## The scientist's verdict: there's no such thing as everlasting love

Think you've found your soulmate? A new book says we should ditch the sentimentality. Barbara McMahon meets the author

e tend to think of love as a bolt of lightning that strikes once or twice in our lives, or the special feeling that is reserved for close family and friends. In an intriguing new book published in the United States, the scientist Barbara Fredrickson says that we should ditch these entrenched and sentimental atti-tudes about love and think about the many-splendoured thing in an entirely new way. Love isn't about sexual desire or romance. It's not unconditional. It's not even a lasting condition. Fredrickson defines love as fleeting moments of connection that you can share with anyone, not just with a soulmate. Love is indeed all around. It is something you can experience momentarily, with strangers, with fellow commuters, with the person who wraps up your purchases in a department store. In scientific terms, and with a nod to the famous comic strip, love is ... "micro-moments of positivity resonance".

Fredrickson, who researches positive emotions at the University of North Carolina, acknowledges that it's not the most attractive of terms, but says that she's not trying to dissect something beautiful, take it apart scientifically and make it ordinary.

it apart scientifically and make it ordinary. "I'm attempting to take love off its very lofty pedestal," she says. "By calling attention to the biological aspects of love, we can bring this most powerful of all emotions into everyone's reach. Love is far more ubiquitous than you ever thought possible, because of the simple fact that love is a connection between any two people." She quotes the lyrics of Louis Armstrong's 1960s hit *What A Wonderful World*, when he sang: "I see friends shaking hands, saying 'How do you do?' They're really saying, 'Ilove you'."

Love is a nutrient that our bodies need like oxygen or food, Fredrickson explains. By thinking of love only in romantic terms, or limiting it to a small circle of family or friends, we restrict our opportunities for health and growth and wellbeing, she

claims. "When you limit your view of love to relationships or commitment, love becomes a complicated thicket of emotions, expectations and insecurities. But if you follow your body's definition of love, a clear path emerges that cuts through that thicket and leads to a better life."

Science, she says, is illuminating for the first time how love, and its absence, fundamentally alters the biochemicals in which the body is steeped. "The love you do or do not experience today may quite literally change key aspects of your cellular architecture in the months and years ahead... cells that affect your physical health, your vitality and your overall wellbeing," she reveals in the book Love 2.0: How Our Supreme Emotion Affects Everything We Feel, Think, Do and Become. "Just as your supplies of clean air and nutritious food forecast how long you'll walk this Earth—and whether you'll thrive or just get by—so does your supply of love."

Fredrickson says that three key neurobiological players are at work — the brain, your body's level of oxytocin, which is sometimes known as the "cuddle hormone", and the vagus nerve which connects your brain to the rest of your body. The vagus nerve's influence on love can actually be measured by examining someone's heart rate in association with their breathing rate — their so-called vagal tone. Having a high vagal tone is good: it means you can regulate biological processes such as glucose levels better: you have more control over your emotions, make more positive connections, and are more loving. In the course of her research, Fredrickson found that people with a high vagal tone report more experiences of love than those with a lower vagal tone.

In a micro-moment of love, you and the other person mirror the positivity in each other's emotional state, you mirror each other's gestures and biochemistry and you mirror each other's impulse to care for one another. Like any other emotion, anger, joy and sadness, this profound feeling doesn't last and micro-moments of love are measured in seconds or minutes. Love is ephemeral, Fredrickson says. "No emotion is built to last, not even the ones that feel so good."

But if we open ourselves to receiving micro-moments of love every day — whether they are mild ones in a pleasant interaction with a stranger or strong ones in our dealings with a spouse or close family member, we reap the health benefits. Science shows that these benefits build in the body over time and make us physically and emotionally healthier.

"The ordinary conversation with your spouse over breakfast or a humorous interaction with a stranger is at the lower-intensity end of the spectrum, but time and again what the science of emotions tells us is that modest but frequent experiences

Love is ... Love is ... a micro-moment of never having positivity resonance, to say you're sorry at best

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such as these account for our wellbeing," says Fredrickson." We certainly remember the super-intense ones better, but they are not necessarily more important in terms of our health or the strength of a relationship." She likens it to everyday booster shots. "Sharing a silly story, being proud of your spouse, saying 'thank you' — those are the booster shots that keep us and our relationships healthy," she continues.

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This way of looking at love helps people to have more control over their emotional wellbeing, Fredrickson says. "We tend to think of love as something that just happens, like the weather, but we can actually steer our emotions much more than we think," says Fredrickson. Micro-moments can be part of everybody's life. It's not just for those who have recently fallen in love, it's for people who are in longstanding relationships, and for people who are not even in relationships."

Certainly, loneliness is one of the growing problems of our age. With more divorce and fewer marriages, millions of people in the UK face life without close relationships. If we change our attitude, we can see that love's reach is wider than we imagine, Fredrickson adds. No one —

young, old, passionate or reserved, single or married—need be excluded.

She recommends cultivating at least three micro-moments every day. "Think about how attuned and connected you felt with those people," she advises. "Elevate those moments as something important in daily life, and prioritise them. You'll see that you gain not just the emotional uplift but a health improvement as well, and you are not the only person who gets that improvement. The other person does, too, so you're spreading wellness and health, and not just cultivating it for yourself."

Fredrickson, who has been studying positive emotions for two decades, says she used to be a "crusty" scientist, but has become a much more warm-hearted person by following this science. "I don't mind the 'L' word," she laughs. "I do tell my children that I love them. I use love in normal conversation like everyone else, but I think that having a scientific appreciation, with a spiritual and personal appreciation, of love gives a new set of lenses through which to appreciate this very human, very everyday phenomena." To paraphrase The Beatles song: All you need is a micromoment of positivity resonance.