When it comes to creating the conditions for optimal health, we know that managing stress is important. But it turns out that dealing with our anxieties and negative emotional reactions is only half the battle. Discover why an ample supply of enjoyable, positive experiences is equally essential to your well-being — and how you can go about giving life's pleasures the healthy emphasis they deserve. By EXPERIENCE LIFE STAFF

that chronic, high-level stress is the enemy of

vitality. Science has shown that it can sap our energy, disrupt our sleep cycles, increase inflammation, cripple our immune system and even make us age prematurely. Most of us have learned from direct experience that chronic stress can also make us miserable.

So clearly, from both a physical and an emotional standpoint, reducing our stress is a good thing. And yet, while merely neutralizing or better managing stress might help us create a more tolerable life, it is not likely to help us create a particularly happy or vibrantly healthy one.

True health and happiness are, it seems, inextricable. And just as research has shown us that chronic stress paves the way to disease, it is now showing us that the road to optimal health may be paved, at least in part, by an ample and reliable supply of satisfaction, passion and pleasure.

Note that we're not just talking about a simple absence of stress and anxiety here, but about the tangible presence of experiences that bring sensory and emotional gratification, enthusiasm, and, ideally, joy. These are the kinds of experiences that produce what psychologists collectively refer to as "positive affect." They also stimulate important brain pathways and trigger the production of a host of neurochemicals that have both direct and indirect influences on our chances of enjoying a healthy, happy life.

The direct influences occur as the result of various biochemical processes that produce positive, health-promoting results on our physiology and that also help to make us more resilient in the face of stress (more on that in a moment). The indirect influences, meanwhile, result from our pro-social *responses* to pleasure, which tend to encourage behaviors that enhance happiness and optimism.

"Pleasurable activities give rise to positive affect, and positive affect works as a 'go signal,'" explains Ruut Veenhoven, PhD, professor of social conditions for human happiness at Erasmus University, Rotterdam, and director of the World Database of Happiness (http://worlddatabaseofhappiness.eur.nl). "This 'go signal' enhances ->

activity," he notes, and "if you are active, you will tend to achieve more than if you are not."

Specifically, Veenhoven says, you may be more inclined to go in search of *more* rewards and pleasurable experiences, and be more willing to work for the things that make you happy. Moreover, according

to Veenhoven: "Positive affect enhances creativity, making you more likely to find new solutions for the problems you meet, both in work and in private life. It also supports social bonds, meaning that you will be more open to other people, and other people will tend to like you more."

Consequently, you'll be capable of building a better social network, he says, which in turn enhances your opportunities to experience even more pleasure — from shared

meals and entertainments to encounters with a future spouse.

"Mere reduction of stress does not involve the abovementioned 'go signal," Veenhoven says, which is just one of the reasons that merely reducing stress will only get you so far.

Not-So-Trivial Pursuit

The idea that we might actually require a certain amount of pleasure and bona fide happiness to be healthy runs counter to certain ingrained notions that many of us carry at both the conscious and unconscious levels.

After all, much of our coun-

try was founded on moral and political philosophies that had their roots in Puritan religious principles — principles that equated virtue with austere self-denial and that demanded a mistrust or outright rejection of hedonistic pleasure for pleasure's sake. According to ascetic Puritan doctrine, human souls could be put at grave risk, not just by the sin-promoting temptations of the body, but by indulgence in happiness and pleasures of most kinds.

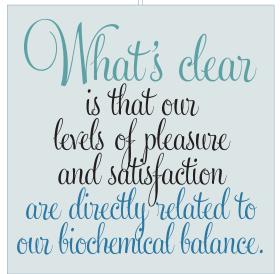
While arguments about the role of pleasure in the care of the soul may always be a matter of some debate, the fields of positive psychology, neurology and psychoneuroimmunology are now taking a very active interest in how pleasure affects the health and longevity of the human body. Much of the evidence being turned up suggests that a relatively steady supply of healthy pleasure and satisfaction may play an important supporting role in maintaining our well-being and in determining our quality of life over time.

A 2004 scientific paper coauthored by George Stefano, PhD, director of the Neuroscience Research Institute at the State University of New York in Old Westerbury, shows how pleasure triggers the release of a feel-good chemical called proenkephalin, and how the enzymes involved in this process also release a potent antibacterial agent called enkelytin. This is just one way, according to Stefano, that pleasure can help bolster our immune system.

