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Stability and Change

INTRODUCTION

In the summer of 1995 I was a university student in Chicago, USA when a heat wave killed over 700 people. As might be expected, the deaths were disproportionately high among the elderly, especially in poor and minority neighbourhoods. However, when looking more closely at the neighbourhood data, sociologist Eric Klinenberg noticed that broad demographic statistics did not fully explain the pattern of deaths. Surprisingly, some poor neighbourhoods had the lowest death rates in the city – ten times fewer deaths than nearby neighbourhoods separated by a single street, and similar to the most affluent neighbourhoods. These islands of positive outcomes denote a major topic of this chapter: resilience. Positive psychologists (and sociologists, apparently) are keenly interested in finding the people and communities that do well even in the face of significant adversity. Why were some poor neighbourhoods so successful in protecting their elderly residents from the deadly heat? In this case, Klinenberg explored the question by talking with people in their neighbourhoods, but he solved the mystery by being physically present there, rather than by what he heard. He noticed that the resilient places had clean sidewalks, many businesses, and parks. In contrast, the neighbourhoods with high death rates were semi-abandoned, with few stores or public places, and cracked and cluttered sidewalks. These differences in physical spaces seemed to underlie differences in the ways the communities functioned, either promoting or hindering social contact. This 'social infrastructure' translated into people knowing which neighbours might need help during the heat crisis, thus preventing deaths. Social infrastructure is thus a predictor of resilience. In this chapter, we will explore many others. (Podcast episode #346 at 99percentinvisible.org tells this story and more.)

Earlier this year, my home city, Ottawa, Canada, was again hit by a natural disaster. It was less dramatic (and thankfully much less deadly) than the heat wave of 1995, but tornados wreaked havoc on Ottawa in 2018. In the aftermath, I learned about a new charitable organization, Team Rubicon, that came to help with the clean-up. I am sure that there are stories of great resilience among members of the tornado-affected neighbourhoods, but even more interestingly, the Team Rubicon volunteers demonstrate significant reslience. The organization is composed primarily of military veterans who have transitioned their service into disaster relief. The charity thereby serves a dual function: to help reintegrate former soldiers to civilian life, and to do this by helping people in need. I hope it does not detract from the veterans' admirable service to point out that these positive acts provide a path to their personal well-being too.

This brings us to the other central theme of this chapter: how positive activities – often prosocial ones – can be harnessed to improve well-being. Our focus is more prosaic than veterans performing disaster relief, but this has the advantage of being more accessible to all people. Team Rubicon brings together the topics of resilience and personal efforts to improve well-being. At another level, these topics mirror positive psychology's attempts to encourage both stability and change. When we encounter adversity, maintaining well-being – stability – connotes flourishing. However, for less challenging circumstances, positive psychology suggests some techniques that can increase well-being – positive change.

RESILIENCE

Natural disasters, death, racism, and poverty are probably not the first things that come to mind when thinking about positive psychology. Indeed, a reasonable way to understand the focus of positive psychology is as positive topics (see Chapter 1); however, this notion must be qualified to allow room for resilience. **Resilience** refers to well-being despite difficult circumstances, and it has been a key part of positive psychology from the beginning. We find resilience (or not) when people face significant challenges. These include acute events like accidents, assaults, and loss of loved ones, as well as chronic adversity such as poverty, prolonged illness, or discrimination. Some degree of challenge is required to know whether a person is truly resilient or not. Personality characteristics can help predict resilient responses, but it is the responses – over time – that define resilience (Masten, 2001; Meredith et al., 2011; Rutter, 2012; Ryff et al., 2012). For positive psychologists, the focus on studying what goes right still applies in difficult circumstances.

Resilient responses are defined in relation to some challenge, but they do not require actual change. For example, if a person's home and cherished possessions were destroyed in an earthquake, maintaining good psychological health (not changing) is considered resilience. If a poor community has longevity that is similar to wealthier neighbourhoods nearby, it is a resilient community. Resilient responses can even include relatively brief periods of

poor functioning; those who bounce back quickly are resilient. With time, some people even report personal growth and improved well-being following adversity, and this too demonstrates resilience. In sum, resilience is found in various patterns of stability and change through adversity; the common element is good outcomes given the degree of challenge.

Even setting aside the complexity of stability and change in resilience, some tricky issues remain in fully describing it. The first is how to calibrate what counts as a good outcome. We might ask, for example, how much distress can occur in the face of adversity and still be resilient? There are no easy answers here. One (non-ideal) approach might be to define resilient responses as those which are better than average. We would first need to decide who is included in the relevant group (e.g. all widows, young widows, widows who were primary caregivers), then assess them, and then define the least distressed half as resilient. However, this arbitrarily assumes that 50 per cent of people are resilient. Beyond arbitrary, you might also be surprised to learn that the 50 per cent resilience rate is actually lower than research estimates using other approaches (Galatzer-Levy, Huang, & Bonanno, 2018). For example, a study surveyed residents of New York City for symptoms of post-traumatic stress disorder (PTSD) six months after the 2001 terrorist attack (Bonanno, Galea, Bucciarelli, & Vlahov, 2006). Overall, about 65 per cent of people reported zero or one symptom, and the researchers considered them resilient. About 6 per cent reported high symptom levels, suggesting continued PTSD stemming from the attack, with the remaining 29 per cent showing moderate or recovering levels. Although this study documents substantial suffering, it also suggests that the most common response was resilience in the face of a potentially traumatic event.

The New York PTSD study used the criterion of no or one symptom to define resilience; this is still somewhat arbitrary, but it seems a reasonable way to define good functioning under the circumstances. Another way to find resilience is to track people over time, ideally with a measurement taken before the potentially traumatic event. This approach presents a challenge to researchers, yet dozens of studies have been able to measure people before and after adverse events. Many of these are studies of predictable events (e.g. military deployment, bereavement following illness), but others rely on luck, clever adjustments, or good records. For example, comprehensive medical records in the Netherlands were used to examine children's mental health before and after a major fireworks factory accident (more on that later) (Dirkzwager, Kerssens, & Yzermans, 2006). As another example, in 2004–2005 researchers began a study about scholarships for low-income women in New Orleans which included some measures of distress and social support. After Hurricane Katrina hit the city, they located most of the participants for a follow-up, and could track distress from before to after this major disaster (Lowe & Rhodes, 2013). In pre- and post-event studies like this, changes over time can be used to sort people into groups. Understandably, some people respond with a significant increase in distress. Others, however, are quite stable, with low levels of distress before the event which remain similar through it and after it. These people are considered resilient due to maintaining psychological heath despite difficult circumstances. Other people have significant distress even before the event, and still others undergo a period

of distress and then recover, and so on – there are wide individual differences. Nonetheless, studies typically find that resilience is the most common pattern. For example, in a review of 54 longitudinal studies, the average rate of resilience was around 65 per cent (i.e. low distress before and after an event), with the next largest group, about 20 per cent, showing substantial recovery during the studies' periods (Galatzer-Levy et al., 2018). Although some quibble with the statistical details (Infurna & Luthar, 2016), the results across these traumatic event studies are striking: resilience is common.

This conclusion accords with observations from chronic adversity too. For example, developmental researcher Ann Masten (2001) characterized resilience in children as "ordinary magic". This idea has two parts: first, research shows that children from difficult circumstances (e.g. poverty, mental illness in parents) often grow up to become productive and well-adjusted adults; and second, overcoming early adversity does not seem to require any super powers – normal human coping responses usually suffice. As another example, African Americans report high levels of psychological well-being despite racial discrimination and social inequalities in the USA (Keyes, 2009). None of this means that adversity carries no risk, but instead suggests that many people successfully overcome challenges. As with so many other areas, threats and negative outcomes understandably grab attention – we should help remedy them – yet their power can also obscure the ordinariness of positive resolutions.

Another challenge in characterizing resilience is deciding what, exactly, must go right to qualify. For example, if a chronically ill person has pervasive uncertainty about her purpose in life, but generally experiences pleasant moods, is she resilient? For practical reasons, individual studies typically consider only a small set of potentially relevant factors. Returning to the study of 2001 New Yorkers, many people seemed resilient on measures of PTSD, but perhaps they were still depressed or had substantially reduced life satisfaction – we simply do not know. Some critics argue that we cannot trust the high resilience rate estimates because there could always be unmeasured variables that would display problems (e.g. Infurna & Luthar, 2016). It is hard to dismiss this idea, and caution is warranted to avoid making too much of exact estimates for resilience rates. However, it also seems unlikely that research consistently measures the wrong things, and that substantial ill-being is hiding in those unmeasured factors. Most individual studies are too limited to make confident conclusions about psychological health broadly (complete resilience), but critiques become unfalsifiable if they appeal to an endless list of hidden or unmeasured possibilities.

