PART I: FOUNDATIONS

In this chapter, we will explore the science of positive psychology, the foundation of the rest of the book, and examine the deep relationship between our minds and bodies (the mind-body connection).

POSITIVE PSYCHOLOGY

A Brief History

Positive psychology has roots in some of the early writing of the Greeks. Aristotle exclaimed that "happiness is the meaning and purpose of life, the whole aim and end of human existence." Unfortunately, for most of the 20th century, psychology has emphasized the negative within the framework of the disease model. The focus during this period was on weakness and deficiency—what is wrong with us. As researchers and practitioners were identifying various psychological disorders (to be included in the DSM, the *Diagnostic and Statistical Manual of Mental Disorders* published by the American Psychiatric Association), the goal of psychology became one of finding a cure and relief from these mental health issues. In the 1950s, a new perspective was emerging. Humanistic psychology, led by Abraham Maslow and Carl Rogers, began to challenge some of the views of psychoanalysis (yes, Freud!) and the behaviourists at the time. They offered a more positive view of human nature, with reference to concepts such as free will and self-actualization. Interestingly, it was Maslow who first coined the term "positive psychology" in his book *Toward a Positive Psychology* (1954, as cited in Joseph, 2014). But Martin Seligman is associated with the more recent positive psychology movement. Many in the community refer to him as the father of modern positive psychology. Although he had a background and interest in depression research, as he studied learned helplessness for years, he altered his research interests during his years as the president of the American Psychological Association. In that role, in 1998 his call to action was to turn our attention to the positive, and to focus on topics such as happiness,[4] well-being, optimism, and strengths. He challenged us to ponder the question, "What contributes to a good life?". Along with like-minded colleagues including Christopher Peterson, Mihaly Csikszentmihalyi, Barbara Fredrickson, and Ed Deiner, among others, he launched this new area of study. Seligman's contributions to the field

[4] For ease and simplicity, happiness and well-being are used interchangeably throughout this book, although I acknowledge the research that these are distinct yet interrelated concepts. Flourishing is a third related term that is referenced as well, albeit less frequently.

include the concepts of learned optimism, the PERMA model,[5] and character strengths and virtues (this latter topic, character strengths and virtues, was a collaborative effort with Peterson). His colleagues and others began their exploration in these factors that led to a good life … and the field exploded!

What is Positive Psychology?

"Positive psychology is the scientific study of optimal human functioning. It aims to discover and promote the factors that allow individuals and communities to thrive" (Sheldon et al., 1999), or flourish. It is about building what is right with you, rather than fixing what is wrong. And when crap happens (because it will!), it is about giving ourselves "permission to be human" (Ben-Shahar, 2007).

Positive psychology acknowledges several truths:

1. We Are Wired for Emodiversity

If there are no ups and downs in your life,
it means you are dead.

~ Author unknown

As humans, we experience a host of emotions throughout life. Although many of us will categorize some of our emotions as *positive* or *good* (e.g., joy, love) and others as *negative* or *bad* (e.g., sadness, anger, anxiety), we should refrain from doing so. Given the range of experiences we will encounter, *all* these emotions are adaptive, and they make sense given what is in front of us. *Emodiversity,* "the variety and relative abundance of the emotions that humans experience," is what is ideal (Newman, 2014; Quoidbach et al., 2014). According to Quoidbach and his colleagues (2014), only experiencing "positive" emotions is not optimal, although on surface it would appear to be, because it lacks authenticity. They posit that "a wide variety of emotions might be a sign of a self-aware and authentic life; such emotional self-awareness and authenticity have been repeatedly linked to health and well-being." Imagine

[5] The acronym PERMA stands for Positive emotions, Engagement, Relationships, Meaning, and Accomplishment/Achievement. According to Seligman (2012), in his book *Flourish*, these are the five elements of a flourishing life. Emiliya Zhivotovskaya, founder of the Flourishing Center in NYC and my teacher of positive psychology (I obtained my certificate in applied positive psychology in 2014) added a sixth component with her PERMA-V model, Vitality, to recognize the imperative role of the body in our well-being.

not experiencing sadness when a close friend or relative has passed, or *not* experiencing anger when someone has intentionally hurt you or you have experienced a racial injustice? Anger can motivate us to speak up and advocate for change. Anxiety can motivate us to move toward our goals and help keep us safe. Interestingly, even the rumination that often accompanies depression can be adaptive, as it can aid with the problem-solving process and provide necessary insights (Andrews & Thomson, 2009). These emotions are natural and adaptive when not expressed in extreme form or preventing us from functioning and living the kind of life we want to live. Hutson (2015), in his article "Beyond Happiness: The Upside of Feeling Down," highlights some of the advantages of experiencing some of these emotions (illustrated in Table 1).

Table 1: Advantages of Various Emotions

Anxiety	makes us aware of potential threats (keeps us safe), encourages self-discipline
Guilt, embarrassment	makes us reconsider past mistakes and perhaps make amends, and avoid future mistakes
Anger	seeks justice, prevents exploitation
Sadness	focuses our thinking, signals to others that we need help
Envy	makes us strive to better ourselves, have persistence
Regret, disappointment	motivates us to do better next time (learning opportunity), make amends, keeps us out of future trouble

Growth happens when we start *getting comfortable being uncomfortable.* Many of us try to push down our pain and uncomfortable emotions. One downside of this strategy is best expressed in the words of Brené Brown (2010), shame and vulnerability researcher and TED Talk phenom: "We cannot selectively numb emotions, when we numb the painful emotions, we also numb the positive emotions." The aim of positive psychology is not to rid you of uncomfortable emotions, but to provide you with tools so you can move through and not get stuck in them. Pay particular attention to *WOW Tip 5: Cultivate Mindfulness* and *WOW Tip 9: Practice Self-Compassion* to learn how to ride the waves of these uncomfortable and sometimes distressing emotions.

