

# Benefits of Well-Being: Health, Social Relationships, Work, and Resilience

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## Abstract

Well-being has been strongly linked to many important life facets ranging from physical and mental health to social relationships to academic and work performance. Not only has it been associated with many beneficial outcomes across these realms, but it has also been demonstrated to predict positive changes in these key areas of functioning. In this article, we will review the benefits of high subjective well-being (high positive affect and life satisfaction and low negative affect) for health, resilience, work performance, and social relationships. Using multi-method assessments and approaches as well as cross-cultural findings, we review the evidence which vastly supports a strong link between well-being and crucial life domains. Gaps in our understanding of this connection and areas for future research to address the limits of our knowledge assessing the beneficial outcomes of well-being will be discussed. Implications of the link between well-being and important life outcomes for practical applications including interventions and preventative policy work are provided.

## Keywords

Subjective well-being, health, relationships, resilience, and work

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Subjective well-being has been strongly linked to many important life domains. High levels of well-being is associated with social relationships (Frisch, 2005; Lyubomirsky, King, & Diener, 2005; Oishi, Diener, & Lucas, 2007; Seligman, 2011), physical health including mortality and longevity (Diener & Chan, 2011; Diener, Pressman, Hunter, & Delgado-Chase, 2017), mental health (Diener & Seligman, 2002; Keyes, 2002), academic and work performance (Cheng & Furnham, 2002; Judge, Thoresen, Bono, & Patton, 2001; Reschly, Huebner, Appleton, & Antaramian, 2008; Suldo, Shaffer, & Riley, 2008; Tenney, Poole, & Diener, 2016), creativity (Amabile, Barsade, Mueller, & Staw, 2005; Grawitch, Munz, Elliott, & Mathis, 2003), and citizenship (Dunn, Aknin, & Norton, 2008; 2014). Furthermore, evidence suggests that well-being is an important outcome of satisfied, healthy, and fulfilling functioning across these domains, but also may be an important predictor of them as well.

The methods and approaches to studying these crucial links have continued to evolve over the past several decades of well-being research. Utilizing longitudinal, correlational, cross-sectional, cross-cultural, and experimental data, we are able to continue disentangling the complex relationships between well-being and our everyday functioning. In this article, we will review multi-method evidence on the important benefits of well-being in the domains of social relationships, health, resilience, and work performance. Each approach and method of assessment has its own set of advantages and limitations pointing to the importance of using innovative experimental designs and multiple measurements of well-being and life outcomes. We will also discuss the current gaps in the empirical support of subjective well-being and the four domains of interests and propose future research directions.

There are many different definitions that exist for well-being. It may be helpful to review the guiding definition we will use before diving into the specific domains we will focus on in this article. In general, researchers have agreed that there are cognitive (how we think about ourselves) and affective (how we feel about ourselves) components to overall well-being. Diener (2000) defines subjective well-being as a combination of high life satisfaction, high positive affect, and low negative affect. Life satisfaction refers to how content we are with our overall selves on a general level. This represents the cognitive half of the definition of well-being. Affect, on the other hand, accounts for the emotional half of well-being and focuses on both positive (happy, content, excited, calm) and negative (angry, sad, upset, scared) feelings. Colloquially, many may use happiness and well-being interchangeably but it is important to point out here that happiness is only one component of the much broader definition we will use in this article. Therefore, we will refer to well-being as the combination of high life satisfaction and positive affect (happiness) and low negative affect unless otherwise described.

The purpose of this manuscript is to review the empirically-supported beneficial outcomes of subjective well-being in four primary domains of functioning: health, social relationships, work, and resilience. We will first summarize the various assessments and methods that have been employed to assess well-being. Then, we will provide reviews of the evidence promoting the link between well-being and each domain of functioning. We will then point out the understudied or contradicting areas of research and make suggestions for future research endeavors. Finally, we will briefly

elaborate on the implications of what we know and do not know in assessing the link between well-being and mental and physical health, relationships, and workplace success.