With so many definitional ambiguities in the details of resilience, knowing the exact rate seems impossible or arbitrary. Yet debate continues on the issue, probably because it has implications for treatment and interventions. To the extent that resilience is common, it suggests that most people will not require special attention following potentially traumatic events; instead, treatments might be reserved for the few who would otherwise suffer (Bonanno, Brewin, Kaniasty, & La Greca, 2010). On the other hand, if problems are common then broad-based interventions seem more appropriate. At the risk of being cynical, the

people who provide psychological services hardly seem unbiased in seeing need for their services (Maddux, 2008); however, positive psychologists have a different perspective. Even if resilience is common, positive psychologists have a role in promoting greater flourishing – their work does not depend on things going wrong. Even so, it is abundantly clear that some people do suffer, and also that some circumstances and personal characteristics are more conducive to resilience than others. Whether to hone interventions, identify people at risk, or study what goes right, there is broad interest in learning more about where we find resilience.

Finding Resilience

The clearest predictor of difficulty following potentially traumatic events is the degree of exposure. For example, in disasters some people are physically injured, lose property, or see the horrific suffering of others, whereas other people are less directly affected. The more exposure, the less resilience, on average (Bonanno et al., 2010). Returning once again to the New York 2001 study, an average of only 6 per cent of the New Yorkers surveyed indicated probable PTSD overall, but the rates were higher for people who were physically or symbolically closer to the attack: 11 per cent if a friend or relative was killed, 25 per cent for those present in the World Trade Center, or 12 per cent if they were involved in the rescue. Additionally, about 30–40 per cent more people reported moderate symptoms across these groups (Bonanno et al., 2006). Similar patterns emerge in most studies of natural disasters where more direct involvement produces more problems. In addition, the objective challenge of discrete events sometimes plays out over longer periods of time, such as when people are displaced, lose employment, and so on. Lower rates of resilience come with continuing challenges.

Broad reviews of resilience research point to many features of personality and the social context that also predict better outcomes when facing adversity (Bonanno et al., 2010; Masten, 2001; Meredith et al., 2011; Rutter, 2012; Ryff et al., 2012). Rather than pointing to one key strength, research suggests that broad collections of resources, or complex interactions among them, facilitate resilience. With that caveat, some personality features that seem helpful are emotional stability (vs neuroticism), positive emotionality, a general sense of control (mastery, internal locus of control, self-efficacy), and good self-regulation (part of trait conscientiousness). Religiosity seems to provide a buffer in stressful circumstances, likely because it fosters a sense of meaning and connects people to others (Diener, Tay, & Myers, 2011). In addition, adaptive coping styles include those that are problem focused, avoid rumination, and are prone to finding some benefit or seeing a challenge (vs defeat) in adversity. That said, even the best coping strategies will not apply to every situation; there is value in having flexibility. By analogy, it is better to have more tools in the box, along with the knowledge about when to use each (Bonanno & Burton, 2013). Positive thinking and optimism are helpful, but

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within reason; self-enhancement complemented by a realistic sense of what can and cannot be controlled may be best.

Measures of trait resilience also exist (other names include toughness or hardiness). However, these are at odds with the contemporary view of resilience as an outcome and as requiring challenge to be revealed. Moreover, trait resilience questionnaires often combine some of the more general personal characteristics already listed in the previous paragraph. For example, **mental toughness** includes aspects of self-efficacy, emotion regulation, attention regulation, optimism, and so on. It also predicts successful completion of stressful tasks like elite military training and performance in work and academic settings (Gucciardi, Hanton, Gordon, Mallett, & Temby, 2015).

It is worth noting that many of the personality characteristics that predict resilient responses also describe healthy functioning in general. That is, some of the things that positive psychology seeks to foster for their own sake, such as positive emotions or sense of mastery, also predict resilient responses over time in longitudinal studies (Ryff et al., 2012) – they seem helpful if present before adverse events. Similarly, intelligence, education, and wealth (socio-economic status) are personal resources that help people cope with adversity. Without a specific negative event, lacking them can be seen as a chronic challenge, and where good psychological health despite low socio-economic status indicates resilience. Still, high socio-economic status is also helpful in coping with potentially traumatic events when they do occur (Bonanno et al., 2010).

Social support is another commonly identified predictor of resilience. A recent issue of the journal *Child Development* solicited articles from experts who were tasked with describing a few concrete ways to foster resilience in children at risk (Luthar & Eisenberg, 2017). With remarkable consistency, the answers revolved around increasing the well-being of primary caregivers (typically mothers) via social support and improving their parenting techniques. The reasoning around these suggestions is like a set of Russian matryoshka dolls, with layer upon layer of healthy relationships needed to build resilient people. The risks themselves are often poor relationships; moreover, in the face of other difficulties (e.g. poverty, mental illness, abuse), parents do well when they have social support, children do well when they have close bonds with parents, and well children have positive, prosocial peer relationships. Strong social bonds are the treatment and the cure. At the other end of life, better social relationships predict remaining healthy in old age; similarly, decreases in social contact over time are associated with greater cognitive decline among older adults (Ryff et al., 2012). Throughout the lifespan, feeling a sense of connection with one's community, having secure attachments, and families with emotional warmth predict resilient responses (Meredith et al., 2011). Major events like accidents, disasters, births, and deaths often play out in positive or negative ways to the extent that they enhance or threaten social relationships (Bonanno et al., 2010). As Chapter 8 describes in more detail, our bonds with other people matter greatly. This is especially true when facing challenges.

The philosopher Friedrich Nietzsche famously quipped "Whatever does not kill me makes me stronger", and thereby offered a hypothesis about past negative experiences and future resilience. Psychologists have tested this idea, and the research suggests that Nietzsche was at least half right. Previous experience with adversity can be protective, but it can also put people at greater risk for future problems (Bonanno et al., 2010; Rutter, 2012). Fortunately, this apparent contradiction becomes understandable if we look more closely at the details. Having a history of mental illness, severe abuse, stress, and trauma are generally risk factors for poor outcomes in the future. Predispositions and unfortunate experiences can produce dysregulated coping systems; they are especially sensitive to stressors, and additional adversity compounds their problems. For these people, adversity does not add strength. For example, an impressive study used comprehensive medical records to track changes in children's well-being before and after a fireworks factory accident in Amsterdam, comparing victims to a control group over time (Dirkzwager et al., 2006). Children affected by the disaster experienced substantially more distress, sleep disturbance, and anxiety issues. The effects were greatest for children who were displaced to a new home (i.e. theirs was destroyed by the explosion). The next largest predictor of increased problems in the victim group was a history of psychological problems before the disaster. Keep in mind that the control group also included some people with a history of psychological problems. Nonetheless, the disaster exacerbated these challenges among victims. Said another way, past difficulties had not made them stronger.

On the other hand, small to moderate amounts of stress can build toughness. In experiments with baby squirrel monkeys, permanent separation from the mother creates long-term problems; however, babies who were periodically separated for only two hours at a time grew up to have better cognitive control and stress hormone profiles, compared to baby monkeys who were never separated from their mothers (Lyons & Parker, 2007). In the context of humans, a large longitudinal study of American adults produced conceptually similar results. It assessed people's cumulative lifetime adversity (i.e. from a list of 37 negative events like disaster, divorce, injury, etc.) and found that moderate levels were associated with the highest life satisfaction and the lowest distress, PTSD symptoms, and impairment in work and social life (Seery, Holman, & Silver, 2010). In other words, having some past adversity predicted better health over time, compared to having no adversity at all. Still, having a lot of lifetime adversity was most problematic. Other research with humans suggests that getting through past adversity might be helpful too. For example, older adults tend to be more resilient after disasters, particularly if they have experienced similar emergencies in the past (Bonanno et al., 2010). On the other hand, young children often take longer to recover from traumatic events. Again, it may be that some adverse experience helps people cope with new stressors, so long as that past experience has not left psychological scars.

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POST-TRAUMATIC GROWTH

Positive psychologists have been keen to explore an even rosier form of resilience: when people experience benefits related to their challenges. For example, in a moving TED Talk, Stacey Kramer (2010) describes her brain tumour as 'the best gift I ever survived'. The negatives of brain cancer are obvious, but Stacy balances these against the way her illness brought family and friends together, recalibrated her priorities, redefined her spirituality, and provided new understanding of her body. (She notes that the bevy of flowers and good drugs were nice too.) Stacey, like some other survivors, has a sense that, although she does not wish cancer on other people, she would not change her own experience. **Post-traumatic growth** describes the process whereby people find benefits (e.g. meaning, personal strength, new possibilities) following a traumatic experience. This idea is also captured by similar jargon terms like benefit finding, meaning making, adversarial growth, or stress-related growth. Traumatic experiences are defined by the intense fear, helplessness, and horror that they cause, but many people also report some benefits. The estimates vary widely by event and the people being studied, but it is common to find that more than 50 per cent of people report some positives that came from their traumatic events – often along with substantial negatives (Jayawickreme & Blackie, 2014; Lechner, Tennen, & Affleck, 2009; Linley & Joseph, 2004).

The high rate of benefit finding does not imply that positives appear quickly or easily. Rather, the prevailing idea is that struggle becomes a catalyst for growth. For example, many traumatic events (e.g. assault, serious injury, bereavement) involve a dramatic change in life. These events challenge people's assumptions about the way the world works and their expectations for the future. The process of coping with these changes, developing new expectations and goals, or finding new forms of meaning can produce a sense of growth (Davis & Porter, 2018). Like Stacey Kramer, the people who experience post-traumatic growth describe a wide variety of benefits, such as a deeper spirituality, an enhanced sense of personal strength, new priorities in life, a new bodily awareness (with illness), and better social relationships (Hefferon, Grealy, & Mutrie, 2009; Helgeson, 2010; Tedeschi & Calhoun, 1996). Many of these positive perceptions are captured in the Post-Traumatic Growth Inventory (PTGI) – see specific examples in the Try It box.