I have highlighted the importance of experiencing "challenging" emotions. Are there also benefits to experiencing "positive" emotions (including love, serenity, forgiveness, awe, joy, interest, hope, pride, amusement, and inspiration), in terms of our physical and psychological health, creativity, productivity, and relationship satisfaction? According to Barbara Fredrickson, author of the book *Positivity* (2009), the answer is yes.[6] In her "broaden-and-build" model (Fredrickson, 2004), positive emotions *broaden* our "thought-action repertoire," and allow us to *build* our intellectual, physical, social, and psychological resources. By doing so, she says, we are better equipped to handle distressing circumstances now *and* later as we create *upward spirals* in our lives.

According to Fredrickson (2011), experiencing positive emotions is associated with a host of benefits. For example, positive emotions open our minds, and we are more likely to see the big picture as we engage in holistic processing. We are more creative, generating more ideas when brainstorming, and we become more resilient as we are better able to bounce back from adversity. Academic performance is enhanced, doctors engage in better medical decision-making, and relationships are strengthened (Fredrickson, 2011). Interestingly, positive emotions can also lead to a longer life. In one study by Danner and her colleagues (2001), young nuns in the 1930s were asked to write a short autobiography. Later, these autobiographies were scored for inclusion of positive, negative, and neutral words. Researchers found a strong positive correlation between inclusion of positive words and longevity; the higher the number of positive words, the longer one tended to live! One of the strengths of this study was the homogeneity of this population, in terms of their diet and lifestyle.

2. We Are Wired To Worry

One of the basic phenomena highlighted in psychology is the *negativity bias*, "the bad is stronger than the good." We pay more attention to the negative compared to the positive. From an evolutionary perspective, this makes sense because this bias is adaptive. If our ancestors ignored the things in their environment that could harm them, there could be serious and sometimes fatal consequences. Our ancestors who survived were cautious and worried.

[6] In her book *Positivity*, Fredrickson claimed that to flourish, we need to experience at least three positive emotions to offset the one challenging emotion we experience (a 3:1 positivity ratio). Since its publication, Brown and his colleagues (2013) wrote an article claiming that there were errors in the mathematical equation used to derive this 3:1 positivity ratio. In response to this critique, Fredrickson (2013) agreed that the model was inaccurate. Despite these inaccuracies, her claim that higher positivity ratios are predictive of well-being and other beneficial outcomes (within bounds) has been substantiated by numerous researchers over the years.

They reacted by attacking the threat or escaping the situation—the fight-or-flight response in action. Today, we are not dealing with periodic threats from our environments but chronic stress, and our bodies pay a heavy price because this process is no longer adaptive. Throughout this book, strategies to better cope with the stressors in our lives will be offered. Can a stressor be reframed? Are there adoptable strategies that can lower the amount of stress experienced? There is nothing inherently wrong with stress or how our bodies react to it. In fact, we should be thankful when we become reactive, because our bodies are doing exactly what they were built to do—keep us safe.

3. We Are Wired for Connection

We are social animals, and we have evolved to belong to groups. But over time, we have disconnected from these essential social networks. We are the loneliest generation, and evidence shows that loneliness is impacting our mental health, with increasing rates of anxiety and depression, as well as our physical well-being. In *WOW Tip 14: Foster Connection*, we will explore the importance of our relationships to our wellness (think about it: there's an "I" in "illness" and a "we" in "wellness"), and how zooming out of our personal realm and investing in these relationships can increase our sense of well-being.

What are the reasons for these feelings of disconnection and loneliness? There are several factors, including one that we can't ignore: technology. There are many advantages and conveniences associated with devices, like connecting with people we care about. It is *how* we use our devices—time spent on social media, perfecting profiles, consuming inaccurate images and "facts," seeking approval with thumbs-ups and likes—and our excessive use that can be problematic. Consider "*phubbing*," or phone snubbing. Have you ever ignored someone to check your phone? Has this happened to you? I've had several discussions on this topic, and reactions have varied from "It's no big deal" to "It's extremely rude or insensitive," but what is being communicated by this behaviour is the most important question. As the recipient, do you feel worthy? Do you feel respected? How does this behaviour impact the quality of relationships, and does it create distance? Additional consequences of misusing or overusing technology are documented in the research literature, and span several categories (including physical, cognitive, emotional, and relationship). In *WOW Tip 11: Create a New Relationship with Your Tech Devices,* we will further explore our relationship with technology and its potential impacts on various areas of functioning and on personal relationships.

What Contributes to Well-Being?

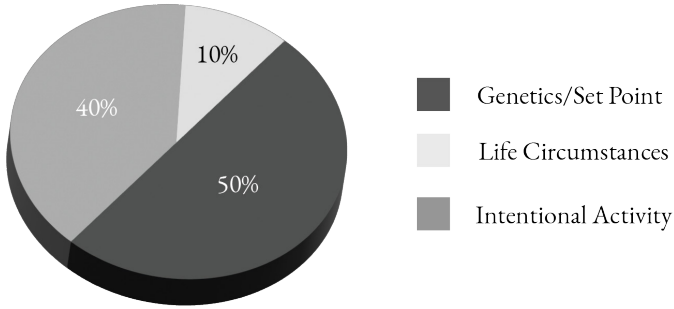
A SHORT QUIZ

1. In general, are people living in California happier than people living in the Midwest?
2. In general, are lottery winners happier than people with paraplegia?
3. Does money buy happiness?
4. In general, are individuals who go to church happier than those who do not?
5. In general, are parents happier than those individuals without children?
6. Does hanging out with happier people lead to a boost in happiness?