### **Approaches, assessments, and methods of well-being research**

It is useful to briefly describe the approaches to studying subjective well-being and its beneficial outcomes and consequences. Assessment typically refers to the way in which data is gathered or the way in which well-being is measured. Types of assessment include self-reports and other informant-reports of subjective well-being. Self-reports can be a single item assessing overall life satisfaction or happiness (Diener, Nickerson, Lucas, & Sandvik, 2002; Lucas, Diener, & Larsen, 2003) or a set of questionnaires or measures of well-being (Stone, 1995; Lucas, Diener, & Larsen, 2003 for review). However, self-reported assessments fall prone to many different types of bias including memory or recall bias, in which how we remember things are different than how they may have actually happened and self-report bias, in which we may alter what we report intentionally to present ourselves in a certain way (Park, Upshaw, & Koh, 1988; Schwarz & Strack, 1991).

Asking others, such as peers, romantic partners, or family members, to report on the target participant's well-being adds to the broader account of one's well-being and allows for comparison across reporters. Collecting self and other reports can help identify discrepancies in well-being and other measured constructs. Prior research found moderate to significant overlap between self-report and informant report measures (Diener, Smith, & Fujita, 1995; Lucas, Diener, & Suh, 1996) but we gain invaluable insight into how others may perceive the target. Yet another type of informant is an expert rater who is a trained specialist with no known relationship to the participant (ex., Gottman, 1993). Expert raters can be trained to observe and record specific behaviors from in-person or recorded interactions of the target participant. Utilizing reports by friends, family, romantic partners, or expert raters, rather than solely using self-report, may be costly but provides substantially more information on the target participant that may be lost if we only relied on one type of informant report.

Physiological measures of subjective well-being include assessing cardiovascular reactivity, skin conductance, or other physical reactions often in response to a controlled stressor (Cacioppo, Berntson, Larsen, Poehlmann, & Ito, 2000; Dinan, 1994). Relatively recent advancements have made it possible to compare brain activity via PET or MRI scans between individuals with different levels of well-being or in response to a stressor (Davidson, 1992; Rutledge, Skandali, Dayan, & Dolan, 2014; Urry et al., 2016) Beyond these, there are myriad other ways to assess the construct of well-being. For example, researchers have used text analysis of participants' diaries or social media pages to determine whether using positive or negative language relates to other domains of functioning (Danner, Snowdon, & Friesen, 2001; Thomas & Chambers, 1989). Coding photographs for cues such as smiling or asking individuals to list as many positive and negative events over the past week under timed conditions are other innovative assessment tools (Pavot, Diener, Colvin, & Sandvik, 1991; Seidlitz & Diener, 1993). In addition, cross-cultural research has allowed us to determine whether well-being is experienced differently across the globe and whether this may have different impacts on functioning as a result.

Besides the various assessments that are utilized in studying well-being, there are also many different methods which can be employed to assess this construct. All types of assessments (self or other informant report, physiological, etc.) may be applied to any of the methods described below.

Correlational and cross-sectional studies are the most common type of method. The benefit of this approach is that researchers can quickly gather large amounts of information from individuals and capture a wide range of their functioning at a snapshot in time. Because this is one of the most time efficient ways to collect data from individuals, studies often obtain mass amounts of data to assess correlational and cross-sectional findings addressing how current well-being relates to functioning in other areas. Participants can be asked to retrospectively report on past events and we can compare these to their current well-being as well. Correlational studies can reveal whether two constructs are related to each other, which we can then further study using more in-depth, time-intensive approaches. A significant limitation that offsets its utility is that we are unable to draw causation conclusions. Because we are looking at one data collection time point, we cannot determine directionality or causality using correlational or cross-sectional methods.

Longitudinal research allows for assessing whether one construct can predict change in another measure over time. We can also assess how constructs change together over time. The benefit of longitudinal analyses is that we can control for other variables that may be influencing the relationship between the two main constructs of interest. It also begins pointing to a greater possibility of a variable predicting the other, however, we still cannot fully determine causality using longitudinal approaches. In addition, longitudinal research brings methodological difficulties because it takes longer to collect the data, and researchers often find dropout rates to complicate their analyses as well.