TRY IT
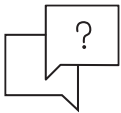
The Post-Traumatic Growth Inventory

To be clear, this box does not suggest that you seek out a traumatic experience. Rather, it introduces the Post-Traumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996), which is commonly used to assess the perceived benefits that come from a traumatic

event. To take the inventory, people are asked to rate a series of 21 statements on the degree to which the change occurred in their lives as a result of a focal crisis or disaster. The rating scale ranges from 0 ("I did not experience this change as a result of my crisis") to 5 ("I experienced this change to a very great degree as a result of my crisis"). Here are some of the items:

1. I have a greater sense of closeness with others.

2. I better accept needing others.

3. I have a greater feeling of self-reliance.

4. I am better able to accept the way things work out.

5. I am able to do better things with my life.

6. I developed new interests.

7. I can better appreciate each day.

8. I changed my priorities about what is important in life.

9. I have a better understanding of spiritual matters.

10. I have a stronger religious faith.

These items can be summed to an overall score of post-traumatic growth, or divided into narrower subscales to indicate specific domains of growth: relating to others (1 and 2), personal strength (3 and 4), new possibilities (5 and 6), appreciation of life (7 and 8), and spiritual change (9 and 10). Higher scores indicate more perceived growth.

The number of people who eventually report benefits from their adversity is substantial; yet not everyone does, and it can take a long time for others. Some psychologists take this as an indication that psychotherapy and advice should encourage people to search for meaning and personal growth following traumatic events (e.g. Linley & Joseph, 2004). Others, however, find more reasons for caution in the research (e.g. Lechner et al., 2009). Reservations revolve around three issues: individual differences, whether or not people actually change following trauma, and whether or not growth – or potentially inaccurate perceptions of growth – is positively associated with well-being.

Regarding individual differences, some general caution is warranted in moving from the correlations observed in naturalistic settings to interventions that artificially try to increase a seemingly good thing. This can be a useful strategy, but recall the sobering examples of self-esteem (Chapter 5) and frequency of sex (Chapter 8). Despite the clear positive links

with well-being, attempts to increase self-esteem or frequent sex have not turned out well. Perhaps forcing people to search for benefits in their adversity would have similarly poor consequences (Coyne & Tennen, 2010). Research suggests that the search for meaning in adversity is not always successful. For example, a study of people with recent spinal cord injury observed that those who searched for meaning – and found it – over the course of a year reported less depression and higher subjective well-being, compared to people who searched but did not find meaning (Davis & Novoa, 2013). Interestingly, a substantial minority of people did not report searching for meaning at all; their well-being was similar to those who found meaning, and it was higher than the people who searched without finding meaning. These results are correlational too, yet they indicate that some spinal cord patients adapt just fine without seeking meaning. Sending them on a search that might fail seems questionable. To be fair, the concern here remains mostly hypothetical. Strong clinical trials of benefit-finding interventions do not exist. On the other hand, some other psychological interventions for trauma (e.g. critical incident stress management) seem to do more harm than good (Bonanno et al., 2010; McNally, Bryant, & Ehlers, 2003). Testing the efficacy of new interventions is essential, as is consideration of individual differences when implementing them. Perhaps only some people will benefit from their meaning searches.

In addition, research has questioned whether or not self-reports of growth accurately capture positive changes (Frazier, Tennen, Gavian, Park, Tomich, & Tashiro, 2009; Jayawickreme & Blackie, 2014; Owenz & Fowers, 2018). To the extent that questionnaires do not measure actual growth, it warrants suspicion about the research suggesting a link between (self-reported) growth and other positive outcomes. Part of the critique against growth questionnaires is conceptual, arguing that they require people to report on things that are very difficult to know. For example, the PTGI (see Try It box) asks people to take many mental steps to answer its questions. You must know your current level on a dimension (e.g. how well you relate to others) and your level before the traumatic event; you must then compare them to assess how much you have changed; finally, you must determine how much of the change is due to the traumatic event. The last of these seems very difficult to ever know, even with an accurate memory. In addition, studies in similar domains suggest that people are not very accurate in assessing how much they have changed over time, such as on personality traits or relationship satisfaction (Frazier et al., 2009; Jayawickreme & Blackie, 2014).

Beyond the conceptual issues around difficult questionnaires, two longitudinal studies cast doubt on the accuracy of perceived post-traumatic growth (Frazier et al., 2009; Owenz & Fowers, 2018). These studies are especially informative because they measure people both before and after potentially traumatic events. They accomplished this by recruiting large numbers of students to complete questionnaires about their current standing on the dimensions of well-being assessed by the PTGI (e.g. personal strength, relationships, spirituality). They then waited a few months, and during that time some students experienced traumatic events. One study was focused on romantic relationship break-ups (Owenz & Fowers, 2018). The other asked about a wide variety of traumatic events (e.g. having a loved one suddenly

die or become seriously ill/injured, personally life-threatening events, and unwanted sexual attention); 71 per cent of these were rated as causing intense fear, helplessness, or horror (Frazier et al., 2009). The subset of students who experienced a traumatic event was then asked to again rate their current (post-trauma) status on the same dimensions of well-being; critically, they also reported separately on their perceptions of growth – the standard PTGI, which asks people to rate how much they think they have changed as a result of their trauma. In other words, the studies had a more objective measure of change over time (subjective ratings, but both before and after trauma), and this was compared to the usual PTGI which is entirely retrospective. In both studies, the perceptions of growth (PTGI) were not strongly associated with measures of actual change. Some people did change over time (positive and negative); however, these were not the same people who reported changing on the retrospective questionnaire. Thus, the studies cast doubt on the notion that measures like the PTGI are assessing true change over time.

Of course the studies have limitations. For example, the timeframe of studies was short; perhaps the growth and perceptions were still in flux. The short timeframe, along with the all-student samples, might also limit the kinds of trauma that were captured. Still, studies with other clever methods have also raised concerns about the accuracy of growth self-reports. In one example, breast cancer survivors reported on their experiences of change (both positive and negative) ten years after their diagnoses (Helgeson, 2010). The researchers also asked close others (mostly spouses) how the patient had changed, and the agreement was not strong, especially for the positive changes. It is not clear which rating is more correct, but these results cast further doubt on the accuracy of retrospective growth reports. With findings like these accumulating, researchers now tend to think that questionnaires like the PTGI measure perceptions of growth, and that those perceptions often differ from reality. Still, it remains plausible that even illusory perceptions of growth are useful or healthy (cf. Taylor & Brown, 1988).

We will address the link between perceived growth and well-being shortly, but first it is important to ask whether actual growth occurs following trauma. Is there more to growth than illusory perceptions? A recent analysis of Twitter language around the November 2015 terrorist attacks in Paris is suggestive (Garcia & Rimé, 2019). Unsurprisingly, the use of negative emotion words spiked with the attack; however, words related to helping others and shared values (e.g. *liberté*, *egalité*, *fraternité*) also increased shortly after, and their use stayed elevated for much longer. Twitter language is an indirect indicator of psychological processes. Here, that divergence from reflective self-reports is a strength. The language changes over time suggest a genuinely increased sense of solidarity following the terrorist attack.

Additional evidence for actual post-traumatic growth comes from a recent meta-analysis that combined results from over 100 studies of major life events (Mangelsdorf, Eid, & Luhmann, 2018). The focus was on how well-being changes over time. To be included, studies did not have to assess perceptions of change (e.g. with retrospective questionnaires), but they did need to assess current well-being at multiple time points. Most of the major events were negative and potentially traumatic; however, about 25 per cent were positive (e.g. marriage, lottery

win, new job, aesthetic surgery). This massive analysis concluded that actual growth does sometimes occur following major life events, but with some important caveats. First, the clear changes were limited to some aspects of well-being. For example, major events improved social relationships, self-esteem, and mastery – on average – but surprisingly, there was not much evidence for substantial change in spirituality or sense of meaning. Second, results were similar across positive and negative events. There were minor differences; for example, social relationships seemed especially likely to improve with negative events, and mastery more likely to improve with positive events. Still, the idea that positive events can improve relationships, mastery, and self-esteem suggests the reality of a newer idea: **post-ecstatic growth**, or positive change following a major good event (see Roepke, 2013; Taubman-Ben-Ari, Findler, & Sharon, 2011). Third, some of the studies considered in this analysis included control groups of people with no major life events, and these studies produced less support for the idea of event-related growth. Some studies found that event groups changed more, but others found that control groups changed more. Perhaps these mixed results connote real-world complexity where growth depends on the particular events or outcomes. They also raise the possibility that some of the growth found in studies without control groups is due to normal maturation, rather than unfolding from a major life event. Although this meta-analysis included many studies, its broad scope also means that the more nuanced issues remain ambiguous pending even more data (e.g. studies with control groups, more event types, additional measures of well-being). In sum, there does appear to be evidence for real growth following trauma, though it is not universal.

