

“Reflexes and Habits” Is Much Better Than “Fight or Flight”

Language that reflects the realities of sexual assault and its neurobiology.

Adding "freeze" can't salvage a phrase that harms sexual assault survivors.

Jim Hopper, PhD – February 12, 2021



Despite widespread use, “fight or flight” does not accurately reflect the typical behaviors of people during sexual assaults or the neurobiological impacts of stress and trauma. Adding “freeze” doesn’t help. In fact, using *any* version of “fight or flight” to sum up sexual assault responses can be harmful.

If you want accurate and scientifically sound terms for how people’s brains and bodies respond when they’re being sexually assaulted, here are two good ones: *survival mode*, and *reflexes and habits*.

To see why those phrases are much better, we first need to understand the origins of “fight or flight” and how that phrase is still routinely misunderstood and misapplied to sexual assault survivors.

With the knowledge provided here, all of us can help sexual assault survivors to understand – and stop blaming themselves for – how their brains and bodies responded and didn’t respond during the assault.

“Fight or Flight” Was a Term for Physiology, Not Behavior

According to the conventional wisdom (including among scientists) “fight or flight” was coined in the early 20th century by Walter Cannon, a Harvard physiologist. But careful reading and electronic searches of Cannon’s writings fails to find it anywhere. (He came closest with “the necessities of fighting or flight” on page 211 of his book [Bodily Changes in Pain, Hunger, Fear and Rage](#), first published in 1915.)

Cannon was a *physiologist*, not a behavioral scientist. He studied the body’s *internal* responses to stressful situations, not its outward behavior. He wrote about *preparations* within the body – specifically, preparations for *potentially* engaging in behaviors that might enable coping and survival. He focused on sympathetic nervous system activation, adrenalin release, and other physiological changes.



Although even scientists think it's true, Walter Cannon never wrote "fight or flight." He never even studied behavior.

Word-use data collected by *The New York Times* and Google show that when "fight or flight" began appearing [in the late 1800s](#), it wasn't a scientific term and it didn't refer to what Cannon would later study. Around 1920, someone first used the phrase to reference Cannon's findings, and that usage appeared with increasing frequency starting in the 1940s. By the late 1990s its use had skyrocketed and over the past 20 years, as we've all noticed, it's become a [very popular phrase](#).

But over those same decades, in the popular imagination "fight or flight" came to mean something very different from what Cannon studied. Although he never studied behaviors – not fighting, not fleeing, nor any others – many came to believe, incorrectly, that "fight or flight" refers to *behaviors* that may (or may not) accompany the physiological state he actually did research. Worse, many people came to believe, again wrongly, that fighting and fleeing are the *most common* behaviors in that state.

Why "Fight or Flight" Is Often Harmful

In reality, it's *unusual* to fight or flee while being sexually assaulted. Yet thanks to the popularity of "fight or flight" and the confusion about what it actually means, many people wrongly believe that fighting and fleeing are the two most natural and common responses.

That's harmful to sexual assault survivors because many people, including survivors themselves, wrongly believe it's unusual *not* to fight or flee. And that causes survivors to be misunderstood, even judged and blamed – again, including by themselves – for having "failed" to behave in supposedly normal ways when they were being assaulted.

Things are only made worse by thinking that "fight or flight" is a *science-based* description of typical behavior in such situations. Adding alliterative words such as "freeze" (and "fawn" and "faint") doesn't really help. As explained below, there is *no version* of "fight or flight" that accurately reflects scientific knowledge of brain and behavioral responses to being attacked, including sexually.

Much Better Terms: "Survival Mode" and "Reflexes and Habits"

Fortunately, there are equally simple phrases that reflect both the realities of victim behavior and scientific knowledge, phrases that everyone can start using now: *survival mode* and *reflexes and habits*.

"Survival mode" first appeared in the 1970s, in the technology and business worlds. Since the 1980s, it's been used [increasingly](#) as a biological and psychological term. "Survival mode" can refer to brain functioning in chronically stressful conditions, but also to a temporary state of brain and body in

response to being attacked or otherwise in immediate danger. So “survival mode” can easily replace “fight or flight” for referring to the *physiological state* that Walter Cannon studied.



Many victims don't fight or flee. Let's not increase their suffering with words that don't reflect their behaviors – or science.

Similarly, “reflexes and habits” easily and accurately covers the most common *behaviors* that people actually engage in when they're being attacked, including sexually. In fact, as explained below, “reflexes and habits” is far and away the *best* way to understand, including scientifically, the typical behaviors of people during sexual assaults. (Even when someone *does* fight or flee that behavior is usually reflexive or habitual, and best understood as just one of many possible reflexes or habits.)

With this terminology, behavioral language isn't used for a physiological state, and the behavioral words that *are* used, “reflexes and habits,” don't leave out the most common responses to being assaulted. When you put the terms together, everything makes sense, everything reflects reality, and everything fits with the science: when they're being (sexually) assaulted, people's brains and bodies typically go into survival mode, and in that state their behaviors typically consist of reflexes and habits.

To appreciate more fully why “survival mode” and “reflexes and habits” are more accurate and much better than “fight or flight” and its new variants, it's helpful to know which reflexes and habits *are* common responses of people in the midst of sexual assaults, and the basics of their neurobiology.

Survival Reflexes

Reflexes are hard-wired, not learned, because evolution put them into our brains. They're triggered automatically, without thinking or choice. *Survival reflexes* exist because they helped our ancestors survive life-threatening situations, especially attacks by large predators. For millennia, they've also been common responses to predatory sexual assaults.

