educating to the family, but many families seldom discuss it openly – sex is taboo. Sexual attitudes for many people are therefore mainly sculpted implicitly – rather than through open discussion and objectivity. Research has shown, for example, that age of first sexual experience is heavily influenced by norms and expectations shown by our parents, and next most important is what we “perceive” as being normal in our peer group and culture. Wider cultural norms have been shown to be important across many countries. How well we can control our urges or impulses also plays a role in age at first sexual experience: difficulty regulating behavior, referred to as “impulsivity,” is not only associated with earlier sexual activities but also with riskier sexual activities. As we will see throughout this book, apart from some key research groups

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and research papers, sexual norms and the nature of sexuality have received very little objective research attention.

How much do we know about sex? Most of us had some lectures in high school about sexual health, but it was generally about safe sex, pregnancy, and perhaps sexually transmitted diseases. It almost never addresses questions of sexual desire, and so most people have very little information to use to understand their own behavior or the behaviors of their loved ones. It is also striking that although we may have discussions about sex with friends or partners, those discussions rarely include detailed knowledge about sexual desire. Instead, we rely on others' opinions and what they have heard or read in magazines, either as rumor or as mistruth.

If we know so little about sex, how do we know if and when sexual desire is typical or healthy? Obviously, sexual desire exists along a spectrum. Not everyone has the same level of desire. Part of the problem is that people do not feel comfortable talking about sex, even to intimate partners. In fact, a recent survey found that approximately 30 percent of adults feel uncomfortable talking about sex with their partners, despite having sex frequently. For those who do talk about sex, couples may wait an average of 5 months into the relationship before actively discussing sex and desires. Approximately 20 percent reported that they would never bring up the topic of sex during a relationship.

As practicing psychiatrists who also undertake research, we find that among our patients, individuals can be far more comfortable talking about their sex lives with us, compared with discussing sex with their partner of many

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years. People who enjoy sex a lot often feel like there is something wrong with them, whereas those who are less interested in sex may feel emasculated or prudish if they admit it. Among our patients, we find that education about sexual desire makes it easier for people to talk openly about their level of desire; talking about desire is the first step in working out what is normal and healthy for the individual, and whether a problem exists for which the person might need support, or even treatment.

Talking about sex is also problematic for many people as they regard the topic as deeply personal. One of us once asked several friends about details of their sex lives. These were close friends with whom he had experienced many emotional situations – loss of parents, serious health concerns such as human immunodeficiency virus (HIV) and cancer, loss of jobs, and divorce. Surprisingly, most of them felt uncomfortable disclosing the sexual details of their lives. Although we know that talking about sex to your friends can potentially be a great way to destigmatize a normal and healthy part of life and shift the conversation about sex from dirty to empowering, only some men and women feel comfortable doing so. The point here is not to be prurient but to shed light on the idea that although sex is hugely important to people, most are unwilling to discuss it, or at least to discuss it in a legitimate or direct fashion. Therefore, we are often left to our own devices, trying to navigate what is or is not healthy or “normal” about our sexual desires. Why, if sex is so important to most of us, and critical for continuation of our species, do many of us have difficulties being open

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about the topic? We all recognize that we are sexual beings, surrounded by other sexual beings, and yet are often deeply ashamed of being such or of thinking about friends or family in these ways. Why?

One reason for some hesitancy in discussing sex, as well as for the limited available information about sex for most people, is that sex is the one health topic that is deeply entwined with culture and religion/morality/spirituality. Unlike other psychological issues, the way many perceive sex is from the perspective of their cultural or religious upbringing. The problem is that culture and religion may produce messages about sex that differ from those of psychology and science, or messages that can be reconciled but only with much thought. If my sexual desires differ from what my culture teaches me, how do I reconcile that? How do I understand healthy sexual desire given that inconsistency? What does this mean for my sexual relationships with others?