We now return to what may be the most important question around post-traumatic growth: does it promote good psychological health? Given that actual growth (change over time) does not correspond well with perceptions of growth (assessed with retrospective questionnaires), it is possible to ask the question twice. For objective change over time, the question seems to answer itself. Growth is defined by increases in desirable characteristics such as strong interpersonal relationships, self-esteem, and mastery; these are hallmarks of psychological health. Some studies also hint that actual growth is associated with less distress (Frazier et al., 2009). The primary limitation here is that actual growth may not extend across all potential areas of well-being simultaneously. Still, with little evidence of trade-offs across domains (e.g. mastery at the cost of spirituality), the actual growth seems like a real benefit.

Turning to perceptions of growth and well-being, the answer is frustratingly ambiguous. The perception of growth is comforting in and of itself, and it connotes a subjective sense of well-being, at least in those growth domains. In addition, many individual studies found that perceptions of growth were associated with less distress and other desirable outcomes (Lechner et al., 2009; Linley & Joseph, 2004). In addition, perceived growth is associated with positive coping strategies, and can be viewed as part of those coping efforts (Jayawickreme & Blackie, 2014; Lechner et al., 2009). On the other hand, some studies find that perceptions of growth are associated with higher levels of distress. For example, the two studies that tracked large groups of students from before to after traumatic events found that those

who experience more distress also reported the most growth (Frazier et al., 2009; Owenz & Fowers, 2018). It seems plausible that the experience of distress might prompt perceptions of growth. To the extent that distress is the catalyst, we should expect that the most distressed people will feel like they changed the most. On the other hand, if perceptions of growth are genuinely helpful, that distress should then fade with time. This seems to happen for some people (e.g. the spinal cord patients who found meaning and had less depression over time; Davis & Novoa, 2013), but results differ across studies. For example, a study of Dutch soldiers deployed to Iraq tracked perceptions of growth and PTSD symptoms over time (Engelhard, Lommen, & Sijbrandij, 2015). It found that soldiers who reported high levels of growth five months after returning home were more likely to develop PTSD symptoms over the following ten months – growth predicted increases in distress over time.

Resolving these contradictions is difficult. It may be that perceptions of growth bring both costs and benefits, or that the effects depend on the level of distress, individual differences, or the particular traumatic event (Lechner et al., 2009). Nonetheless, the current state of research suggests that trying to build actual strengths – rather than mere perceptions of increased strengths – has better potential to help people who have experienced trauma. Said another way, there is probably little value in trying to convince people that their lives are better because of traumatic experiences; yet fostering actual strengths is obviously beneficial.

INTENTIONAL POSITIVE CHANGE AND INTERVENTIONS

Research on major life events has shown that they can prompt changes in well-being. Moreover, although the events studied are often negative, newer research on post-ecstatic growth suggests the possibility of positive change from positive events. Still, such events are either hard to plan for or are not the kinds of things that can (or should) be repeated too often, such as getting married, a new job, or aesthetic surgery. Are there other things that people can do to improve their happiness? Positive psychology is premised on the idea that a focus on well-being can make lives happier and better. Still, it is worth considering a couple of challenges to this idea.

The first challenge is data that show that subjective well-being is typically very stable over long periods of time, has substantial heritability and lack of non-genetic parenting effects, and is prone to adaptation when major events do perturb levels (i.e. the hedonic treadmill; see Chapter 3 or Diener, Heintzelman, Tay, Wirtz, Lutes, & Oishi, 2017). Earlier in this chapter, we reviewed research showing that most people are resilient, but the researchers often defined resilience as people's well-being staying the same despite major life challenges. Here, happiness's resistance to change is good news. However, the tendency towards stability may also work against efforts to systematically improve well-being. These facts set

up a challenge for efforts at positive change. Yet we have also seen that happiness levels are not immutable. Stability and heritability are not 100 per cent, and the hedonic treadmill can be slow to catch up. Moreover, the wide variations in happiness across cultures tell us that people's circumstances matter greatly. Collectively, then, research suggests that increasing well-being may not be easy, but it seems possible. Still, knowing that happiness can change (with extreme circumstances) is not the same as knowing how to improve the happiness of well-functioning people.

Positive psychologists have argued that people's choices are an important part of the happiness puzzle, in addition to genes and circumstances (Lyubomirsky, Sheldon, & Schkade, 2005). In other words, a desire to become happier can pay off when people invest effort in that goal. On the other hand, some folk wisdom suggests that pursuing happiness directly is a sure way to lose it (Fordyce, 1983). This idea is echoed in an empirical challenge that suggested that valuing happiness too much could be problematic. That is, researchers developed a questionnaire to assess how much people value happiness, and they found that high valuing was negatively correlated with actual happiness (Mauss, Tamir, Anderson, & Savino, 2011). Of course it is possible that low happiness might motivate valuing it more, rather than valuing reducing happiness. To address this, the researchers also performed an experiment where valuing happiness was induced by having participants read about the benefits of happiness; a few minutes later, these participants experienced worse moods, compared to a control group, when they watched a pleasant film (Mauss et al., 2011). These studies argue against the wisdom of actively working towards happiness. (They may even argue against reading a book about positive psychology, but how could that be true?)

Fortunately for positive psychology (and your happiness as a reader), many other studies suggest that a narrower interpretation of Mauss et al.'s (2011) studies is warranted. First, other experiments have shown that active efforts at momentary mood improvement do work (Quoidbach & Gross, 2015). For example, participants who listened to pleasant music after being asked to try to improve their mood (vs a control group told to act naturally) reported more positive emotions (Ferguson & Sheldon, 2013). You might be thinking that the participants were merely trying to please the experimenter, given the obvious instructions, but the same instructions had no influence when the music was ambiguous, rather than actually pleasant. This increases our confidence that efforts did matter and suggests that trying to feel good requires some actual pleasant stimuli too. Actively trying to boost moods is not exactly the same as valuing happiness, but it is reassuring to know that efforts to boost moods can succeed (compare this to savouring in Table 9.1).

In addition, there may be something idiosyncratic about parts of the valuing happiness questionnaire. When the individual items were examined in a German sample, only some were associated with lower happiness; for example, "I am concerned about my happiness, even when I am happy" predicted lower happiness (Luhmann, Necka, Schoenbrodt, & Hawkley, 2016). Yet other items, such as "Feeling happy is extremely important to me", had small positive correlations with happiness. Other researchers have crafted similar

questionnaires, such as the prioritizing positivity scale (e.g. "I structure my day to maximize my happiness"), and found positive correlations with subjective well-being (Catalino, Algoe, & Fredrickson, 2014). It may be that valuing happiness excessively connotes problems for some people – worrying about happiness is still worrying. Nonetheless, slight variations on this theme, such as prioritizing happiness and making choices to bring it about, appear to be more helpful.

Finally, these links can also differ by culture. Valuing happiness has correlated with lower subjective well-being in the US, but not in Germany; moreover, the correlation seems to turn positive in Russia and East Asia (Ford et al., 2015). It may be that valuing happiness inspires different pursuits in different places, and some of these pursuits are more effective than others. Taking an even broader view, a study of 47 countries found that average life satisfaction was higher in the countries that valued positive emotions more (Bastian, Kuppens, De Roover, & Diener, 2014). Yet the individuals in those countries who experienced more non-valued (unpleasant) emotions were especially dissatisfied. In other words, the cultural norm of valuing positive emotions seems helpful overall, but with some extra happiness cost for people who do not experience them.

In sum, although there are some provocative findings in this area, we do not find a robust challenge to the notion that actively working towards a happy life will necessarily backfire. There are certainly some ineffective ways to pursue happiness and some unhelpful mindsets. However, these do not foreclose the possibility of better strategies that are effective in boosting happiness. Ultimately, the best way to answer the question of whether or not happiness can be increased intentionally is to test some boosting techniques directly. We turn to those efforts now.

Positive Psychology Interventions

Positive interventions are activities designed to foster a lasting improvement in well-being, and that are supported by empirical research (Parks & Biswas-Diener, 2013). For example, previous chapters' Try It boxes suggested that you engage in acts of kindness, use signature strengths in new ways, or savour a positive experience. These are all components of positive interventions, though at very low doses given the one-time invitations. Experiments have tested these activities and found that participants, on average, experience happiness boosts over time and compared to control groups (Bolier, Haverman, Westerhof, Riper, Smit, & Bohlmeijer, 2013; Sin & Lyubomirsky, 2009; Weiss, Westerhof, & Bohlmeijer, 2016; White, Uttl, & Holder, 2019). We will return to the details of empirical tests shortly, but for now note that this defining criterion – supportive research – distinguishes positive interventions from other forms of self-help, treatment, or advice that have not been subjected to such tests.

