

WHAT DOCTORS DON'T TELL YOU



**Shake, rattle
and roll it away**
The healing effects
of high vibration

**Helping orchids
to fully bloom**
How sensitive souls
can learn to cope

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Avoid back surgery
with these simple
mental techniques



Orchids dandelions

Science is showing that what's good for the health of highly sensitive people (HSPs) might also be good for the health of the world, writes Justin Ballis

Highly sensitive people tend to take more time observing before acting, but with good reason: they simply have more sensory data to process

It wasn't until 1986 that British miners stopped taking caged canaries into the mines with them as an early warning system against carbon monoxide poisoning. Canaries are sensitive to toxic gases undetectable by humans, and if the birds kept singing, the miners were safe. A silent or dead canary meant immediate evacuation.

For many highly sensitive people (HSPs), the role of the fragile songbird is a potent symbol of their ability to perceive subtleties in the environment that others miss.

It is also a symbol of the double-edged nature of high sensitivity as both blessing and burden.

"We live in a very overstimulated world in Western culture, a lot of noise, a lot of flash, a lot of intensity, so the highly sensitive person can feel super overwhelmed," says somatic therapist and integrative mind-body medicine practitioner Dr Jenny Cundari, ND.

"We also know what it's like to feel disturbed, terrorized, depressed, scared, angry, sad—all the range of emotions, we feel them deeply in our bodies, and it can be incredibly uncomfortable."

The term "highly sensitive person" was coined by clinical psychologist Dr Elaine N. Aron in the 1990s after she discovered that many of her sensitive clients were too easily categorized as anxious, shy or introverted—and stereotyped as neurotic—without an understanding of the biological processes responsible.

Alane Freund, a California-based marriage and family therapist, says she grew up being told she was far too sensitive. It's a refrain familiar to highly sensitive people.

"Both my parents are highly sensitive, but they wanted me to be okay. So they tried to drive it out of me, especially my dad, [saying] 'You cannot go through the world like this, they're going to eat you alive,'" she says.

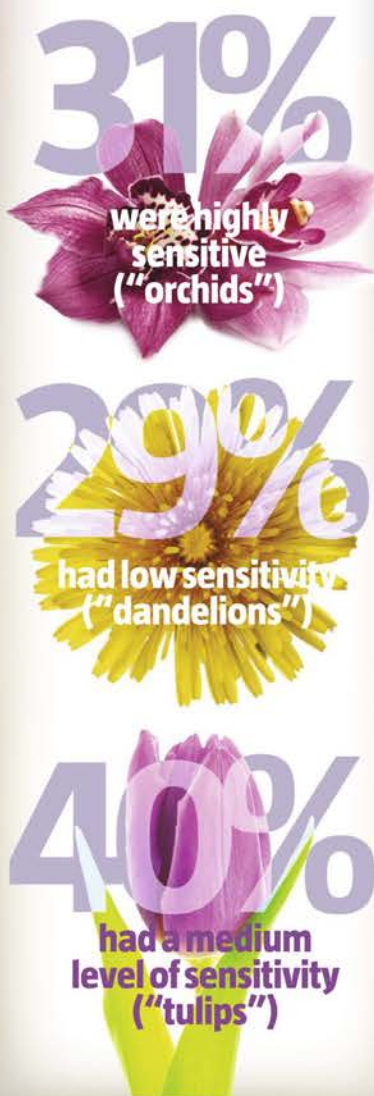
According to a 2005 study into the evolutionary origins of stress reactivity, an estimated 20 percent of the population is highly sensitive to environmental stimuli.¹

However, more recent research by Aron, Canada-based sensory processing scientist and high-sensitivity consultant Dr Jadzia Jagiellowicz and their colleagues found three distinct groups among 906 study participants: 31 percent were highly sensitive (so-called "orchids"), 29 percent had low sensitivity ("dandelions") and the remaining 40 percent had a medium level of sensitivity ("tulips"). Men and women were equally represented among the highly sensitive.²

High sensitivity has been described in over 100 other species, ranging from insects to mammals. From an evolutionary perspective, the 15 to 20 percent of each species highly sensitive to their environments are part of a survival strategy that can be used to help find food and other resources, provide care to others and avoid threats.³

Are you a sensitive flower?