Experience sampling methods (ESM) build upon longitudinal research but typically constrict data collection to a much shorter time frame. This method can be used in correlational, cross-sectional, and longitudinal analyses as well as being a stand-alone type of measurement (Kahneman, 1999; Stone, Shiffman, & DeVries, 1999). Often, participants are completing questionnaires or tasks several times a day over a multi-day period. This allows assessment of how two variables change over time together and can help determine whether change in one variable influences change in the other in the short-term. It also has the benefit of collecting mass amounts of data quickly and efficiently, and eliminates the difficulty of following up with people over longer time intervals. ESM reduces the retrospective recall bias (Bolger, Davis, & Rafaeli, 2003) and allows for naturalistic recording of mood rather than laboratory-manipulated mood (Reis & Gable, 2000). Technological advancements have made experience sampling easier via mobile apps or SMS (text messaging) alerts for participants to complete assessments throughout the day. It also allows for in-the-moment data collection during one's everyday experience with minimal interruption.

Finally, experiments can manipulate one variable and determine how other constructs change as a result. In controlled environments, researchers can try to eliminate spurious effects of other variables or control for potential third variable confounds. In well-being research, mood and affect can be manipulated and then short- and long-term effects can be assessed immediately following the manipulation or via follow-up studies in the future. Experiments have the benefit of providing the strongest evidence for causal findings. However, they are costly to conduct and thus often have

smaller sample sizes compared to other methods. In addition, experiments are prone to biases as well such as experimenter bias, demand characteristics, or self-fulfilling prophecy effects (Kunda, 1990).

We will review research using cross-sectional, correlational, longitudinal, and experimental data to summarize the field of well-being as it relates to health, relationships, work, and resilience. For in-depth reviews of methodologies and well-being please see Diener, 1994, 2000 or Larsen & Fredrickson, 1999). Given the continued empirical focus on well-being, we will also point to future directions in methodological vigor and open areas of research. With the technological advances changing the ways we can study well-being, the field continues to grow and allows for more complex assessment of how our well-being impacts our functioning in other important domains as well.

### **Subjective well-being and health**

It should come as no surprise that health and well-being are linked. It is not difficult for most of us to relate to the idea that how we feel subjectively about ourselves overall is linked to how we physically feel as well. Overall, prior cross-sectional research points to substantial correlations between subjective well-being and health (Cohen & Rodriguez, 1995; Lehrer, Isenberg, & Hochron, 1993; Pressman, Gallagher, & Lopez, 2013; Ryff, Singer, & Dienberg, 2004; Valdimarsdottir, & Bovbjerg, 1997). Those individuals who are physically healthy tend to also report higher subjective well-being. That is, those who are in good physical shape free of illness or medical complications will report greater overall satisfaction with their lives.

Also, not surprisingly, negative affect has been associated with more diseases whereas positive affect is associated with fewer of them (Weiser, 2012). It is easy to imagine that we are unhappy and unsatisfied when we are feeling ill, but we may not consciously acknowledge and point out when the opposite is true. That is, we may not be as aware that we are happy and more satisfied when we are free of sickness, as this is often the default for many individuals. Yet, there is much evidence that positive affect has a significant impact on general health, even after accounting for negative affect. For example, positive affect is related to increased immune and cardiovascular functioning independent of negative affect, demographics, and health history (Steptoe, Dockray, & Wardle, 2009). Positive moods are associated with longevity, lower morbidity, and greater pain tolerance (Pressman & Cohen, 2005). Those with higher positive affect have lower blood fat and blood pressure, healthier body mass index, lower inflammatory, cardiovascular, and neuroendocrine problems, lower ambulatory heart rate, and lower daily cortisol output (Blanchflower, Oswald, Stewart-Brown, 2013; Steptoe, Wardle, & Marmot, 2005).

High life satisfaction is also associated with better overall health including lower inflammatory markers, lower body mass index, and healthier diet and exercise behaviors (Friedman & Ryff, 2012; Grant, Wardle, & Steptoe, 2009; Uchino, Bowen, & Kent, 2016). In a review, Howell, Kern, & Lyubomirsky (2007) found that subjective well-being is most strongly linked to immune functioning and pain, and less strongly linked with endocrine response when assessing short-term outcomes. Interestingly, subjective well-being in the long-term is associated with longevity and cardiovascular health, although this relationship is not present when assessing short-term outcomes.