Positive intervention activities are often brief and self-guided, though additional structure and support might be offered online, via smartphone apps, or even by a live human

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coach or counsellor. The most intensive versions involve six to twelve weeks of psycho-therapy sessions and can be applied in clinical settings (Cheavens, Feldman, Gum, Michael, & Snyder, 2006; Fava, Rafanelli, Cazzaro, Conti, & Grandi, 1998; Rashid, 2015). Yet all positive interventions differ from other forms of assistance in that they focus on positive processes and increasing well-being, rather than on reducing or eliminating negative thoughts or symptoms. Keep in mind that mental illness can co-occur with happiness, and that some people who are free from mental illness are not very happy. Positive interventions are designed to boost happiness, rather than treat dysfunction per se. Moreover, they focus on positive processes. For example, they do not target stress reduction, problematic inter-personal habits (e.g. hostility, avoidance), or self-critical thoughts. These are worthy targets with potential for beneficial treatments; however, positive interventions instead encourage positive behaviours, emotions, and thoughts. This is distinct from eliminating the negative. Reasonably happy and well-functioning people might benefit from positive interventions and further boost their well-being. Of course it is possible that increasing positive thoughts could reduce depression, or that reducing stress might ultimately promote happiness. The distinction here is about the focus and goals (positive interventions focus on positive); moreover, it highlights a core theme of the positive psychology movement: that flourishing is not merely the absence of distress.

As one final point of clarification, not all mood-boosting activities count as positive interventions. The benefits must outweigh the costs, for example by building some psy-chological resource for the future. Eating a giant bowl of ice cream might feel good, but the ultimate gains are unlikely to be valued. Perhaps you are reading this, but not really in the mood for studying. Putting the book down in favour of a video game might feel good, but the benefit would be short lived – 'books to games' is not a positive intervention if you would regret the choice later. To be clear, this is not an argument against all hedonism (i.e. pursuing good feelings), but the time horizon should extend beyond the current moment. Positive interventions must produce a net gain to well-being over time.

Dozens of activities have been studied as positive interventions, and Table 9.1 provides many examples. For the most part, these are individual activities that require only minimal instruction and that can be practised in self-guided ways. The inspiration for many of these activities came from observing the characteristics of happy people. For example, happy people tend to be sociable, kind, grateful, optimistic, and so on. These interventions ask people to emulate these characteristics with concrete actions, such as cultivating gratitude by counting positive life events, or expressing gratitude by sending letters of appreciation. Of course the personality-level correlations are ambiguous about causal direction (perhaps happiness causes gratitude instead), and there is always uncertainty that interventions will play out the same way as the naturalistically observed processes (again, recall the examples of self-esteem and sexual frequency). What does the research say about the efficacy of positive intervention activities?

Table 9.1   Positive intervention activities

Intervention Technique	Brief Description
Three good things	Typically done daily, people write down good things that occurred; sometimes they are further asked to reflect on why those good things happened.
Three funny things	A variation where people write the three funniest things that they did or experienced and why they happened.
Using signature strengths in new ways	People first assess their character strengths (see Chapter 4), choose those with the highest scores, and then commit to engaging in new ways of expressing them in daily life.
Gift of time	Variations include spending (more) time with a close other, or spending time in a way that helps another person.
Acts of kindness	Committing to doing nice things for other people can be much smaller than the gift of time; a variation involves merely counting your acts of kindness at the end of each day.
Gratitude journal (counting blessings):	This involves noticing kind acts done by others; this can be a daily exercise based on specific events, or more substantial writing about important people (e.g. a loving father or supportive mentor).
Gratitude letter	Writing a letter to express gratitude to a person who has helped you, but never been properly thanked. The letter may or may not be delivered.
One door closes, another opens	A writing exercise where people describe times in the past where a negative event turned out to have some unexpected positive consequences.
Best possible self	Visualizing or writing about an ideal future self; sometimes described as cultivating optimism and sometimes as a way to clarify what is most important and meaningful.
Loving kindness meditation	This involves some instruction and then the practice of focusing on feeling love and compassion towards and from other people during meditation.
Savouring positive experiences	This can involve focusing attention in the moment to fully experience pleasant sensations or activities; it can also include memory building such as taking photos; reminiscing about past positive experiences or describing them to others are additional forms of savouring (see Chapter 2).

(Continued)

Table 9.1   (Continued)

Intervention Technique	Brief Description
Active constructive responding	When other people share good news, try to respond in ways that are supportive and further engage with the person and news; for example, by asking enthusiastic questions (see Chapter 8).
Cultivating sacred moments	This involves some instruction about rituals and finding symbolic, meaningful objects; then spending time focusing and absorbing oneself with spiritual thoughts to foster transcendent experiences.
Engaging with nearby nature	Spend time in and appreciate nearby nature; for example, by taking photos of elements that provoke positive emotional reactions.
Goal setting and planning	This includes some instruction on how to set and pursue personal goals, along with assignments to implement with actual goals; goal progress can improve well-being over time.

Do Positive Interventions Increase Happiness?

Many studies have assessed the effects of positive interventions. Major reviews and meta-analyses (which average the results of many studies) consistently conclude that positive interventions can indeed cause increases in well-being (Bolier et al., 2013; Quoidbach & Gross, 2015; Sin & Lyubomirsky, 2009; Weiss et al., 2016). This conclusion applies when assessing changes in subjective well-being (life satisfaction and positive emotional balance), broader aspects of psychological well-being (purpose, positive relationships, autonomy, etc.), and depression symptoms (not positive per se, but often assessed in these studies). In addition, studies that focus on clinical populations (i.e. people with medical conditions such as cancer or psychological conditions like depression and anxiety) similarly find that patients experience well-being boosts, on average, after engaging in positive interventions (Chakhssi, Kraiss, Sommers-Spijkerman, & Bohlmeijer, 2018). This is good news for positive psychology – it validates core messages and applications. However, despite the positive headline conclusion, the broad reviews also point to gaps, ambiguities, and room for improvement. Because scientific evidence is also a core value of positive psychology, it is important to also understand the limitations of the evidence produced to this point, and what can be done to make it more robust. This is not merely an academic issue; better science makes for better applications.

The overall message is that positive interventions can work, but this does not mean that we have strong evidence for every individual tool in the collection. For example,

the technique of using active-constructive responding is frequently mentioned in reviews (based on encouraging non-intervention research; see Chapter 8), but the only two studies that tested it as an intervention produced inconclusive results (Schueller, 2010; Woods, Lambert, Brown, Fincham, & May, 2015). Additionally, when the results of many intervention studies are averaged, the degree of well-being change is relatively small, compared to control conditions. The potential upsides of widespread use and the relatively low cost of these interventions mean that reliable but small effects could still produce tremendous benefits. Still, dramatic boosts in happiness are not the norm. Moreover, few studies track participants very long after the initial intervention, and when they do, the size of the happiness boosts gets smaller. For example, writing a gratitude letter today is unlikely to make you happy a year from now. This may seem obvious; yet the ultimate goal for positive interventions is to foster lasting gains in well-being. The more intensive interventions, such as those that involve direct contact with a counsellor and that involve weeks of (group) therapy, tend to produce larger and longer lasting results. Such interventions are not the prototypical positive activities, but they are usually included in the meta-analyses that conclude successful well-being increases. We must be careful to avoid ascribing the effects of intensive interventions to trivial activities.

There is also room for improvement among the studies that test positive interventions. The major reviews and meta-analyses exclude very poor-quality studies, but they still include studies with important limitations. Reviews have plainly stated that there is a need for additional high-quality studies (Hone, Jarden, & Schofield, 2015; Quoidbach & Gross, 2015). Moreover, when study quality was explicitly rated as part of some meta-analyses, there were more low- and moderate-, compared to high-, quality studies (Bolier et al., 2013; Chakhssi et al., 2018; Weiss et al., 2016). To be clear, this is not unusual – even for research on common health and well-being recommendations; however, it does point to important ambiguities in the research. As a dramatic example, the US government's updated *2015 Dietary Guidelines for Americans* removed the advice to use dental floss because its efficacy was not supported by research (CBC News, 2016). That is, when the press asked to see the scientific evidence for the recommendation, there was little to show. Most dentists still believe that flossing is a wise thing to do; the issue is primarily a lack of strong studies to make a clear, evidence-based determination. There is danger in letting the advice outpace the research in positive psychology too.

Research limitations in this domain include things like the particular people who are studied, the analyses used to draw conclusions, lack of transparent reporting on procedures, and suboptimal research designs. In fairness to researchers, some of these challenges are difficult to overcome, but they nonetheless limit confidence in conclusions. For example, studies are often smaller than ideal, and this contributes to lack of statistical precision and increased error in conclusions (White et al., 2019). Positive intervention research faces some unique challenges too. For example, in drug studies a pill can be given to participants without them, or the person giving it to them, knowing whether it is medicine or a placebo (i.e. a **double-blind study**). With positive interventions, this is much more difficult.

After all, positive interventions involve the participants' active participation. Furthermore, determining the best comparison or control conditions is tricky – there is nothing as similar as the placebo pill. Sometimes people who receive the positive intervention are compared to people who have done nothing at all, and so they differ in terms of the time and attention they have put into the study. More active comparison groups (e.g. writing about childhood memories) can help match efforts and expectations for change, but may introduce unintended differences between intervention and control groups, and thus add ambiguity about what is causing any observed differences. Because there is rarely a single best decision for these challenging issues, the solution is to conduct many studies with different specific limitations and then consider the results collectively. We need more of those studies.