(answers begin on page 18)

In 2005, Sonya Lyubomirsky, author of the books *The How of Happiness* and *The Why of Happiness*, and fellow researchers Kennon Sheldon and David Schkade wrote a seminal paper that referenced the "Happiness Pie" (Figure 1). They highlighted three factors that affect our happiness level: genetics/set point (50%), life circumstances (10%), and intentional activities (40%); the number in parentheses is the percentage of the variance within a population (that is, at the group level; these percentages do not apply at the individual level, where 50% of *my* happiness may be determined by genetics). This finding led the researchers and positive psychology scientists to be optimistic about one's ability to change their happiness/well-being. Although genetics accounted for the biggest chunk of this variance (we cannot change who our parents are), we do have control and can make different choices with respect to our intentional activities such as gratitude exercises, meditation practice, and exercise. Further, life circumstances had the smallest impact on our overall happiness level (10%). This was an interesting observation, because many of us put much effort into changing our life circumstances, such as getting an education, finding a job, or buying/renting a home. Although these pursuits can influence our happiness and well-being, gaining titles and resources

Figure 1: The Happiness Pie



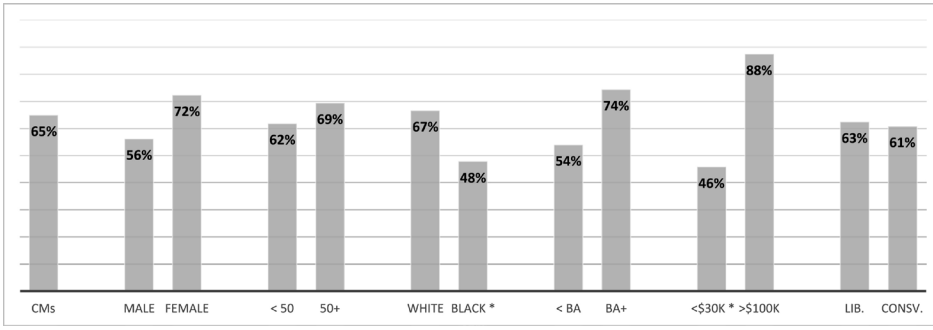
Source: Adapted from Lyubomirsky et al. (2005)

have less of an impact than we believe (Lyubomirsky et al., 2005). Since the publication of the original paper, some researchers have raised critiques about the model, specifically the weights of these three factors (50/40/10). Sheldon and Lyubomirsky (2019) addressed these concerns and agreed with many of the critiques. They concluded that although the approximate percentages were not accurate, the overall takeaways still applied. Individuals can engage in deliberate efforts and activities to increase their happiness, but the impact of these efforts is much smaller than originally reported (less than 40%). Subsequent research suggests that the heritability component accounts for a bigger slice of the pie at 54%, and a slightly higher estimate of 61% of the variance is cited if the studies in question were weighted for their sample sizes (Brown & Rohrer, 2020, 2021). This latter point may seem discouraging, especially if you believe that your happiness set point is lower on the scale. We don't come into the world as blank slates. (Sorry, John Locke, but your tabula rasa theory is wrong!) Some of us need to work harder to experience happiness. Putting in the work can pay off, as there are things that we can do to shift this biological set point. What we choose to do and how we think is mostly under our control, and we experience fluctuations to our happiness every day. What do you do right now that brings you peace, well-being, and/or happiness? For additional ideas, jump to the *WOW* section of this book!

Although I support this narrative, I do not want to minimize the impact of our life circumstances and experiences. Applying the wellness tips that are shared throughout this book can nudge us toward a more flourishing experience, but these interventions may be less helpful if one cannot reliably access safe housing, a secure income, or healthy food/clean water, and if experiences of systemic racism or other forms of discrimination and oppression are part of their reality. Over several decades, research has shown

that broader systemic and material variables, including the social determinants of health, are crucial factors that influence our physical and psychological well-being. So why are these factors often missing or minimized in some positive psychology research? Reasons include the focus of some of this research, with an overemphasis on internal, psychological factors, and overreliance on quantitative and survey research that asks closed-ended questions on a narrow array of topics. By broadening one's research scope, studying this topic with a more contextual lens, and utilizing qualitative methodologies such as ethnographies, these other key variables surface. In a recent research study, anthropologist Sara Willen and her colleagues (2021) conducted interviews with a diverse group of participants in the Ohio area. They found that the likelihood that a person reported they were flourishing or at least leaning in this direction (65% of their community members sample) differed across key demographic variables. As illustrated in Figure 2, participants who were women, older, white, highly educated, and earning a higher income were more likely to report flourishing.

Figure 2: Percent Flourishing (Yes/Leans Yes) by Demographic Group



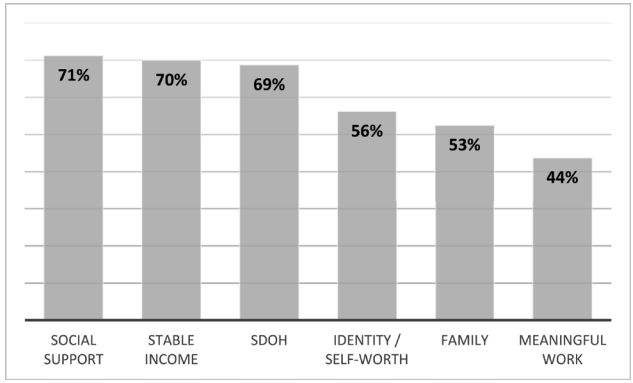
Note: * statistically significant difference ($p<0.05$); "CMs" refers to "community members"

Source: Willen et al. (2021)

Participants were asked to share the top three things that lead individuals to flourish. As Figure 3 illustrates, social support, a stable income, and the social determinants of health highlight these broader contextual factors beyond the individual;[7] the latter two, specifically, emphasize these structural and material influences (Willen et al., 2021).