Although *some* pleasure-seeking behaviors — such as smoking, doing drugs and overeating — can certainly contribute to health problems and addictions, there is no scientific evidence to suggest the pursuit of pleasure *per se* contributes to ill health or to moral decline. On the contrary, a healthy dose of pleasure appears to be very healthy indeed.

The Neurobiology of Pleasure

We've known for a long time that human brains are hardwired to seek out pleasure, but we're only just beginning to understand why. What's clear is that our levels of pleasure and



satisfaction are directly related to our biochemical balance.

Our brains are networked with what scientists refer to as "reward pathways" and "reward centers." When stimulated by activities we experience as pleasurable (from good flavors and aromas to beautiful music and pleasing touch), these pathways trigger the release of neurotransmitters, endorphins and peptides associated with positive emotion.

The proper balance and interaction of these substances, in turn, help to create the biochemical and psychosocial

conditions that support well-being and that help counter the effects of stress.

A research team at Oxford University led by neuroscientist Edmund Rolls, for example, has been exploring the role that various kinds of pleasurable experiences have on a region of the brain, situated just behind the eyes, called the orbitofrontal cortex (OFC). They've found that signals from the OFC play a role in releasing both dopamine and feel-good endorphins. Another study by a team at the Montreal Neurological Institute at McGill University used brain scans to show that intensely pleasurable responses to music can stimulate a variety of the brain's emotional and reward centers — including many known to be active in response to "other euphoria-inducing stimuli, such as food, sex and drugs of abuse." It follows that when we don't have enough healthy sources of pleasure in our daily lives, we can miss out on these cascades of positive neurochemicals. A subsequent "reward deficiency" can trigger everything from restlessness and anxiety to listlessness and hypersensitivity. These negative states, some experts hypothesize, may make us *more* inclined to seek out compensatory, self-comforting and painavoidant behaviors, potentially leading to addictions, cravings and compulsions that can do us significant harm.

When pleasure is absent, our vulnerability to stress tends to increase, and some unfortunate consequences ensue. As we experience more pain and stress, our bodies release a variety of pro-inflammatory chemicals, like glutocorticoids, that contribute to irritation and disease. Moreover, as we become more chronically stressed or distressed, we tend to have even more difficulty fully experiencing pleasure.

The left prefrontal cortex, which many researchers have dubbed the brain's center for happiness, is pivotal in creating and maintaining positive emotions. Psychopharmacologist Candace Pert, PhD, calls it "the most recently evolved and highest command post of the brain," and it appears to play a critical role in determining both our experience of positive emotional states and our resilience in the face of negative ones. That's due in part, scientists suggest, to the effect of endorphins, and also to the presence or absence of stress-related hormones like cortisol.

The body releases a variety of endorphins (endogenous opioid peptide compounds) in response to pleasure signals in the prefrontal cortex and a variety of other regions of the brain. These endorphins hook up with our cells' opioid receptors (the same receptors that handle opium and morphine), producing feelings of well-being, bliss, even euphoria. They also help minimize our sensitivity to stress and pain (witness the runner's high).

Research by Richard Davidson, PhD, professor of psychology and psychiatry at the University of Wisconsin in Madison, has shown that when the left side of the prefrontal cortex is highly active (which corresponds to an emotional state in which genuine pleasure is being experienced), levels of the stress hormone cortisol are reduced.

Pursuing pleasure and feeling stress, it turns out, are mutually exclusive — which means that embracing pleasurable experiences may present not just an opportunity for warm fuzzies, but a very real antidote to stress and a very necessary ingredient to sustained well-being.

Davidson and other researchers at the Waisman Laboratory for Brain Imaging and Behavior have been working to better understand the relationship between pleasure and physical health, focusing on the connection between enhanced immunity and high levels of activity in the prefrontal cortex. In a 2004 study, they measured the effect of meditation (which boosts activity in the prefrontal cortex) on immunity. Blood tests taken from corporate employees who were trained to meditate not only showed lower levels of cortisol, they also revealed a significantly higher level of influenza-fighting antibodies than the blood samples of those employees who hadn't been trained. The accompanying brain scans showed a measurable difference in prefrontal lobe activity in these meditators and linked their enhanced immune systems with the more relaxed, happier emotional states that were fostered by the practice.