A recent experiment reported a shocking result: people who jumped out of planes without parachutes were no more likely to be injured than people who wore them (Yeh et al., 2018). This was a real study, and people were invited to participate while they were in planes. In total, 92 people were invited, though only 23 agreed to jump. This makes it a small study, but this limitation seems insufficient to account for the parachute's null result. Instead, a difference between the people who agreed to participate (i.e. jump out of the plane) and those who did not might help. People who declined to participate were in planes at an average of 9146 m high, and travelling at 800 km/h; those who agreed were in planes at an average of 0.6 m high and 0 km/h. Said another way, being randomly assigned to wear a parachute had no effect when people jumped from small planes, but only people who were sitting still on the ground agreed to participate. The point of this study is to be ridiculous, but thereby to illustrate an important point. The people who end up in studies, or the people who complete them, can differ from those who do not participate or who drop out. The research on positive interventions has generally not done a good job of accounting for this in statistical analyses (Bolier et al., 2013; Hone et al., 2015). As such, it is plausible that the results are completely misleading (like the parachute study), but more likely that the positive effects will apply to only a subset of people in the general population. We only know about the people who complete the studies. If many people refuse invitations, it suggests that broad interventions will be less effective overall – an intervention will not work if people do not engage with it.

A final reason for scepticism – and again not unique to research on positive interventions – is publication bias. **Publication bias** occurs when studies' results influence whether or not they are communicated, for example via journal articles. Typically, the bias takes the form of favouring studies that indicate effective interventions. This tendency can severely distort the information available, for example when conducting a meta-analysis. If only supportive studies are published, then the average of those studies will support the efficacy of the intervention. But, if there were other, less supportive studies conducted, but never published, the meta-analysis will come to the wrong conclusion. The bias can operate at the level of researchers, when they only submit successes, or at the level of the journal editors, by only publishing successes. Publication bias is pervasive. For example, in psychology and psychiatry

research, the results of published papers support researchers' hypotheses over 90 per cent of the time (Fanelli, 2012). Any experienced researcher will tell you that this rate does not match their experience when conducting, rather than publishing, studies. Publication bias clearly exists, but it is difficult to determine its extent in a particular domain – this involves guesses about what might exist hidden in researchers' file drawers. Nonetheless, statistical approaches can indicate, and attempt to correct for, bias. In the meta-analyses of positive interventions, the conclusions have been mixed; one found significant bias (Bolier et al., 2013), but another did not (Weiss et al., 2016). When statistically correcting for publication bias, the overall effect of positive interventions remained, but the average size shrank some more (see also White et al., 2019).

In sum, data clearly support the notion that positive interventions – in general – can increase well-being. Still, the positive activities they advocate are not magic; it takes substantial time and determination to reap meaningful benefits. In addition, given the relatively short history of positive intervention research, important gaps in knowledge remain. For example, research began by testing positive activities under controlled conditions, but less attention has been paid to the pragmatic details of implementing these tools more broadly (Hone et al., 2015). The science of positive interventions will always be complemented by the art and skill of practitioners who employ them. Counsellors and coaches know that different things work for different people. Still, researchers (and other implementation approaches, e.g. via apps) can assist them further by better understanding variation in results. Positive interventions can work, but questions remain about which ones, when, and for whom?

RESEARCH CASE

FORDYCE'S 14 FUNDAMENTALS

Long before the positive psychology movement, researcher and teacher Michael Fordyce showed how happiness could be increased through instruction and effort. This seminal work was published in two research articles (Fordyce, 1977, 1983). They received modest attention at the time and are arguably still under-appreciated. Nonetheless, Fordyce's work was pioneering and foreshadowed much of what was later developed with positive interventions. (He is one of many early but low-profile proponents of positive psychology's core messages.)

Fordyce began in the 1970s by reviewing the research on happiness. Back then there was considerably less to read, yet the basic conclusions hold up quite well

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today. Fordyce set aside characteristics of happy people that would be difficult to change, such as income, family status, job satisfaction, and health, and instead focused on behaviours that he thought most people could enact in day-to-day life. Note that this strategy – trying to emulate the characteristics of happy people – is the inspiration for most contemporary positive interventions too. Fordyce distilled these characteristics down to 14 fundamentals and developed advice and activities to help people implement them. For example, to help develop a more outgoing personality, he suggests joining a club, smiling more, saying hello, practising meeting new people, and so on. Peppered into the advice are reminders that happy people do these things, and lots of encouragement. Although some of the fundamentals might not fit rigid views of positive interventions (e.g. stop worrying), collectively they clearly suggest a positive path to happiness. Indeed, the fundamentals "focus on happiness directly and explicitly, whereas other psychological effort focuses on topics that only indirectly and implicitly contribute to eventual happiness" (Fordyce, 1983, p. 497). The fundamentals are:

1. Keep busy and be more active.

2. Spend more time socializing.

3. Be productive at meaningful work.

4. Get better organized and plan things out.

5. Stop worrying.

6. Lower your expectations and aspirations.

7. Develop positive, optimistic thinking.

8. Become present oriented.

9. Work on a healthy personality.

10. Develop an outgoing, social personality.

11. Be yourself.

12. Eliminate negative feelings and problems.

13. Close relationships are the number one source of happiness.

14. Put happiness as your most important priority.

Offering happiness advice in the 1970s (or ever) is not especially unique, but Fordyce took the important next step of subjecting it to empirical research. Across seven studies he assigned some of his college classes to follow variations of the 14 fundamentals programme and others to control conditions. (Individuals were not randomly assigned, but classes were.) He would typically provide instruction during class, or, in the control groups, suggest that learning about psychology could improve happiness (to account for possible effects of this mere suggestion). Across these studies he found that students who learned about and implemented the fundamentals increased their happiness over time and compared to control groups. The implementation varied from two weeks to six weeks, and instructions varied from loose 'take it or leave it' to explicit requests to implement a fundamental each day. Although the more minimal versions provided some benefit, doing more and for longer generally worked better. In follow-up surveys, people who kept working on the fundamentals up to 18 months later reported lasting happiness increases. With more effort came more happiness. However, this pattern did not repeat when it came to the number of fundamentals. Receiving instruction in just four of the fundamentals produced happiness boosts that were very similar to receiving the full programme. Moreover, the partial programme seemed particularly effective when it was targeted at participants' individual weaknesses (e.g. poor organization, feeling phony, pessimism). This contrasts with the prominent theme of contemporary positive psychology that focuses on strengths. Nonetheless, the approach can still be understood as building positives (i.e. becoming organized, authentic, and optimistic).

Although Fordyce's research methods have some limitations, taken collectively his studies persuasively argue for the efficacy of positive interventions. With some knowledge, good advice, and effort, many of his students became meaningfully happier, and this is documented with good social science. Unfortunately, the broad approach of the 14 fundamentals makes it difficult to know why the programme worked, and whether there are parts that are more or less important. (His papers provide somepreliminary hints, but more research is needed on these nuances.) Contemporary research on positive interventions complements Fordyce's broad approach, often focusing on a single positive activity instead. This helps answer detailed research questions, but probably with some cost to overall effectiveness in boosting happiness. In both cases, the focus has been testing basics, rather than how to implement the interventions broadly.

How do Positive Interventions Increase Happiness?

Knowing that a variety of positive interventions can boost well-being, researchers have become more interested in understanding the reasons better. Not only will this contribute to the science of happiness, it is also clearly useful in implementing the positive interventions. There is much left to learn, but Figure 9.1 presents a useful road map to the detailed workings of positive interventions. This **positive-activity model** describes the important features of positive interventions (i.e. how they might be implemented), individual differences in how well they work, and the processes by which they increase well-being (see Lyubomirsky & Layous, 2013). The model is presented in a general way. It identifies important variations among applications, and provides a framework to integrate research on positive interventions.

In the model, 'between' activity features describe the important ways in which various exercises differ from one another. For example, the best possible self and memory-building activities are future-oriented, whereas the gratitude letter and the 'one door closes' activities are past-oriented. These dimensions might be useful in grouping or recommending a collection of activities to a particular kind of person. The 'across' activity features are elements that can be varied within a particular positive intervention. For example, social support can be added by including testimonials from others who have benefited from the activity. Positive interventions that include a variety of activities (e.g. multiple things from Table 9.1), or slight variations that keep an activity fresh (e.g. kindness towards family, then strangers, then co-workers), tend to be more effective. Variety helps prevent adaptation over time, thus maintaining well-being boosts longer, especially with continued practice. The dosage refers to the amount or frequency of an activity, for example performing two versus five acts of kindness, or doing this every day versus once a week. In general, doing more seems helpful, but there are some exceptions to this idea. When activities become tiresome, boring, or difficult, they will not produce happiness. For example, if I asked you to list 15 kind things that you did today, you might struggle to complete the list and decide that you are not a very kind person – not conducive to your well-being.