Recent research by Dr Elaine N. Aron and high-sensitivity consultant Dr Jadzia Jagiellowicz found people fall into three distinct groups:



Highly sensitive humans, it turns out, have something in common with sensitive fruit flies. Both have subtle differences in their brains compared to the rest of their populations that affect the detail with which they process information.⁴

Jagiellowicz says HSPs have genetic variations in the neurotransmitters dopamine and serotonin that allow for greater brain plasticity, a reference to the brain's capacity to change its function and structure in response to experience.

"Dopamine plasticity allows behavior not to be fixed in stone. Rather, they are more responsive to their environment," she says. "That's why psychologists believe it's an evolutionary adaptation and why it has endured despite some of the disadvantages."

Those disadvantages had been clear as far back as 1913, when Carl Jung wrote of the rewards and risks of "excessive sensitiveness."⁵ Aron picked up the thread left by Jung when she reframed high sensitivity—called sensory processing sensitivity (SPS) by researchers—as an innate, biological personality trait.

She created the acronym DOES to clarify the defining aspects of high sensitivity (see sidebar, page 33):

- Depth of information processing
- (Ease of) Overstimulation
- Emotional reactivity and empathy
- Sensitivity to environmental subtleties.

"High sensitivity has a negative stigmatization in our culture that it means you're weak," says California-based Cundari. "Some people I work with who are new to these concepts don't really want to acknowledge that they're sensitive. But eventually they start to realize that it's a gift."

For better or for worse

HSPs tend to take more time observing before acting, but with good reason: they

simply have more sensory data to process. That range of sensory input includes experiencing the sights, sounds, smells, textures and tastes of the world more intensely, so HSPs are more easily overstimulated and often need to retreat in solitude to recuperate their energy. They also feel other people's moods and emotions more deeply.

One of the main findings of the science that followed Aron's early research was that the advantages and disadvantages of high sensitivity depended on the quality of individual

childhoods. HSPs are not just likely to suffer more from negative environments than the rest of the population, but also gain more from positive environments.

This concept became known as “differential susceptibility,”¹³ and it’s a thread that runs throughout the science of high sensitivity. Highly sensitive people feel more, for better and for worse.

In a meta-analysis of study results over a 30-year period, Dr W. Thomas Boyce, a professor of pediatrics and psychiatry at the University of California, San Francisco, found that highly sensitive children sustained the highest levels of morbidity—disease, injury and disability—under adversity, but the lowest rates in their absence.¹⁴ “[H]ighly reactive individuals had either the worst or best outcomes of the entire study samples, contingent upon the character of their environmental conditions,” he writes.

Freund, a high-sensitivity consultant, says that for children with challenging upbringings, these findings represented the dark side of differential susceptibility.

“The high-reactive kids under high marital conflict were much more likely to develop psychopathology of some sort, usually anxiety and depression. Without the kind of parenting that is needed, the highly sensitive child is much more likely to experience illness, injury and other problems of development,” she says.

In the same meta-analysis, the 80–85 percent of children with low or average sensitivity showed relative indifference to their childhood environments. It was a result that shocked the researchers, says Freund.

“Highly sensitive people have a more reactive brain. That’s basically what the functional MRI [magnetic resonance imaging] studies show us. It’s more reactive in certain areas, and one of them is in response to stress. It doesn’t matter what the stressor is in differential susceptibility—it could be poverty, the pandemic, a loss, mental illness, alcoholism. But the people with a low-reactive brain are barely impacted by the stress.”

However, highly sensitive children thrive under better childhood conditions. “Research has shown us over and over again that in a low-stress environment, the highly sensitive child is less likely to develop problems than the 80 percent who are not highly sensitive. It’s incredible how much better they do.”

For HSP pioneer Aron, it is chronic over-arousal caused by stress and trauma in childhood, rather than the inherited trait, that causes problems for HSPs. “While someone might tell you that you are making too much of your childhood problems, this research says you are probably not,” she writes in *The Highly Sensitive Person: How to Thrive When the World Overwhelms You* (Citadel Press, 2020).