[7] According to Willen and her colleagues (2021), the social determinants of health include "access to food, housing, transportation, and education; neighborhood and physical environment; sense of safety; government institutions; exposure to the police/justice system; discrimination; and structural oppression."

Figure 3: Top Factors Affecting Flourishing



Source: Willen et al. (2021)

The researchers gathered rich stories and experiences from their participants. They shared samples from their collection that demonstrate the complex and dynamic interplay between factors at the individual and societal levels, and how our (in)ability to access social determinants of health have a significant impact on our sense of well-being. For example, a woman in her 50s emphasized the importance of what she calls a "healthy home":

> Because your home is your sanctuary …. But if you have a home that's falling apart, … that's infested with roaches, and mold, and, and lead, and … water coming in, and then after you've worked so hard, and then you come home and you just want to rest, and then you're like oh I don't have food, and, … it's raining; oh now we got to put you know, buckets here … there we go, mice again. … you cannot rest … So now your health is going out of whack. You get depressed, mental issues. Violence, because you're angry …. because Ah! Why do I have to live life like this? And Ah! Why can't I pay for this? Why can't I get—why can't the landlord fix this? … So you're not being a good mom because you're angry. So you didn't even want to talk to your kids … you didn't want to cook … So then you're eating unhealthy. So you're creating all these negative environments. So it's mental health, stress, …so you cannot give 100% at home. So if you cannot give 100% at home, you cannot give 100% to work, and you cannot give 100% to social life, and you have no friends, because you're so angry nobody wants to talk to you. So for me, it's very important that you have a healthy home.

One unfortunate interpretation of positive psychology research is that the

bulk of what determines our happiness is within our control. I have sometimes left these positive psychology-related talks and seminars with the "fluffy" and naive message that if we want to feel better, we only need to think differently and practice some wellness interventions. *You can do it!* Although this message may resonate for many readers of this book, it falls flat for others, especially if their needs for safety, security, and belonging have not been met. Will a gratitude exercise help if you are worried about putting food on your table? Please keep this in mind as you experiment and share the interventions that are offered throughout this book. Although these interventions can be helpful, sometimes structural and systemic changes need to take place so that we can collectively access resources and opportunities that will impact our well-being.

Back to the quiz at the start of this subsection:

Before I provide the answers to these questions, I want to highlight two well-documented observations:

1. Many of us do not know what brings us happiness.
2. We are not very good at predicting how events will affect us, for better or worse, in the future.

So why do we get it wrong much of the time? One reason is the *focusing illusion*, our tendency to focus on one aspect of our lives to the exclusion of other important aspects (Schkade & Kahneman, 1998). Unfortunately, because of messages we have received from our families, friends, and the media, we often focus on the *wrong* things. With this in mind, let us turn our attention to the answers to the quiz.

✗ *In general, are people living in California happier than people living in the Midwest?* No.

FACT: There is no significant difference in happiness levels between Californians and Midwesterners. In Schkade and Kahneman's (1998) study, they found that most people wrongfully assumed that individuals who live in California are happier than those who live in the Midwest. The climate factor appears to loom large in individuals' incorrect predictions, the researchers found. Focusing on climate and minimizing the importance of factors that have a stronger association with well-being such as relationships, meaningful work, and leisure activities—factors that are the same in these two settings—leads one to make this predictive error (Schkade & Kahneman, 1998). Marketing companies exploit this cognitive bias when advertising to us. By making us

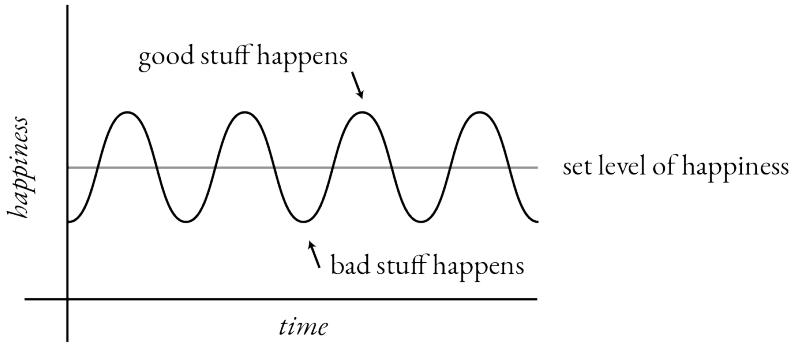
feel that we *need* to own their product to feel happy, we are more likely to buy it. If we feel a temporary boost from our purchase, this momentary happiness is short-lived thanks to hedonic adaptation; more on this concept below.

In general, are lottery winners happier than people with paraplegia?
No.

FACT: Following a pivotal event such as winning the lottery or having an accident resulting in paraplegia, people with paraplegia are only slightly less happy than lottery winners, but most people predicted that there would be a significant difference in happiness/well-being between the two groups (Brickman et al., 1978). Research over the years in *affective forecasting* has consistently demonstrated that we are terrible at predicting how positive or negative events will impact us. Brickman and his colleagues (1978) found that although individuals experienced the expected rise/drop in their happiness level immediately after winning the lottery or experiencing paraplegia, in contrast to participants' predictions, those living with paraplegia were only slightly less happy at a future date than the lottery winners. Buying a new house or getting a new job does make us happier, but we adapt and return to baseline as we chase our next purchase or goal. Likewise, experiencing a life-altering event, such as losing a physical ability, has a negative impact on our well-being, at least in the short-term. In the long-term, we adapt, and our happiness returns to pre-accident levels. We are more resilient than we think, and there is growing evidence in post-traumatic growth research that demonstrates this (we will explore this topic in further detail in *WOW Tip 7: Make Meaning as You Create Empowering Stories*). These observations align with our understanding of *hedonic adaptation/hedonic treadmill*, a concept described by Brickman and Campbell (1971) and illustrated in Figure 4, whereby we return to our happiness set point after experiencing something positive or negative.