This benefit of positive affect on physical health has been found cross-culturally as well. Pressman and colleagues (2013) analyzed positive emotion and physical health in 142 countries. They found a significant relationship between positive emotion and health, which was especially strong in those countries with a low gross domestic product. People with higher life satisfaction by country globally, and by county within the United States, have better objective health indices including lower blood pressure and lower rates of disability (Branchflower & Oswald, 2008; Lawless & Lucas, 2011; Mojon-Azzi & Sousa-Poza, 2011). In a study of 16 European nations, life satisfaction was significantly correlated with lower blood pressure (Blanchflower & Oswald, 2008). In China, Liu and colleagues (2014) found that the elderly (above age 95) reported high life satisfaction and positive affect, and low negative affect. This indicates that those who have greater longevity report high well-being.

Beyond correlational and cross-sectional findings, longitudinal evidence begins supporting the idea that well-being can predict better health outcomes as well. In an extensive review, Diener and Chan (2011) found that positive feelings predicted longevity and mortality whereas negative emotions predict illness. Subjective well-being overall has also been identified as a predictor of future health and survival using cross-sectional and experimental techniques (Lyubomirsky et al., 2005). Positive affect specifically has been found to predict future physical health and longevity (Danner et al., 2001; Pressman & Cohen, 2012). Several reviews and meta-analyses have also documented this link between positive moods predicting better health and longevity (Diener et al., 2017; Howell et al., 2007; Lyubomirsky et al., 2005; Pressman & Cohen, 2005). There are various pathways from subjective well-being to health and longevity. In an extensive review, Diener and colleagues (2017) suggest that potential mediators of this link include cardiovascular, immune, and endocrine system functioning as well as important health behaviors. We will discuss each of these links using various methods below.

Experimental studies also suggest that subjective well-being predicts health behaviors and functioning. For example, experimental studies found that subjective well-being predicts pain as well as immune and cardiovascular functioning (Lyubomirsky et al., 2005). Manipulating mood to increase positive affect was associated with faster cardiovascular recovery after anxiety-provoking situations (Fredrickson & Levenson, 1998; Fredrickson, Mancuso, Branigan, & Tugade, 2000), increased healthy behaviors such as higher rates of medication adherence (Ogedegbe et al., 2012), and improved immune functioning (Futterman, Kemeny, Shapiro, & Fahey, 1994). For women receiving cancer treatment, those whose treatment included positive or emotion-focused writing had fewer appointments for cancer-related morbidities compared to a treatment as usual group (Stanton et al., 2002). Alternatively, increased negative affect has been linked to detrimental health affects. Experimentally inducing negative mood, such as anger or distress, was related to increased heart rate and blood pressure (Provost & Gouin-Dicarie, 1979; Shapiro, Jamner, Goldstein, & Delfino, 2001).

Additionally, innovative methods to assess the link between well-being and health have been utilized to add to the growing body of literature. One such hallmark study was conducted by Danner, Snowdon, and Frisen (2001) in which they coded nun's autobiographical diaries for positively-valenced words. Those who had happier diaries as young adults lived longer. This method has been employed with other populations, such as psychologists, and has found similar results – mainly that

those who use more positive words in accounts of their lives tend to live longer (Pressman & Cohen, 2007; 2012).

Subjective well-being has also been linked to a host of *health behaviors* in addition to health problems or illnesses. Individuals with greater positive moods report healthier behaviors such as exercising more often and eating a balanced, nutritious diet (Blanchflower et al., 2013; Boehm & Kubzansky, 2012; Boehm, Peterson, Kivimaki, & Kubzansky, 2011). Those with higher positive affect tend to report less sleep problems as well (Hamilton et al., 2007; Steptoe, O'Donnell, Marmot, & Wardle, 2008). Happy individuals are less likely to engage in risky behaviors such as not wearing a seatbelt while driving, smoking, or using other drugs (Goudie, Mukherjee, de Neve, Oswald, & Wu, 2014; Hamer & Chida, 2011). This may account for the findings that there are less car accidents in nations with higher positive affect (Kirkcaldy & Furnham, 2000). It seems as though happy people are proactively taking care of themselves by practicing healthier behaviors in their everyday life. Alternatively, negative affect was reported as one of the top causes for failure by those who attempt dieting or smoking cessation, and that inducing negative affect seems to decrease likelihood of sticking to a healthy regimen (Haedt-Matt & Keel, 2011; Kassel, Stroud & Paronis, 2003). Findings begin pointing to the causal direction of positive affect in evoking healthy behavior changes or the abilities to maintain healthy behaviors.