One survival reflex is *freezing*, as defined by scientists: an inhibition of movement that automatically arises in situations of attack or other danger. It's a kind of “network reset” that gets the brain to stop everything, receive information about the danger, and (hopefully) generate an effective response. It typically happens at the beginning of sexual assaults and lasts just a second or two. (As I've explained [previously](#), freezing can be shorter or longer than that and can involve three types or phases.)

Two other and more extreme survival reflexes are *tonic immobility*, in which the body is literally paralyzed and muscles are rigid, and *collapsed immobility*, in which blood pressure and heart rate drop, the person may feel faint or pass out, and muscles go limp. To show what these survival reflexes look like, I've created playlists with brief videos of animals and people in [tonic](#) and [collapsed](#) immobility.

Another survival reflex is *dissociation*, in which awareness is automatically disconnected from disturbing and painful sensations and emotions arising in one's body. Not feeling pain means not writhing in agony, and not doing that can cause predatory animals to [lose interest and walk away](#), which is why dissociation was selected by evolution. Sexual assault survivors often say they felt "numb," "in a dream," or "out of my body." For a realistic (but disturbing) depiction of dissociation during sexual assault, see [this brief scene](#) from the Emmy-winning *Mad Men* series.

Self-Protection Habits

Habit behaviors are even more common than reflexes during sexual assaults.

They can be habits of polite acquiescence or submission that we've all learned for dealing with aggressive and dominant people who have power over us (e.g., parents, teachers, supervisors). They can be habits of passivity learned in childhood – from repeated experiences of abuse, exploitation, or domination. While being sexually assaulted, otherwise strong and confident teenagers or adults can suddenly, in a flash, find themselves engaging in submissive behaviors that, long ago, enabled them to cope and survive in abusive relationships.

Especially for girls and women, being sexually assaulted can trigger polite and passive habit behaviors that they've learned for resisting unwanted sexual advances without causing a scene or bruising an ego. This includes gently but ineffectively pushing a hand away from one's breast only to find it right back there again, or saying things like "I have to go home" while the perpetrator escalates the assault. Such behaviors became habits because they worked, at least to some extent. But they're useless when a perpetrator couldn't care less about the victim's experience and disregards the signals of "no" and "stop" being sent by those habit behaviors.



Children commonly respond to abuse with submissive behaviors. If this girl is sexually assaulted years later, her brain could automatically trigger this old habit.

When habit behaviors and reflexive dissociation overlap, very disturbing and confusing things can happen. People may engage in sex acts despite being severely stressed or traumatized – not because they want to, not because they're consenting, but because they've "checked out" and are in dissociative "autopilot" mode, just going through the motions of habitual sexual behaviors.

Without the more accurate and comprehensive understanding of reflexes and habits, survivors may say "I froze" as they attempt to name what were actually passive habit behaviors.

“Reflexes and Habits” Accurately Reflects Neurobiology and Evolutionary Selection

Neurobiologically too, “survival mode” accurately reflects the research on how stress and trauma typically impact the brain and *physiology*; and “reflexes and habits” accurately reflects the scientific research on how stress and trauma typically impact the brain and *behavior*.

Research on brain functioning and behavior in states of stress and trauma has shown that stress and trauma shift the brain to reliance on reflex and habit behaviors. Reflexive responses to stressful and traumatic situations are implemented by the [brain’s defense circuitry](#), including a brainstem area called the [periaqueductal grey](#). Habit-based behaviors [evoked by stress and trauma](#) are implemented by the brain’s habit circuitry, which is well-mapped and includes the [dorsal striatum](#). (See the scientific papers in the references below.)

It’s not just that sexual assault victims usually don’t fight or flee. The brain *doesn’t even have* a “fight circuitry” or a “flee circuitry.” Again, even when people *do* fight or flee, those behaviors are usually reflexive or habitual, running on the brain’s defense or habit circuitries.

Basically, in situations of stress and danger, the brain’s defense circuitry tends to control behavior, either by directly generating survival reflexes on its own, or by indirectly triggering habit behaviors via



“I didn't kick or scream or push.”
“I tried to be as polite as possible.”
“I wanted to not cause a conflict.”
“I didn't want to offend him.”

Quotes from activist Chesy Prout’s trial testimony. Girls and women learn such “nice girl” habits because they work: the other person usually stops. Determined perpetrators don’t. These habit behaviors are common during sexual assaults, because of how our brains work. (Photo: Darren Silva)

output to the habit circuitry. When a larger predator is coming at you or has you in its grip, thinking through a response with your rational prefrontal cortex is too slow and could get you killed. But reflexes and habits, which your brain can automatically cue up and execute in fractions of a second, could save your life. So evolution selected brains in which stress and trauma [impair](#) the [prefrontal cortex](#), because that allows fast reflexes and habits to take over.

The Great Benefits of “Survival Mode” and “Reflexes and Habits”

For all of these reasons, understanding responses to sexual assault in terms of “fight or flight” – including attempts to salvage that phrase by adding more words – is at odds with reality and scientifically wrong. More importantly, it results in countless survivors being misunderstood and doubted, even accused of lying or wrongly blamed for the assaults perpetrated against them.

When we understand, instead, that the brain typically responds to being attacked by entering *survival mode*, and that behavior typically consists of *reflexes and habits*, then we’re much better positioned to truly understand survivors and to avoid doing them harm.

Especially if we know the forms that reflexes and habits commonly take – including freezing, habits of polite resistance or submission, tonic or collapsed immobility, and dissociation – then we can listen more perceptively when survivors share their experiences and we can truly hear and understand them. If we’re investigators or attorneys, we can gather more complete and accurate information about their experiences and behaviors, and put that information to good use.

When we finally learn to think about sexual assault responses in terms of “survival mode” and, mostly importantly, when we finally think about behavior in terms of “reflexes and habits,” then we will much better understand survivors’ experiences and much more effectively support their pursuits of healing and justice.

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