The highly sensitive brain

The genetic basis for differential susceptibility was studied by the late British psychologist Robert Keers and University of London

professor Michael Pluess. When looking at genes associated with high sensitivity, they found genetically sensitive children who had a poor material environment growing up suffered much higher psychological distress and were more vulnerable to adversity as adults. Conversely, those with a positive childhood environment were significantly more resilient under stress.¹⁵

A twin study last year indicated that almost 50 percent of sensitivity is heritable, meaning it’s genetically linked.¹⁶ One genetic variation common in HSPs is found in a serotonin transporter protein, which can cause levels of the mood-regulating chemical messenger serotonin, which is associated with depression, to be depleted easier. Sometimes known as the “sensitive gene,” it is an emotional amplifier.¹⁷

Jagiellowicz reviewed a number of studies that examined the brain and differential susceptibility last year and found conflicting results, until once again the quality of childhood was factored in to provide a more reliable picture.¹⁸

“Boys who had poor family support and who also have the short allele [serotonin transporter gene variation] had more symptoms of depression than the non-highly sensitive boys,” she says, citing one study. “However, if those highly sensitive boys had high family support, they had the fewest depression symptoms.”

Finding a genetic basis for high sensitivity may come as overdue validation for HSPs, many of whom suffer poor self-esteem because they are frequently misdiagnosed, according to sensory processing sensitivity researcher Dr Bianca Acevedo. “Symptoms of SPS manifest in a variety of ways, ranging from depression, anxiety, fatigue and burn-out to digestive issues and low self-esteem,” she writes in *The Highly Sensitive Brain* (Elsevier Science, 2020).

Acevedo led a brain imaging study of highly sensitive people in which participants were shown a series of images of loved ones and strangers in a range of emotional states. She found that one of the mechanisms of their depth of information processing as they viewed the pictures is the so-called default mode network of the brain—areas of the brain that are active when a person is “spaced out,” daydreaming, imagining or perhaps meditating, and deactivated at times of focus on one’s surroundings.¹⁹

“Highly sensitive people pay more attention and also then process that information more deeply, because the default network is involved in processing and retrieving episodic memories,” says Jagiellowicz. “The highly sensitive brain looks for similar information in memory that will help it with a current problem.”

The implications are yet another iteration of differential susceptibility. “Negative or traumatic memories would be retrieved in greater detail,” says Jagiellowicz. This potentially leads to the kind of rumination associated with depression and even post-traumatic stress disorder.

On the flip side, HSPs may be innately blessed with an ability to solve problems, which may yet prove an evolutionary



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“It was a result that shocked the researchers”

Alane Freund



Are you an HSP or empath?

The HSP scale¹ is a 27-question self-report measure developed by Dr Elaine Aron that has been widely used and validated by other researchers.² According to the scale, highly sensitive people:

- Can frequently feel anxious when there's a lot going on in their environment
- Are often compelled to withdraw to somewhere private and quiet
- Do not cope well when asked to multitask
- Can be strongly affected by other people's moods
- Spend a lot of time "sorting out their inner workings."

Alane Freund admits the scale is biased toward introverts, but a new scale is now being researched that will be more accurate for men, extroverts and another subtype of HSPs called "high-sensation seekers."³

Freund recommends that anyone who is still unsure if they have the trait after completing the questionnaire should try again using the highly sensitive children's scale and answer for what was true when they were growing up. "I'm only yes to half on the HSP scale, but when I look at my early childhood on the child test, I have to say true to all but one," she says.

The adult and child HSP scales can be found under "Self-Tests" on the Highly Sensitive Person website at www.hsperson.com.

Dr Judith Orloff has a 20-point self-assessment test that includes questions such as:

Do arguments or yelling make me ill?

Do I overeat to cope with stress?

Do I startle easily?

Do I tend to socially isolate?

Do I absorb other people's stress, emotions or symptoms?

The test can be found at the beginning of Dr Orloff's book, *The Empath's Survival Guide*, as well as on her website, www.drjudithorloff.com.

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advantage in a changing global culture.

"In addition to perceiving stimuli more strongly, highly sensitive individuals also process the incoming information more deeply," writes Acevedo, "such as making connections across events, gaining deep insights, having a deeply ingrained memory of the event and seeing that which is beyond the mind's eye."

Empathy and the empath

In Acevedo's seminal study at the University of California, Santa Barbara, researchers also found activation in the parts of the brain associated with empathy that hadn't been observed before. HSPs showed enhanced reward system activation in a key dopamine area associated with strong emotions called the ventral tegmental area (VTA) when looking at images of loved ones or a beautiful landscape.