Those with high life satisfaction are also more likely to exercise and maintain a healthy diet and use more preventative health services than those with lower levels of satisfaction (Kim, Smith, & Kubzansky, 2014; Pettay, 2008). High life satisfaction was also associated with less likelihood of smoking and heavy drinking (Boehm, Vie, & Kubzansky, 2012; Strine, Chapman, Balluz, Moriarty, & Mokdad, 2008). In a cross-cultural study of 21 nations, Grant and colleagues (2009) found that high life satisfaction is linked to lower likelihood of smoking and greater likelihood of having a healthy diet, regular physical exercise, and using sun protection.

There is some evidence suggesting that inducing positive moods can lead to behavior changes in the healthy direction. A 9-week gratitude intervention led to increased physical exercise and fewer health complaints during the intervention (Emmons & McCullough, 2003). Positive affect in adolescence predicted fewer risky behaviors such as smoking and drug use in young adulthood (Hoyt, Chase-Lansdale, McDade, & Adam, 2012). Leventhal and colleagues (2008) conducted a mood induction experiment to assess the impact of mood on diet choices. They found that those in the happy mood induction condition were more likely to choose healthier foods, whereas those in the sadness mood induction condition were more likely to choose unhealthy foods such as candy.

Beyond health behaviors or status, well-being has also been linked specifically to pain tolerance and recovery. In a large meta-analysis, Howell and colleagues (2007) concluded that there is a strong association between pain tolerance and subjective well-being. In another review, positive emotions were found to be related to lower reported pain and greater pain tolerance (Pressman & Cohen, 2005). Across multiple specific illnesses including rheumatoid arthritis and fibromyalgia, positive affect has been associated with higher pain tolerance (Fasman, 2009; Strand, Zautra, Thoresen, Odegard, Uhlig, & Finset, 2006). In addition, positive emotions may predict faster recovery from illnesses. For example, Ostir and colleagues (2006) found that stroke patients with more positive emotions experienced recovery of greater functional status. In a general review, Broadbent &

Koschwanez (2012) found that those with higher positive affect have faster wound healing following stress compared to those with lower positive affect. This link has also been supported via experimental studies. Induced smiling led to quicker heart rate recovery following stress inductions (Kraft & Pressman, 2012). In another study, positive mood induction was related to subsequent lower pain reports to finger pressure and faster finger temperature recovery (Bruehl, Carlson, & McCubbin, 1993).

Relatedly, optimism is an important aspect of well-being that may help account for these findings linking well-being to faster recovery and greater pain tolerance. In a review by Diener and Chan (2011), positive feelings and optimism predicted longevity, mortality and slower disease progression. Optimism predicted lower risk of cardiovascular disease and decreased stroke incidence (Boehm & Kubzansky, 2012; Kim, Park, & Peterson, 2011). Individuals who are more optimistic about their prognosis may be more likely to engage in healthy behaviors including treatment and medication adherence that make recovery more likely. Indeed, Carver and colleagues (2010) found that optimism is related to more positive health behaviors. Optimists may see their illness as something they can overcome and envision a future in which they are in better health. Thus, they are motivated and more likely to engage in health behaviors such as changing to a healthy diet, increasing exercise, or adhering to treatment recommendations.

It may be too simple to suggest that more positive affect is linked to better health. This may lead people to search for the highest level of positive mood possible in hopes of increasing their longevity and decreasing health problems. However, how much and what type of positive affect is useful is important to consider as well, yet this is an area of research that has yet to be fully addressed. For example, Pressman and Cohen (2005) suggest that short-term inductions of highly aroused positive affect may produce unhealthy changes in physiology, whereas long-term boosts in positive affect are associated with beneficial physiological patterns. We will discuss the potential downside of too much positive affect in our limitations and future directions section. However, it is useful to point out here the difference between low and high arousal and low and high frequency of affect, as these distinctions may have implications for future well-being and health research. Perhaps high frequency of low-aroused positive affect is most beneficial for overall health, and that high-aroused positive emotions, such as excitement or joy, can have detrimental affects due to the heightened sensory experience that is unhealthy if sustained for long periods of time.