As Kahneman (2013) has stated, "Nothing in life is as important as you think it is when you're thinking about it." We overestimate how much joy we will obtain by making a material purchase or attaining a goal, and how long our mood boost will last. And likewise, we underestimate our resiliency when unfortunate events happen. Can we remember this fluctuation in our happiness/well-being the next time we find ourselves in a challenging situation? Can we zoom out so the event/emotion benefits from a clearer perspective? With time, we will likely bounce back and return to our happiness set point level. And when good things happen, savour the experience, because this is unlikely to last as we adapt again. We will visit this concept of impermanence, the idea that nothing lasts forever, in future chapters.

Figure 4: Hedonic Adaptation



Source: Adapted from a figure cited in Schaffner (2016)

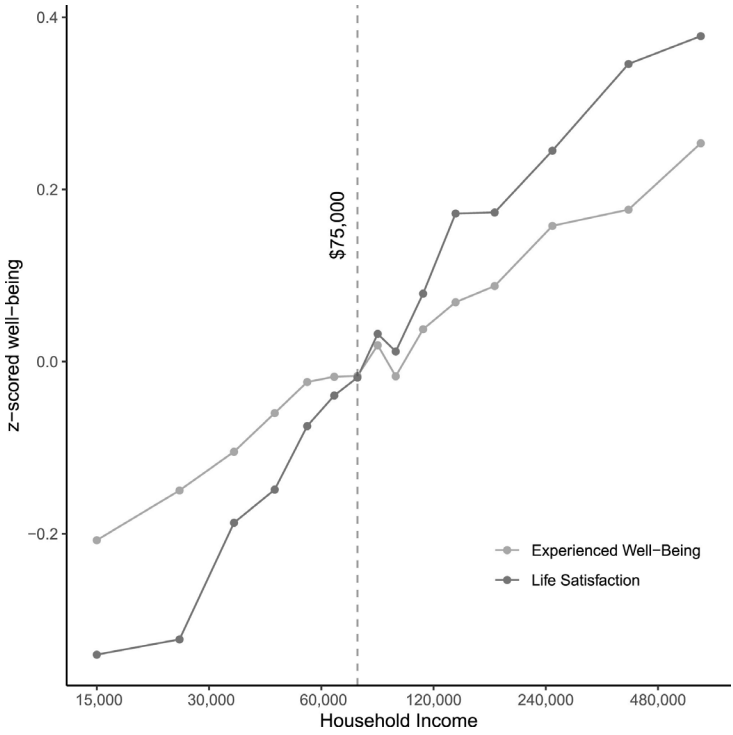
Does money buy happiness?
Yes … sort of!

FACT: New research by Killingsworth (2021) shows a positive correlation between money (indicated by household income) and happiness. As demonstrated in Figure 5, "experienced and evaluative well-being increased linearly with log(income) with an equally steep slope for higher earners as for lower earners" (Killingsworth, 2021). This study measured two types of well-being (WB) using the author's *Track Your Happiness* app in which participants were asked to rate their WB periodically throughout the day at random intervals:

- *Experienced WB*: real-time feeling reports (i.e., How do you feel *right now*? Response endpoints ranged from "very bad" to "very good")
- *Evaluative WB*: overall life satisfaction (i.e., Overall, how satisfied are you with your life? Response endpoints ranged from "not at all" to "extremely")

This research contrasts with research by Kahneman and Deaton (2010), who reported that overall there is little correlation between happiness levels and financial wealth. They found that positive affect rises with log income up to $75,000 (US dollars). Money contributes to happiness, they concluded, but only when the added wealth ensures stability (e.g., putting food on the table or securing safe housing). Beyond this point, money did not appear to continue to contribute to our well-being, at least to the upper limit of wealth observed in this study.

Figure 5: Mean levels of experienced well-being and evaluative well-being for each income band.



Note: Income axis is log transformed.

Source: Killingsworth (2021)

Before prioritizing money, there are a few caveats to highlight:

- Remember that this is correlational data, and it does not mean causation. Although this finding is often interpreted as money *leads to* happiness, it is also possible that people who are already happier make more money, among other explanations.

- We need to highlight how the variables were represented on the x- and y-axes of Figure 5 above (Note: Even Kahneman and Deaton's 2010 study plotted wealth in this way). For example, household income was plotted on a log scale (i.e., each point along this axis doubles). So, as income increases, well-being increases at a slower rate, so that a particular sum of money (e.g., $10,000), has a greater impact on someone earning $20,000 per year compared to someone earning $200,000 per year. In fact, a person's $20,000 income doubling to

> $40,000 would have the same increase in happiness, on average, as another person's $100,000 income doubling to $200,000!

Chasing money isn't a good goal when it comes to happiness. In fact, desiring wealth leaves one *less* happy (Kasser, 2002, as cited in Boniwell, 2012). Killingsworth (2021) cautioned readers of his study to not make earning more money a priority. He reported that people who "defined their personal success in terms of money … tended on average to be less happy … you want to have it, but you want to not care too much about it" (as cited in Enten, 2022).

What seems to be more important than the amount of money you have is how you spend it:

1. *Spend Your Money on Experiences Versus Material Goods.*

   Spending money this way increases one's happiness. Thomas Gilovich and his colleagues (2015) cite numerous studies to support this recommendation. Further, they propose three mechanisms to explain why experiential purchases are associated with increased happiness and are more immune to hedonic adaptation—in other words, the boost in happiness lasts longer. One of the mechanisms to highlight is that experiential purchases such as going to the theatre often involve social interaction. Research shows that social connection is imperative to one's happiness and well-being. On the flipside, prioritizing material purchases often impedes our happiness. Research demonstrates that people who are materialistic are in fact less happy. This is indicated by the experience of more challenging emotions and lower scores on relatedness, autonomy, competence, gratitude, and meaning in life (Kashdan & Breen, 2007). Interestingly, one mediating factor in the research is low levels of gratitude in materialistic individuals.