A second study showed the reward system was more active for those with positive childhoods and less active for those who reported negative childhoods.^{1B} HSPs also showed greater empathy than those without the trait whenever there was strong emotion, regardless of whether it was a stranger or a loved one.

For Dr Judith Orloff, MD, psychiatrist and author of *The Empath's Survival Guide: Life Strategies for Sensitive People* (Sounds True, 2017), sensitivity and empathy exist along a spectrum, and so-called "empaths" belong to a discrete category among HSPs. "Higher up on the spectrum [beyond HSPs] is the empath, who has all the sensory elements but tends to be an emotional sponge where they actually absorb the emotions of other people into their own

Among the highly sensitive, some are even more attuned to emotional climates than others

bodies," she says.

"They can pick up anything. They can pick up physical pain, emotional pain, they try and take the pain away from their parents. If they're put in a caretaking situation with a parent who is depressed or an addict or in pain, they take it in to their body."

In Acevedo's study, when HSPs were shown photos of their partners being unhappy, parts of the brain involved with action planning also lit up. This may explain why highly sensitive people are drawn to the healing professions—despite the risk of burn-out. "That's one of the key self-care techniques of being an empath is [understanding that] it's not your job to take on the world's suffering," Orloff says.

The science of high sensitivity doesn't make a distinction between HSPs and empaths, and the terms are often conflated in popular language. Although Cundari is reluctant to use the term "empath," she agrees that among the highly sensitive, some are even more attuned to emotional climates than others.

"I can go into a room and feel the heaviness in my body. I'm quite clairsentient, so I can put my hands on someone, and I can feel what's going on in their body in my body," she says.

Healing and self-care

The good news of neuroplasticity for highly sensitive people is that they are more responsive to therapies and holistic healing when they are older if they can avoid what Acevedo calls, “the tendency to overdiagnose mental health disorders in countries where the pharmaceutical industry has a strong foothold.”

Aron estimates that HSPs account for half of patients in psychotherapy, as they are more open to treatment and at least initially seeking to understand why they are so different.¹⁴ It may also be due to highly sensitive people’s lower threshold for trauma in the ‘coal mine’ of the West, says Freund.

“Simply growing up in a Western culture can be very traumatic for a highly sensitive child. It doesn’t have to be a violent family at all,” she says. “Just going to public school in America could do it to them.”

The positive side of differential susceptibility was shown by one program aimed at preventing 11-year-old girls from an at-risk population in England from becoming depressed as teenagers: only the highly sensitive had benefited one year later.¹⁵ A similar result was found with a bullying-prevention intervention study also co-authored by Pluess: only the highly sensitive boys reported benefits.¹⁶

Ensuring that the nature of high sensitivity is understood beyond easy stereotypes could bring more healing to more HSPs. For example, early research found that although high sensitivity and introversion shared characteristics, 30 percent of HSPs are social extroverts.¹⁷ A narrow cultural definition of masculinity may also exclude men from accepting their high sensitivity (see box, page 34).

Freund advises HSPs to design a life that balances the need for social interaction with the risk of overstimulation. That means scheduling time alone, making meditation or mindfulness a daily practice and being aware of their overstimulation triggers such as crowds.

But this must happen alongside professional treatment when there is a history of trauma. “Good nutrition, exercise, self-help reading, journaling, breathing, yoga, spiritual practice—all have a much more significant impact for highly sensitive people,” she says.

Orloff adds: “Their primary language is energy, so they respond to energy medicine, Chinese medicine, acupuncture, herbs if they’re done right, wilderness therapy.”

An Australian research paper confirmed that HSPs often struggle to regulate the intensity of negative emotions,¹⁸ setting the stage for the next wave of research examining the efficacy of meditation, yoga, mindfulness and cognitive behavioral therapies for this population.

A 2021 Polish study among 273 adults, for example, found “mindful attentional awareness” cultivated resilience among HSPs.¹⁹ Another study, this one from Japan, found that yoga helped highly sensitive university students boost their mood and promoted attentional capacity²⁰—the ability to choose what they pay attention to and what they ignore, rather than be held captive to environmental stimuli.

Easy DOES it

Dr Elaine Aron created the acronym DOES to map the different dimensions of the trait of high sensitivity:

Depth of processing

HSPs are sometimes perceived as inhibited due to their need to pause and run novel situations through their memory before acting. “It is very important that other people don’t mistake that for timidity or a lack of confidence,” Dr Jadzia Jagiellowicz says.