Perhaps an overlooked aspect of health is fertility and reproduction. Utilizing an evolutionary explanation of well-being and reproduction, researchers have begun pointing to a link between positive mood and fertility (De Neve, Diener, Tay, & Xuereb, 2013; Diener, Kanazawa, Suh, & Oishi, 2015). Happy individuals have sexual intercourse more frequently, where the happiest people report greatest frequency (Blanchflower & Oswald, 2004). Intercourse is more likely to lead to healthy pregnancy and birth for happy people (Buck et al., 2010; Matthiesen, Fredricksen, Ingerslev, & Zachariae, 2011). Further, pregnant women with high optimism tend to miscarry less frequently and have babies of a healthy weight (Rasmussen, Scheier, & Greenhouse, 2009). Alternatively, depressed women are more likely to have pregnancy and birth complications such as premature or low birth weight children, miscarriages, and other prenatal, perinatal, and postnatal complications (Field et al., 2009; Neggers, Goldenberg, Cliver, & Hauth, 2006; Orr & Miller, 1995; Wisner et al.,

2009). Thus, we see that high levels of positive affect are linked to greater likelihood of successful reproduction, while low levels of positive affect are associated with reproductive difficulties. High well-being increases the likelihood of fertility and reproduction, pointing to the evolutionary benefit of subjective well-being.

The strong support for the link between well-being and physical health has been well documented. However, important mediators and moderators of this relationship have yet to be studied as extensively. In particular, we see evidence for well-being and affect in individuals' health behaviors and choices. These healthy choices that are more frequent among those who are happier may help explain why happy individuals tend to have better health, lower BMI, less doctor visits and hospitalizations, and less sick days at work.

### **Well-being and social relationships**

Perhaps the strongest link with well-being is one's social relationships. Much prior research considered supportive social relationships to be one of the strongest outcomes of subjective well-being (Frisch, 2005; Moore & Diener, *in press*; Oishi et al., 2007). There are several theoretical accounts that attempt to explain this link. Functional accounts of emotions propose that affect guides behavior, including social behavior, by providing informative, evocative, and incentive functions that shape our behavior and interactions with others over time (Keltner & Haidt, 2001; Keltner & Kring, 1998). Positive emotions such as happiness, enjoyment, contentment, pleasure, and excitement inform the individual that their activity is going well and would be worthwhile to repeat in the future. The corresponding positive feelings reinforce the behaviors such that they are more likely to happen again. The evocative function refers to those activities that one engages in with others such as play, games, or conversations, which are shared interactions and build social bonds between people. A related theoretical account for the link between positive feelings and social relationships is the broaden-and-build theory proposed by Fredrickson (1998; 2001; Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008). Fredrickson argues that a primary reason for experiencing positive emotions is to broaden and build resources for the future especially under future times of distress. When we are in positive moods, we are able to invest in our social relationships and build a strong, supportive, social network that we can call upon in the future. Thus, positive emotions allow us to build those close relationships that are useful under future threats.

Overall, one of the strongest associations with well-being is one's social relationships. Those with high positive affect are more social and have higher quality relationships with others (Eid, Riemann, Angeitner, & Borkenau, 2003; Lucas & Fujita, 2000). Happy individuals report having more friends, having closer friends, engaging in more social activities, and spending more time talking with others compared to their less happy counterparts (Diener & Seligman, 2002; Lucas, Le, & Dyrenforth, 2008; Mehl, Vazire, Holleran, & Clark, 2010). Over time, happy individuals report spending time engaging in more fun and active interactions with others as well as in necessary or informational types of interactions (Vittengl & Holt, 1998). Positive affect is generally positively correlated with friendship (Cheng & Furnham, 2002). Thus, those with more positive affect tend to report better social relationships but also are choosing activities and behaviors that seem to build

their relationships as well. Interestingly, Fowler and Christakis (2008) found that high subjective well-being is often found in clusters within social networks. This indicates that happiness may have a social contagion effect in which those with higher well-being interact with similarly happy individuals ultimately boosting well-being over time.