2. *Spend Your Money on Other People Instead of Yourself.*

   In a study by Dunn and her colleagues (2008), spending money on others led to a greater boost in happiness than spending money on oneself.

In general, are individuals who go to church happier than those who do not?
Yes.

FACT: Going to church is linked to being happier and living longer (Ciarrocchi et al., 2008, as cited in Boniwell, 2012). Please note that the research is correlational, meaning that there is a relationship between church attendance and happiness. We cannot assume the directional nature of this relationship (i.e.,

it could be that attending church causes an increase in happiness, *or* individuals who are already happier are more likely to go to church, or both). Aside from the religious/spiritual aspect of church and one's faith, as well as believing one's life has a higher purpose, going to church also involves socializing and perhaps helping family, friends, and community members.

In general, are parents happier than those individuals without children?
No, although it is a complex relationship.

FACT: Having children does not make you happier, and having young kids (under age five) and teens makes you *less* happy (Kobrin & Hendersot, 1977, as cited in Boniwell, 2012). An interesting side note is that parents tend to live longer. An important distinction to make is between a happy life (with respect to hedonic well-being or WB) and a meaningful and purposeful life (eudaemonic WB). Raising children, with its number of joys but also challenges, may not be pleasurable a lot of the time (low hedonic WB), but we can reflect on these important relationships and find meaning in them (high eudaemonic WB). According to Deaton and Stone (2014), despite the observation that parents, compared to nonparents, show greater fluctuations in well-being (more joy *and* daily stress), "If parents choose to be parents, and nonparents choose to be nonparents, there is no reason to expect that one group will be better or worse off than the other once other circumstances are controlled."

Does hanging out with happier people lead to a boost in happiness?
Yes.

FACT: Hanging out with happy people increases one's happiness (Christakis & Fowler, 2009, as cited in Boniwell, 2012). This finding highlights the concept of *emotional contagion*, or "the tendency to automatically mimic and synchronize expressions, vocalizations, postures, and movements with those of another person's and, consequently, to converge emotionally" (Hatfield et al., 1993). There is ample evidence in history, the animal world, across the lifespan, and in clinical settings that emotions are contagious—both "positive" emotions and "negative" emotions. When you spend time with individuals who are cranky, do you start feeling this way as well? One mechanism is that we mimic other people's vocal and non-verbal behaviours and movements without conscious awareness, and we do so shortly after birth. This facial and bodily feedback is often very subtle, and cannot be seen by the naked eye. In one study conducted by Dimberg and Thunberg (1998, as cited in Dimberg et al., 2000), subtle microchanges in the participants' various facial muscles were observed while viewing happy and sad faces after a brief 500-millisecond exposure; they were mimicking the facial expressions they

were observing. In subsequent research, this mimicry effect appears to happen at an unconscious level (Dimberg et al., 2000). A word of caution: Consider who you surround yourself with, in social circles and with family, friends, and colleagues. According to Cameron (2008), the *heliotropic effect* is "the tendency in all living systems toward positive energy and away from negative energy." We can see this bias operating with all living systems. Just as plants grow and lean toward the sun, humans lean toward positive energy in others, and benefit from it as they in turn enhance the work of others around them. If you are a manager, invest in and nurture positive energizers—your return on investment will be multiplied! For example, the NBA's Shane Battier may have been an unknown player, but with his "contagious" energy, he was an incredible force when he was on the court. He was known as a positive energizer (Lewis, 2009), as he improved his team's performance, while simultaneously worsening his opponents'.

We are often not aware of what contributes to our happiness and well-being. We chase things in life such as money, material possessions, and status that may not contribute as much as we think to our sense of well-being and may in fact undermine it. There is one factor that I have not discussed thus far: *time affluence*. This is a topic that is receiving increased attention in recent years, especially with the publication of Ashley Whillans's book *Time Smart* (2020). Time affluence is defined as "the state of having and using time meaningfully" (Whillans, 2020). I have devoted much of my career to teaching others how to take care of themselves, encouraging my students to make the time for activities that will contribute to their well-being and happiness. And there I was, on my computer, checking email and just being "busy," never feeling like I had enough time. We will explore this topic of time affluence, and the importance of creating much-needed free space in our lives, in further detail in *WOW Tip 10: Become More Time Affluent*. I will share my tricks and tips with you so that you can direct your limited resources—your energy, your time—into the pursuits that truly matter to you and will enhance your sense of well-being. It's about getting more of what matters done in less time.

MIND-BODY CONNECTION

One area in positive psychology that I am passionate about is the mind-body connection. Namely, the power of neuroplasticity, which is the brain's ability to heal, grow, and reorganize itself, and the many ways in which our bodies influence our minds (such as our perceptions, thoughts, feelings, and judgments), and likewise, our minds influence our bodies, as these seemingly separate "systems" are deeply intertwined. One example of this intricate

connection is seen in the many ways trauma resides in our bodies, a viewpoint advanced by Peter Levine (author of *Healing Trauma*), Gabor Maté (author of *When the Body Says No* and *The Myth of Normal*), and Bessel van der Kolk (author of *The Body Keeps the Score*), among others. Tara Brach, in her book *Radical Compassion* (2020a), references this point when she says, "Our issues are in our tissues." This topic is beyond the scope of this book, but I encourage you to further explore these ideas if this topic is of interest to you.

Neuroplasticity

According to Norman Doidge, psychiatrist and author of *The Brain That Changes Itself* (2007) and *The Brain's Way of Healing* (2015), our thoughts and actions can not only alter our brain's anatomy (its structure), but also its physiology (its function). This process is referred to as *neuroplasticity*. Here is some evidence of our brain's incredible ability to reorganize itself.