However, HSPs react to danger or opportunity faster when they see that a situation is like a past one, because they have already reflected deeply on the previous experience. HSPs are also known for their rich inner life, intuition and creativity.

Overstimulated

HSPs can easily become over-aroused by stimuli and are more sensitive to the environment. “It’s actually as a result of having more information to process,” Jagiellowicz says. Finding an optimum level of stimulation between the extremes of boredom or isolation and overwhelm is key to self-care.

Emotional reactivity and empathy

Sensitivity at its core is about feeling more, including other people’s moods and emotions. While much has been made of HSPs reacting to negative experiences, they also gain more from positive experiences than others. “[T]hey notice and respond more to moments like a smile or a nod from a parent or teacher (or as adults, from an employer or friend),” writes Aron in *The Highly Sensitive Person*.

Sensitivity to subtle stimuli

From picking up nonverbal cues to feeling the mood of another, the highly sensitive notice everything. HSPs are finely attuned to subtleties in sounds, sights and physical sensations. Being aware of subtle social changes gives HSPs deep insight into what other people may need. In short, they can read the room.



A gift for the world

Alane Freund tells the story of a child in preschool who started screaming after free play had started to ramp up and get a little too loud. “Then about five or 10 minutes later, the other children are going to start getting out of control,” she says. “The screamer’s little sensitive brain has hit overload, and the 80 percenters will eventually get there.

“So the highly sensitive person is your canary. They’re going to be the ones who ring the alarm first.”

Dr Tracy Cooper, an assistant professor at Baker University and HSP career consultant, found interviewees repeatedly used the phrase “canary down the coal mine” to describe how they feel as barometers of workplace health and culture when he was writing his dissertation study, later adapted for the book *Thrive: The Highly Sensitive Person and Career* (Invictus Publishing, 2015).

“In a time of global cultural metamorphosis, HSPs may have a significant role to play in intuiting the way forward as we seek to reimagine our lives and reinvent ways of being that honor community, inclusion and the development of each individual’s inherent potential ... in which serious societal issues may be identified early,” he writes in the dissertation.

The highly sensitive person is your canary. They’re going to be the ones who ring the alarm first

“This holds the potential for great benefit to society if these individuals can be integrated into corporate, government and spiritual spheres of influence while respecting the psychosocial needs of HSPs.”

Freund says the stigmatization of high sensitivity is unique to English-speaking

Western cultures and needs to change. In indigenous cultures, highly sensitive people became the medicine men and medicine women, and in countries like Thailand, India and Tibet, HSP children are placed in monasteries, she says, “because they’re the special ones.”

If evolutionary adaptation is a strategy that balances advantage and disadvantage, the cultural rewards of HSPs’ ability to detect nuances and see things from different perspectives may outweigh the personal risks of differential susceptibility. Their greater empathy may also offer a new model of sensitive leadership.

“I think there should be a chief empathy officer in every workplace,” says Orloff. “I feel so strongly that empathy is the quality that will save the world.”

On that note, Freund issued a quiet rallying call to the highly sensitive. “If HSPs take care of themselves and they’re not shamed, then they are going to be better equipped to lead businesses, countries, schools, and change the world,” she says. “We need to come out about our sensitivity. We need to tell our supervisors, our employers, about high sensitivity. Come out, come out, come out!”



Sensitive men

According to cognitive behavioral psychotherapist and author Tom Falkenstein, men especially experience their high sensitivity as shameful because they do not fit the model of masculinity championed by their fathers and mainstream culture.

“Again and again, I saw the huge amount of psychological suffering caused by the discrepancy between how these men were and how they thought a man should be,” he writes in *The Highly Sensitive Man* (Citadel Press, 2019) of his postgraduate training practice.

The language used to describe high sensitivity matters. Alane Freund suggests other terms such as “finely tuned nervous system” and a “highly reactive brain” for men struggling with any stigma, and Falkenstein places high sensitivity in the broader context of individual men’s complex personal makeup.

“[I]t’s problematic to reduce yourself to that one quality or to wear your highly sensitive nature like a badge of honor,” he writes. “I see highly sensitive men as neither ‘delicate flowers’ nor as ‘golden children.’”

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