Considering differences in personality and circumstances is also important when implementing positive interventions. For example, putting more effort into positive activities, the motivation that supports this effort, and the beliefs that completing activities will be efficacious all contribute to positive results. Studies consistently show that people who actively seek out exercises and stick with activities get larger and longer lasting well-being increases (e.g. Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011). Having social support helps too; imagine the difference, for example, between having a parent or partner tease you about your silly exercises and having them encourage your efforts at self-improvement. People's initial levels of well-being and their personality traits also predict their experience with positive interventions, but in potentially complex ways. A central, yet unresolved, question is whether less happy people gain more – because they have more room to improve – or whether already happy people benefit more because they are dispositionally prone to positive experiences.
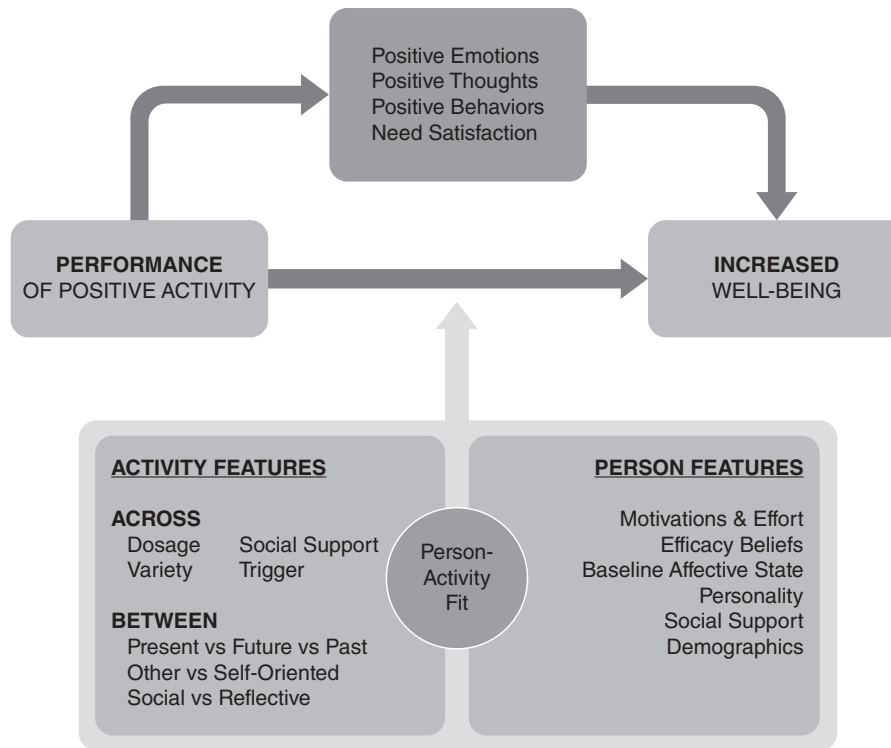
Figure 9.1 The positive activity model. The positive-activity model aims to explain how and why performing positive activities makes people happier. As illustrated at the top, positive activities increase positive emotions, positive thoughts, positive behaviours, and need satisfaction, all of which in turn enhance well-being. Features of positive activities (e.g. dosage and variety) and of the person (e.g. motivation and effort) influence the degree to which the activities improve well-being. An optimal person–activity fit (i.e. the overlap between activity and person features) further predicts increases in well-being.

Source: Lyubomirsky and Layous, 2013

Studies have pointed in both directions. For example, people high in trait neuroticism (characterized by negative emotionality) did not experience happiness increases after a week of writing down kind acts that they or others performed each day, but people scoring low on neuroticism did become happier (Ng, 2015). However, in a follow-up study, people high and low in neuroticism did not differ after three weeks of visualizing and writing about their best possible selves. These apparent contradictions might ultimately be resolved by considering the potentially complex interactions between individual differences and specific features of positive activities.

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This notion of **person–activity fit**, or the match of the activity characteristics to an individual's personality and circumstances, is at the heart of the positive-activity model. With good fit comes more success. For example, expressing gratitude appears to increase well-being more for Americans than it does for Koreans (Layous, Lee, Choi, & Lyubomirsky, 2013). It seems that Koreans experience an obligation to reciprocate after expressing gratitude to another person, and that this unpaid debt undermines well-being. Other positive activities may work better for Koreans. For example, the same study found that acts of kindness were equally effective in the United States and South Korea; this activity seems less sensitive to cultural differences between the two countries. Fortunately, people seem to have some intuitive sense of what will work better for them. One study found that participants were more likely to complete exercises, and experienced greater gains in happiness, when they were assigned an activity that matched their preferences (Schueller, 2010). People like some activities more than others, and this seems important to their effectiveness. That said, there are also reasons to think that people should not just keep doing what comes most easily. Although doing more with signature strengths (i.e. based on highest scores) is an oft-used positive intervention, there are times when building on weakness or challenging habits can be useful. For example, when people were asked to use their lesser strengths (i.e. lowest scored) in new ways, their happiness improved as much as that of people in another group who used their highest-scored strengths more (Proyer, Gander, Wellenzohn, & Ruch, 2015). In a similar vein, people who are dispositionally introverted report increased positive emotions when they behave in extraverted ways, such as getting to know strangers (Zelenski et al., 2013). Many other forms of person–activity fit seem plausible but remain to be tested. For example, perhaps older people benefit more from reminiscing about past positive events, whereas younger people gain more from thinking about their best possible future selves.

The final aspect of the model, the path from activity to well-being, differs in its details based on activity features and personal characteristics. Different exercises target different processes, and people focus on different elements. For example, some activities or people might achieve increased well-being via closer social relationships, whereas others cultivate a largely internal positive outlook on life. Yet among this variation is a general sense that activities will work well when they feed forward to encourage additional positive thoughts, emotions, and behaviours. Said another way, an activity that only provides an immediate mood boost (e.g. watching a funny cat video) will not be enough to boost general well-being over the course of weeks or months. On the other hand, if that positive mood spurs additional positive processes, it might be enough. Perhaps you forward the cat-video link to an old friend, which prompts a nice conversation, or perhaps this little mood boost encouraged you to pay it forward by purchasing a coffee for a homeless person. I am not aware of a formalized cat-video exercise, but the thinking is similar for common positive interventions. Recall the **broaden and build** theory of positive emotions (Fredrickson, 2013), which suggests that they help build lasting resources. It is plausible that temporary mood boosts from positive activities begin upward spirals of additional positive thoughts, behaviours, and

emotions. Perhaps there is a role for (moderately sized) bowls of ice cream in positive interventions after all (see Linley et al., 2013) – but only if they can build psychological resources. In a similar way, positive activities can satisfy basic needs, such as those proposed by **self-determination theory** (autonomy, competence, relatedness) (Ryan & Deci, 2000). Satisfying needs contributes to well-being directly (it is satisfying); moreover, satisfied people behave in psychologically healthy ways – this flourishing builds on itself.

In sum, the positive activity model provides a framework for describing positive interventions and how they work. Despite some remaining research gaps, it synthesizes many important findings. In essence, positive activities work better when there is a good fit between the person and the activity, when there is variety in the activities, and when the person and activity encourage more active engagement and effort. Finally, meaningful happiness change requires more than temporary mood boosts; activities should trigger additional positive thoughts, behaviours, and emotions. When all these factors are in place, positive interventions succeed in producing well-being improvements.

Broader Applications

The prototypical positive intervention uses activities like those in Table 9.1 and applies them to healthy people. However, a wider collection of activities that fall outside strict definitions of positive interventions are still part of the broader positive psychology family. These interventions are adapted to particular populations or settings (e.g. schools or workplaces), or they include things that are not as unambiguously positive, yet still with well-being as an ultimate goal. For example, as noted earlier, positive psychotherapy does seek to reduce dysfunction, even if dysfunction is not the focus of intervention. **Positive psychotherapy** mainly consists of working with some exercises shown in Table 9.1, and has been used with depression, anxiety, schizophrenia, and smoking cessation (Rashid, 2015; Seligman, Rashid, & Parks, 2006). In a similar vein, hope-based therapy was designed for people who are suffering, yet with a focus on strengths (Cheavens et al., 2006). It teaches **hope**, which is defined as setting goals, clear strategies for achieving those goals, and the motivation to carry them out. Drawing from other cognitive therapy approaches, it also encourages positive self-talk, such as "I am capable of this", and it includes regular monitoring of goal progress. Clarifying personally important goals and their successful pursuit are meant to decrease distress and improve well-being.

Acceptance and commitment therapy (ACT) differs from some traditional psychotherapy in that it does not seek to eliminate negative feelings; it is like positive psychology in promoting an authentic approach to life (Howell & Passmore, 2018). Still, the processes that ACT promotes differ in important ways from most positive interventions (Parks & Biswas-Diener, 2013). ACT teaches mindfulness techniques to take the sting out of unpleasant reactions, and it encourages an honest approach to current circumstances.