1. Hemispherectomy

A hemispherectomy is a surgical procedure in which there is a removal of the left or right cerebral hemisphere of the brain. Some may opt for this surgery because of their experience with debilitating seizures that may be localized to one side of the brain, as in the case of Rasmussen syndrome. Many individuals might predict that the consequences of surgery would be substantial: Would they be able to speak, communicate, and move? But contrary to this belief, individuals do remarkably well because the remaining hemisphere takes over some of the function that was once ascribed to the now missing hemisphere. It begins to reorganize itself through the creation of new neurons, or neurogenesis, and the overall rewiring of this neuronal network (Baiyekusi & Prasad, 2016). With the addition of rehabilitative therapies such as Taub's constraint-induced movement therapy (CIMT), where individuals are required to use the affected parts of their body, incredible progress can be seen with repeated practice as the brain learns to reorganize and rewire itself.

2. Taub's Constraint-Induced Movement Therapy (CIMT)

The right side of the brain controls the left side of the body and vice versa. If someone's right side of the brain has been affected in some way, such as a hemispherectomy, or brain injury due to a traumatic accident, stroke, or other causes, one may see some deficits on the left side of the body. Many survivors meet this challenge by compensating with the "good" side of their body. In this case, an individual having difficulty using their left hand may resort to using only their "good" right hand to pick up objects and perform everyday

tasks. As a result, the affected left hand will never improve its functioning. In CIMT, an individual is prevented from using their "good" hand by wearing a large mitt, which forces them to pick up blocks, food, and other items with their affected hand. Over time, one can expect to see improved functioning in their affected hand due to the power of neuroplasticity (Taub et al., 2005, as cited in Doidge, 2007).

3. London Cab Drivers

And we could not include a section on neuroplasticity without mentioning the incredible brains of London cab drivers. A study by Maguire and her colleagues (2000) found that their extensive knowledge of the intricate and complicated road system altered these cab drivers' brains, specifically the hippocampal region known for memory formation. Having thousands of hours of experience navigating these roadways literally changed the brains of these seasoned, expert drivers. Their hippocampi were much larger than individuals without this extensive experience. Further, the more experience they had navigating these roads, the greater the growth in this brain region (Maguire et al., 2000).

Diving into the Mind-Body Connection

Ample research shows that interventions aimed at the physical body can generate powerful "mind" benefits (perceptions, thoughts, feelings, and judgments). Strategies targeting the mind can likewise lead to benefits in how our physical bodies function. Although this presentation may make the directional relationship between mind and body appear linear (i.e., body → mind, mind → body), the actual mechanisms underlying these relationships are quite complex and bidirectional in nature.

1. Body to Mind (Embodied Cognition)

A. Power Posing

In 2012, psychologist Amy Cuddy delivered a TED Talk entitled *Your Body Language May Shape Who You Are.* Almost immediately, the video went viral and influenced the way people think about the power of body language. Cuddy shared details of her studies that demonstrated that "power posing"—think about Wonder Woman standing in a confident pose—can alter our body chemistry and our feelings of confidence, as well as impact our probability of success. In her 2015 book *Presence*, she described several studies she conducted with her colleagues on this power posing effect. In one study (Carney et al., 2010), participants were instructed to take either a low-power pose, where the body

is constricted, or a high-power pose, expressed in expansive body postures, for a duration of two minutes. Later, their testosterone and cortisol levels were measured, and they found that compared to baseline, the high-power posers experienced an increase in testosterone (T) and a decrease in cortisol (C), our "stress" hormone. The low-power posers showed the opposite pattern (↓ T, ↑ C). Further, the high-power posers reported increased feelings of power. In a subsequent study that used the same manipulation prior to an interview, high-power posers were judged to have increased "presence" during their interview and were more likely to be chosen for hire (Cuddy et al., 2015). Changing one's body, for a mere two minutes, can have dramatic effects on how one feels, in turn impacting how one is perceived by others. It should be noted that some later studies have failed to reliably replicate these findings, especially with respect to the physiological changes in T and C levels underlying this effect.[8]

B. Facial Feedback Hypothesis

Can feedback from our facial muscles influence our emotional experiences? Some studies show that the answer is yes. In one study (Strack et al., 1988), participants were randomly assigned to one of three groups. The first group, the "smile group," was asked to hold a pencil with their teeth. Holding a pencil in between your teeth forces a smile. The second group had to hold the pencil with their lips, generating a neutral facial expression. The third group, the control group, was asked to hold the pencil with their nondominant hand. They were then asked to rate a cartoon. The results indicated that the smile group rated the cartoon as funnier, compared to the other two groups.[9]

Another demonstration of this effect was illustrated in a study by Wollmer (2012, as cited in Rodriguez, 2012). The question was: Is it possible that a Botox injection to one's face can help individuals with depression? The logic was that if a Botox injection made it difficult for a person to frown—Botox patients often state that they have difficulty expressing emotion on their faces—would they in turn experience fewer depressive symptoms? To test this hypothesis, individuals with depression were randomly assigned to two groups. Group 1 received five Botox injections, while group 2 received five injections

[8] If you are interested in exploring the criticisms of this study, namely its issue with replicability, they are outlined in a paper by Simmons and Simonsohn (2017) entitled "Power Posing: P-Curving the Evidence." In response, Cuddy and her colleagues (2018) cited a review of 55 studies that found a clear link between power posing and feelings of power, even though the effect of power posing on one's body chemistry was not reliably demonstrated in these studies.