One other cultural value that often gets confused in discussions of sex is that of love. As with all animals, we generally have strong biological drives for sex. Do we have a similar drive for love? Is it the same drive biologically? Some people use sex to get love; others use love to get sex. Couples who have been together for many years may say that they have a strong love keeping them together but that sex has waned. Other couples may fall out of love and still have strong sexual drives for each other. Does that suggest any problems in the relationship?

Independent of culture, religion, or love, some people objectively have atypical levels of sexual desire, either

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far too low or too high, which feels out of control and leads to unwanted consequences. Either extreme (loss of interest in sex, or excessive preoccupation with sex) may suggest a mental health disorder. Some people have little or no sexual desire, and this may cause problems with relationships and self-esteem. However, it is increasingly recognized that sexual behavior has the potential to become addictive. Just as substances such as alcohol and narcotics are rewarding and habit forming, so too is sex. For these people, a once relatively benign behavior can escalate, leading them to spend inordinate amounts of time preparing for or engaging in sex, meanwhile neglecting other areas of life. People who develop a sexual addiction often experience a great deal of emotional distress, including guilt and shame. What happens to a person that results in them losing their sexual drive? Conversely, how is it possible that sexual behavior can become out of control?

All of these topics of sex may become important for partners, family, and friends. When people learn about others' sexual desires, they may not know how to respond or cope. Partners, parents, and adult children can have a profound sense of helplessness in watching a loved one struggle with issues of sexual desire and may feel implicated in those struggles. For example, if a man finds that his sexual desires are greatly diminished due to health problems, he may feel guilty about being less involved sexually with his wife, and she may interpret his behavior as rejection. Adult children – or a nursing home – may fail to see the importance of sexual companionship for elderly

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couples. In many situations, loved ones do not know how to help and may even make matters worse.

Sex can be difficult for people to understand. People can easily have sex but have no true understanding of sex. As we will explain later in this book, research has demonstrated the physical basis of sexual desire in the brain. Yet people struggle with the issues of character and morality involved in sexual behavior. As we will explore in more detail, sex is complex. More and more people are discussing their sexual issues with healthcare workers in clinical settings, but they have problems discussing it with others. Unfortunately, many healthcare providers have little background in sexual behavior. Therefore, the Internet is being used to educate people about sex, often with disastrous results. Witness, for example, the recent idea that exposure to large amounts of internet pornography in young people is leading to insecurities about their bodies, unrealistic expectations of sexual experiences, or even impotence as real-life experiences do not live up to the pornography movie they watched.

In our experience of treating patients, we have seen that sexual behavior can be the most important aspect of life and simultaneously the most distressing area of life. We wrote this book with a view to educating people about sex, as well as their partners, relatives, and friends. The book is written to address questions about sex that researchers, clinicians, and members of the public often have but seldom feel comfortable asking anyone about. It considers the latest scientific evidence including from the neurosciences (brain sciences). We hope it will be of interest to members of the public, as well as to a variety of professionals, including those

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teaching others about these topics (e.g. counselors, social workers, and other educators).

The book begins by outlining what is meant by “desire” and describing how sexual desire is similar and different to other desires. In the next chapters, we consider different topics relevant to sex such as development, healthy sexual behavior in adulthood, and problems with too little or too much sexual desire. There is a chapter on how digital technology has radically changed sex and desire in the last 30 years. There is a chapter examining diverse aspects of sex with a focus on neglected minority groups, as well as cross-cultural perspectives. The book also has a chapter providing practical, step-by-step advice on various problems encountered in relationships due to sexual issues. Lastly, we include a chapter that addresses how times of national crisis have affected sex, including examples of the COVID-19 pandemic and world wars. All these chapters include anonymous, real-life case examples of people with various sexual issues based on our extensive clinical practice (details about these people have been modified, left out, or distorted to maintain strict confidentiality). At the end of the book, you will find a list of resources around the world for people with these behaviors who are seeking more information or treatment. We also list some further reading on each topic, as we are aware that no single book can address all of the issues of a very complex topic.

Above all, we wrote this book because, although much is known about sex, little information is available for those who want a detailed discussion of a variety of topics associated with sexual desire. We hope this text