The good news is that because our brains are "plastic" (meaning that they form new neural networks in response to changes in our thinking and experience), it is possible to enhance our experiences of pleasure simply by practicing and focusing on them. Research shows that the healthful benefits of pursuing pleasure and satisfaction can come from all kinds of enjoyable activities, including, but by no means limited to, meditation.

Varieties of Pleasure

The reward pathways in the brain are so powerful and demanding (scientists posit that its pleasure circuits evolved to reward behaviors that are essential for survival, such as eating and reproducing) that we're hardwired to home in on any activity that will produce a pleasing response.

We can pet a cat, cuddle a baby, smell a rose, master a guitar solo, gaze at the beauty of a sunset or indulge in the sweetness of a fresh peach — or we can trigger the same reward-circuit response by choosing less-healthy indulgences like overeating, smoking, using drugs, having risky sex or engaging in various thrill-seeking behaviors. That's why it's important to take a proactive approach to embracing pleasures that give you satisfaction and enjoyment without putting you at risk of harm.

It can also be worthwhile, wrote Harvard social psychologist William McDougall, to differentiate between feel-good pleasure and value-based pleasure. →

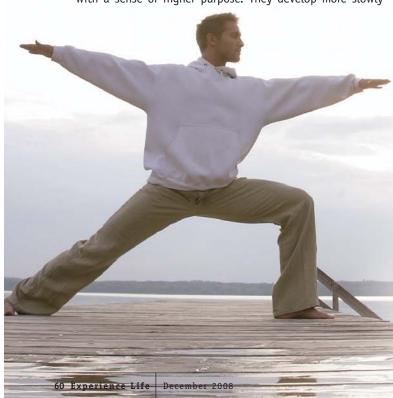
Feel-good pleasure is generally sensation-based: the taste of delicious food, the feel of silk, the luxury of a deeptissue shoulder rub, the beauty of an attractive image. Value-based pleasure, on the other hand, is derived from the sense that our lives are meaningful and have a higher purpose — that we have challenged ourselves to accomplish an important goal or demonstrated a commitment or connection to something that matters to us. Both types of pleasure result in benefits for health and happiness.

Sensual and relating-based feel-good pleasures, for example, such as cuddling with our sweetheart or petting the dog, tend to stimulate our body's production of oxytocin, the peptide that controls what Swedish physiologist Kerstin Uvnäs Moberg, MD, PhD, calls our "calm-andconnection" system. In her book *The Oxytocin Factor: Tapping the Hormone of Calm, Love and Healing* (Da Capo Press, 2003), Moberg explains how our innate calm-andconnection system complements our built-in fight-orflight system, keeping the body balanced between the need for activity and the need for restoration and healing.

The fight-or-flight system releases energizing cortisol and adrenaline to deal with challenges, shutting down digestion and redirecting circulation to the major organs to save resources. It puts all the senses, including the brain, on hyper-alert and increases inflammatory responses.

The calm-and-connection system, on the other hand, releases soothing oxytocin in response to positive stimulation like loving touch or a satisfying meal, restoring appetite, increasing circulation to the limbs, and imparting an overall feeling of safety and relaxation. Oxytocin supports digestion, growth, healing and bonding — all of which suffer under the counterinfluences of cortisol and adrenaline.

Values-based pleasures, meanwhile, tend to be infused with a sense of higher purpose. They develop more slowly



and expansively through time, multiplying in pleasurable returns the more we engage in them. They add meaning to our lives, helping us feel anchored, at peace and worthwhile.

Values-based pleasures may also offer us opportunities to experience — and resolve — challenges and discomforts, which some studies suggest we must face to feel truly content. Psychiatrist Gregory Berns, MD, PhD, of Emory University in Atlanta, theorizes that the high cortisol levels experienced during times of challenge or discomfort trigger a cascade of dopamine in our reward circuitry when we have successfully completed a challenging puzzle, resolved a difficult issue or accomplished a long-sought goal.

Positive psychology adds yet a third pleasure category: "flow," or the sensation of being so fully engrossed in a task that we lose all sense of time and self. Originally described by psychologist Mihaly Csikszentmihalyi, PhD, the flow state can result from virtually any activity or pursuit that demands complete attention and requires the full application of our skill. It is actually more likely to occur during work or intensely focused hobbies and pastimes (from woodworking to making love) than it is during "zone out" leisure activities like watching TV.