[9] Concerns have been raised about the replicability of this effect. In a meta-analysis of the facial feedback literature, Coles and his colleagues (2019) reported that the effects (if any) are small and variable.

of a placebo. As predicted, the Botox group experienced a reduction of depressive symptoms, more so than the control group. If this study has piqued your interest and you are considering Botox as a "wellness" strategy, you may want to reserve your curiosity and keep reading!

C. Physical and Emotional Warmth Link

There is growing research that suggests that there is a link between physical warmth and psychological warmth (for a summary, see Bargh & Melnikoff, 2019). In fact, the perception of both physical warmth and psychological warmth is linked to a region in the brain called the insula. In a remarkable study, Williams and Bargh (2008) had participants ride in an elevator with the experimenter and hold their coffee ("hot" or "cold"). Later, all participants were asked to rate 10 different people on personality traits. The result of the study was that the "hot" coffee group gave warmer ratings than the "cold" coffee group.[10] Similarly, in a subsequent study in the same paper, participants were asked to rate the effectiveness of therapeutic pads. Some of the participants rated hot pads whereas others rated cold pads, again determined by random assignment. Later they were given a treat and told that they could keep it for themselves or give it to a friend. The result of this study was that the "hot" raters were more likely to give the treat to their friend. These findings suggest that physical warmth promotes kindness, an aspect of psychological warmth.

D. Exercise

The benefits of exercise have been well-documented in the research literature and the media. For example, bursts of movement prior to a test can improve one's performance, and engaging in a regular exercise regimen has been shown to be as effective, if not more effective, as taking psychiatric medications for various mental health issues, including antidepressants and benzodiazepines, among others.[11] John Ratey and his co-author, Erik Hagerman, explore these impacts among others in their book *Spark* (2008). To learn more about the impact of exercise beyond the physical benefits, see

[10] Chabris and his colleagues (2019) failed to replicate this finding. In response, Bargh and Melnikoff (2019) addressed their criticisms and highlighted procedural differences between the original study and subsequent replication studies, and offered further evidence of this physical-social warmth pathway. If you are interested in this research, which is beyond the scope of this book, I encourage you to read this latter paper

[11] If you have a prescription for a psychotropic medication, please do not interpret this finding as medical advice to stop taking your prescription. Please consult your doctor and/or healthcare professional for guidance in deciding how to best support your mental health. It could be that a combination of medication and an exercise regimen will be your best course of action. Do not wean yourself off a prescribed medication without medical support and supervision.

WOW Tip 3: Exercise.

2. Mind to Body

A. Placebo Effect

There is ample research to show that a person's *expectations* that a treatment (e.g., sugar pill, sham surgery) will work often leads to beneficial effects. These benefits can range from improvements in one's mood or anxiety to pain relief. When attempting to explain why, some scholars (see Novella, 2017) refer to placebo effects, because there are several mechanisms that likely underlie these benefits. Aside from reasons that include regression to the mean, bias in perceiving and/or reporting symptoms such as favourable assessments to please one's care provider, and other details of the "treatment" including the relaxing atmosphere and attention from one's care provider, the one we highlight here is that one's *belief* that improvement is possible causes physiological changes in one's body. In fact, the endorphins, our "pain-relieving" endogenous opioid, and dopamine, a neurotransmitter linked to reward-motivated behaviour and pleasure, among other neurotransmitters and hormones, are connected to the placebo effect (Marchant, 2016).

Interestingly, a *nocebo effect* has also been observed in the literature. In this case, if you expect a treatment to produce negative effects or side effects, you may in fact experience them.

B. Mindfulness

If you are familiar with the growing literature surrounding meditation, you know engaging in regular mindfulness meditation has the potential to change the brain and body in amazing ways. To dive into this research, read *WOW Tip 5: Cultivate Mindfulness*.

C. View Stress As a Challenge Versus a Threat

When stressed, we experience several physiological changes in our bodies that are part of the "fight-or-flight" response—accelerated heart rate, rapid breathing—or "freeze" response—immobility. The adrenaline-fueled fight-or-flight response results from the activation of the sympathetic nervous system. But under stressful circumstances, is this response inevitable? According to psychologist Kelly McGonigal, author of *The Upside of Stress* and TED Talk speaker (*How to Make Stress Your Friend*), the answer is no. In fact, perceiving a stressful event as a challenge versus a threat can change how we respond to the situation. As she highlights in her TED Talk (McGonigal, 2013), viewing

one's stress response as helpful can change how we physiologically respond in our bodies; instead of our blood vessels constricting, they are more likely to stay relaxed. So even if your heart is pounding, having your blood vessels remain relaxed is a healthier cardiovascular response. The next time you are in a stressful situation, say to your body, "Thank you for helping me get ready to cope with the challenge in front of me." If you are perceiving the situation in front of you with a catastrophic lens, go to *WOW Tip 6: Challenge Your Perspective and Mind Chatter* to discover ways you can challenge your perspective and unproductive mind chatter that may not be serving you in that moment.

D. Psychotherapy

Several studies support the fact that changing the way we think can change the brain. Clients that participate in various forms of psychotherapy, including Cognitive Behavioural Therapy (CBT), often show emotional benefits to their mood and anxiety as well as accompanying physiological changes with respect to both brain anatomy and molecular and cellular changes (Karlsson, 2013). In more recent years, mindfulness interventions have been integrated with traditional therapeutic approaches to treat a host of physical and mental health issues, from depression and anxiety to chronic pain and other ailments. Third-wave CBT interventions, including Mindfulness-Based Cognitive Therapy (MBCT), an adaptation of Jon Kabat-Zinn's MBSR program created by Zindel Siegel, Mark Williams, and John Teasdale; Dialectical and Behavioural Therapy (DBT), developed by Marsha Linehan; and Acceptance and Commitment Therapy (ACT), created by Steven Hayes, underscore a mindfulness-based focus to these treatments. All three treatment modalities have shown promise in treating a range of psychological disorders.