Mindfulness is an engaged, yet non-judgemental, mindset where attention is focused on the immediate moment; sensations and reactions are observed as being present, while self-relevant reactions (e.g. "this obstacle conflicts with my plans") are abandoned in favour of acceptance of the world the way it is (Brown & Holt, 2011). Some elements of mindfulness, such as focusing attention on the here and now, overlap with some positive intervention techniques. For example, appreciating nearby nature, cultivating sacred moments, and some savouring exercises involve directing attention to present, pleasant stimuli. However, there is also an important difference. Whereas these positive exercises are aimed at boosting momentary pleasant feelings, mindfulness is not. Just as a mindful frame detaches the self from the unpleasantness of difficult situations, it can work against full absorption and amplification of positives. Mindfulness may foster the conditions for well-being in the long term – these empirical links exist – but it does this with unique advice: to accept negatives and not focus on increasing positives (Brown & Holt, 2011; Parks & Biswas-Diener, 2013). Said another way, there is an inherent contradiction between the advice to be mindful and the advice to shift pursuits towards positive experiences. From the mindfulness perspective, the goal of happiness brings with it the worry that happiness is fleeting. This is not to say that a person or a practitioner cannot shift among positive intervention and mindfulness techniques. Yet this is best done with some awareness of an underlying tension between these forms of advice. Additional caution is warranted in assessing any particular mindfulness intervention. As the popularity of mindfulness training has exploded in recent years, so has proliferation of new versions – along with more scrutiny of their claims (Van Dam et al., 2018).

Most of the positive interventions in Table 9.1 focus on boosting subjective well-being even while their specific paths to happiness differ. Still, it is possible to expand boundaries of well-being to include additional valued characteristics. Although less prototypical as positive interventions, programmes that target other strengths often engage positive thoughts, feelings, and behaviours to promote mental health and prosociality. For example, there are promising programmes aimed at training empathy, forgiveness, self-compassion, self-control, self-efficacy, and so on (Friese, Frankenbach, Job, & Loschelder, 2017; Neff, 2011; Parks & Biswas-Diener, 2013). Although not reviewed in detail here, the general issues around assessing these programmes' effectiveness often mirror those of positive interventions. In addition, although these training targets are themselves valuable, they may ultimately facilitate happiness too, even if it is not their primary focus (similar to mindfulness training).

The **positive youth development** approach focuses on building these broader strengths in children, often in schools or via extra-curricular activities like sport (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004; Larson, 2000; R. D. Taylor, Oberle, Durlak, & Weissberg, 2017). These efforts fit the ethos of positive psychology well by promoting skills and well-being (broadly), rather than targeting reductions in problematic behaviours like bullying,

drug-use, or risky sexual practices. Nonetheless, promoting strengths may help protect against the problematic outcomes in youth too (R. D. Taylor et al., 2017). As with other interventions these approaches are not panaceas either, with small or inconsistent results across studies and many challenges when implementing programmes broadly.

Finally, at the outer branches of positive interventions' family tree we return to resilience. The variety of specific techniques and approaches under the umbrella of resilience training is vast, perhaps not surprising given the many ways in which resilience is assessed and defined (Chmitorz et al., 2017). To the extent that there is a common underlying idea, it is to teach strengths and skills to people, thus helping them cope effectively with future challenges. The particular content might focus on positive or negative content; yet resilience training is typically viewed as preventative mental health care. Interventions often occur before any particular problem is detected. For example, the UK Resilience Programme aimed to teach all children coping skills (regardless of individuals' risk) in an effort to prevent later depression (Challen, Machin, & Gillham, 2014). Similarly, employers are increasingly providing resilience training to keep workers well and productive (Vanhove, Herian, Perez, Harms, & Lester, 2016). Some lines of work bring special psychological risks and thus more need for resilience. For example, the Comprehensive Soldier Fitness programme in the US military is the largest application of positive psychology, where the training targets include physical, social, family, emotional, and spiritual fitness (Cornum, Matthews, & Seligman, 2011). In addition, when people experience a potentially traumatic event (e.g. natural disasters), other psychological first-aid programmes aim to prevent serious problems with things like practical assistance and fostering a sense of connection to community, self-efficacy, and hope (Bonanno et al., 2010; McNally et al., 2003).

Despite the diversity in resilience training programmes, they all share a less than robust record of empirical support. Often the lack of support is due to a lack of strong studies (like with dental floss), partially explained by challenging circumstances. For example, it is ethically questionable to randomly assign only some victims to receive psychological first aid, and organizations are often uninterested in providing programmes randomly to only half of their members. Still, such studies would go a long way to knowing how effective the treatments are, and then adding nuance about when and where. Some major reviews have taken pessimistic conclusions; for example:

> Although there are many programs available to the military and civilian communities, there is very little empirical evidence that these programs effectively build resilience. Similarly there are a number of factors related to resilience, but there is almost no evidence that resilience can be taught or produced. (Meredith et al., 2011, p. 75)

More optimistic conclusions exist too, though these are also tempered with caution (e.g. Bonanno et al., 2010; Vanhove et al., 2016). Nonetheless, the potential upside of such interventions is non-trivial, and some weaker forms of evidence are cautiously suggestive.

Rather than giving up on the potential, a strong argument exists for further research and development on resilience training programmes.

SUMMING UP

This chapter considered well-being, broadly defined, and how it changes or remains stable over time. In the context of major negative events or ongoing stressors, the stability of well-being is welcome and, fortunately, also common. Resilient responses can be understood as the maintenance of mental health through adversity, and as such are best measured by tracking people over time. Although resilience is easily found, predicting it requires a long list of personal characteristics and circumstances. As examples, people with a strong sense of control, self-regulation, positive emotionality, and an optimistic outlook tend to fare better, as do those who cope via problem solving, benefit finding, and seeing challenge in adversity. The greater the challenge, the less resilience, on average – hard things are hard; but social support, high socio-economic status, and religion can help buffer against poor outcomes. Previous experience with adversity can be helpful, but only to a point, and only if successfully resolved.

Although simply maintaining heath through adversity is impressive, some people experience benefits following traumatic events. These include things like improved social relationships, sense of meaning, personal strength, appreciation of life, and spirituality. Traumatic events disrupt habits and expectations, and this may prompt these perceptions of growth as people make sense of their post-trauma lives. Despite the intuitive appeal of such positive changes, considerable scepticism surrounds the idea that searching for growth should be encouraged. This is because perceptions of growth do not tend to match actual changes (growth) when they are both assessed over time. Moreover, perceptions of growth are associated with increased distress often enough to question whether or not they are truly healthy, or would be for most people.

This is not to say that well-being should not be pursued in general. Indeed, much of positive psychology rests on the assumption that it is possible – if not easy – to improve psychological well-being with intentional efforts. A wide variety of positive activities (e.g. gratitude journaling, savouring pleasant experiences, using strengths in new ways) can cause happiness boosts. However, effective positive interventions depend on a good fit between the activities' details and the personality and circumstances of the person who engages with them. In addition, substantial investment, effort, and variety are typically needed to produce meaningful and lasting increases in well-being. Finally, despite the clear possibility of interventions' benefits, substantially more research and development are needed to hone the details and widespread implementation of largely experimental techniques. There is plenty of work ahead for young positive psychologists to refine and apply work on positive interventions.

TEST YOURSELF

1. What personality features are associated with resilience, and why do contemporary views of resilience avoid defining it as those personality features?

2. Why is resilience sometimes described as 'ordinary magic'?

3. What are some of the domains in which people experience post-traumatic growth, and does it matter whether actual change versus perceptions of change are assessed?

4. Name two personal characteristics that are usually conducive to reaping benefits from positive interventions, and describe the notion of person–activity fit in general.

5. How might publication bias and the special characteristics of the people included in intervention studies distort conclusions?
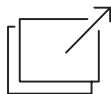
WEB LINKS

Fordyce's happiness programme is preserved via his web page and Wayback Machine: https://web.archive.org/web/20070113073753/http://www.gethappy.net/

Internet-based exercises that draw from positive psychology and its extended family: www.happify.com

Ben Goldacre's TED Talk describing how publication bias severely distort our knowledge about treatment effectiveness: www.ted.com/talks/ben_goldacre_what_doctors_don_t_know_about_the_drugs_they_prescribe

FURTHER READING

For an accessible review of many resilience findings in a large, longitudinal data set, see:

Ryff, C., Friedman, E., Fuller-Rowell, T., Love, G., Miyamoto, Y., Morozink, J., … Tsenkova, V. (2012). Varieties of resilience in MIDUS. *Social and Personality Psychology Compass, 6*(11), 792–806.

This review article expands the scope of post-traumatic growth findings by focusing on qualitative studies:

Hefferon, K., Grealy, M., & Mutrie, N. (2009). Post-traumatic growth and life threatening physical illness: A systematic review of the qualitative literature. *British Journal of Health Psychology, 14*(2), 343–378.

Here is a recent review of happiness research with special attention to how findings can be applied in organizational and counselling psychology:

Diener, E., Heintzelman, S. J., Tay, L., Wirtz, D., Lutes, L., & Oishi, S. (2017). Findings all psychologists should know from the new science on subjective well-being. *Canadian Psychology, 58*, 87–104.

This article identifies some common features of questionable therapeutic claims:

Meichenbaum, D., & Lilienfeld, S. O. (2018). How to spot hype in the field of psychotherapy: A 19-item checklist. *Professional Psychology: Research and Practice*, 49(1), 22–30.

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