The key to finding this flow — a state of "unselfconscious" engagement, or bliss — is to identify activities that hit that sweet spot between boredom and anxiety. In flow, you're engaged in an activity that draws on your skills — anything from doing yoga to cooking a gourmet meal — in a way that challenges you, but also allows you to make satisfying progress, even if it's not toward a particularly important or momentous goal.

Flow is what's known as an "autotellic" experience, meaning that it's a self-contained activity done first and foremost for the joy of doing it.

Getting Past Guilt

OK, so science tells us that pleasure is important, maybe even essential. Still, many of us feel a certain degree of guilt or resistance about devoting time and energy to pleasurable pursuits. This anxiety can originate from a number of sources, including religious beliefs that associate pleasure with sin and selfishness, but also from cultural pressures to be productive, efficient and successful.

Unfortunately, when we think of pleasure only as an indulgence or distraction, our experience of pleasure is both blunted and polluted by our negative associations. We tend to sneak it, gorge on it, fight our desire for it and even fear getting addicted to it — all of which reduces our enjoyment and thus minimizes pleasure's positive impacts.

Over time, this sort of rejection of everyday pleasures can significantly reduce our receptiveness to pleasurable experiences, potentially inclining us to compensate or act out in immoderate ways that prove much more hazardous.

That's why, if the first key to success in pleasurebuilding is recognizing its profound impact on neurology and physiology, the second is to be active in pursuing and embracing it — even if it takes some practice. In *The How of Happiness* (Penguin, 2007), cognitive behaviorist Sonja Lyubomirsky describes a 2005 study indicating that 50 percent of a person's general happiness depends on a biological "set point," or natural disposition. For the more pessimistically inclined, that can sound a bit

daunting, but here's the good news: Only 10 percent of happiness was shown to be dependent on circumstances; a full 40 percent relied on a person's intentional activities. This means that our satisfaction depends almost as much on what we do as who we are — and much less on what life throws at us.

To increase your base levels of pleasure and joy, says Lyubomirsky, it's essential to choose pleasure-embracing activities that suit your tastes and values and that make the most of your natural talents and discernments. In other words, you need to look for pleasurable pastimes that

create a good "happiness fit" for your personality.

Look to the sidebars on this page for some suggestions. Then start experimenting. The time you spend actively following your bliss is time well spent — both in terms of increasing your happiness and enhancing your health. All of which means that if you haven't made your own delight a priority lately, you've got a great excuse to begin in earnest.





If you find yourself struggling to decide which pleasures and passions you want to pursue, here are a few questions to ask yourself:

What delighted you when you were younger?

Very often, the things that gave us great pleasure as kids can offer clues about what might give us enjoyment again — because they speak of innate interests and enthusiasms. OK, maybe you don't want to craft creative clothes for your Barbie dolls anymore, but making yourself or your kid a pair of crazy felt mittens might be really fun.

When do you lose track of time?

Shooting free throws? Painting? Gardening? We all know the incredible feeling that comes when time disappears. Identify your own timeless moments to help guide you toward activities that will keep you passionately involved.

What experiences elicit feelings of longing?

Do you feel a twinge of envy when you see someone reading a novel, getting a shoulder rub, playing an instrument or making soup from scratch? Give yourself permission, then give it a try.

Take Your Pleasure Inventory

Paying detailed attention to pleasing experiences — by noticing and naming them as they happen, and replaying them after the fact — is a great way to become more aware of the many sources of pleasure in your life. Consider the following questions:

- What are your favorite moments of each day? Describe the pleasures they bring you.
- Name at least three memorable sensual pleasures (think in terms of sound, smell, taste, sight and touch) that you can recall experiencing recently or that you look forward to experiencing soon.
- What about your daily environment (home, office, etc.) is arranged in a way that gives you pleasure?
- What makes you smile or laugh on a regular basis?
- What activities or tasks give you the greatest feelings of satisfaction while you are doing them?
- How often are you hugged, held, cuddled, or otherwise touched with kindness and affection?
- What opportunities do you have to show others (kids, pets, friends, loved ones) care and affection?
- When you're feeling down or needing support, how do you take care of yourself (without numbing out or indulging in unhealthy behaviors)?