Not only do happy people tend to report better relationships themselves, but others also report higher quality relationships with them as well. For example, time spent with those who have high positive affect is rated as being more rewarding (Harker & Keltner, 2001). Happy people tend to be more popular and rated as more likeable as well (Boehm & Lybomirsky, 2008). Observational reports corroborate the other informant findings. For example, happy people have more substantial conversations with others with less small talk and those with higher life satisfaction spend 70% more time talking when they are with other people and spend 25% less time alone (Mehl et al., 2010).

Experimental and longitudinal evidence reinforce the strong link between subjective well-being and healthy social relationships. In an experience sampling study, Diener and colleagues (2014) found that positive affect and sociability were significantly and consistently correlated. Kansky, Allen, and Diener (2016) found that positive affect in adolescence predicted future mean levels and change in loneliness and sociability over time during the transition to adulthood. They also found that peers rated those participants with high positive affect as teenagers as having healthier attachment styles in adulthood. Many experiments aimed to induce positive mood show benefits to social outcomes as well. For example, inducing positive mood is related to a greater likelihood of volunteering, helping with both high and low interest tasks, and engaging in more helping behaviors (Aknin et al., 2013; Cunningham, Shaffer, Barbee, Wolff, & Kelley, 1990; Rosenhan, Underwood, & Moore, 1974). People induced to positive moods prefer social situations, show increased interest in social activity, and become more sociable and cooperative (Cunningham, 1998a, 1998b; Moore & Diener, in press; Whelan & Zelenski, 2012). They also became more talkative and self-disclosing compared to those in a neutral mood condition (Cunningham, 1988a). Thus, experimental evidence suggests that happy people may seek out more social situations and invest more care and time to building their close relationships, which has beneficial outcomes for relationship quality.

Cross-cultural evidence overwhelmingly points to links between positive feelings and social relationships and social support. For example, cross-culturally, positive feelings are associated with valuing and engagement in affiliation, dominance, and amount of time spent interacting with others (Lucas, Diener, Grob, Suh, & Shao, 2000). Lucas and colleagues (2000) found a cultural difference in the sociability and happiness link, however. Specifically, they found that the association between extraversion and positive affect existed cross-culturally, but it was stronger in individualistic nations and weaker in collectivistic nations. Fulmer and colleagues (2010) found similar discrepancies based on culture, in that extraversion is related to higher life satisfaction but only when living in an extraverted, compared to an introverted, culture. Perhaps the link between well-being and sociability matters more in cultures where sociability is highly valued.

Besides friendships, happy people also have better romantic relationships as well. Nonmarital romantic relationships are strongly associated with subjective well-being (Campbell, Simpson, Boldry, & Kashy, 2005; Dush & Amato, 2005; Keyes & Waterman, 2003). Much more research has studied the effect of marriage on well-being. Overwhelmingly, findings point to the idea of a

marriage benefit. Mainly, that marriage is associated with higher well-being and lower psychological distress (Diener, Gohm, Suh, & Oishi, 2000; Efklides, Kalaitzidou, & Chankin, 2003; Glenn & Weaver, 1979; Holder, 2012; Wu & Hart, 2002). Further, those who are more satisfied with their romantic relationship report higher levels of positive affect and life satisfaction and lower levels of negative affect (Dush & Amato, 2005; Dyrdal, Roysamb, Nes, & Vitterso 2011; Love & Holder, 2015). While some findings suggest that *relationship satisfaction*, regardless of *relationship status*, is associated with higher levels of subjective well-being (Dush & Amato, 2005), others have found that relationship status satisfaction predicts life satisfaction, but not emotional or psychological well-being (Adamczyk, 2017).

Regardless of more recent research that calls into question whether relationship status itself, or relationship status satisfaction, is related to well-being, much prior research has identified a strong link between the constructs of relationship status category and well-being (see Kansky, in press for a review). Those who are married tend to be happier than those cohabitating, casually or exclusively dating, or rarely dating (Dush & Amato, 2005). With each increase in commitment level, Dush & Amato (2005) found an increase in well-being. In addition, married adults report greater happiness compared to those who are single, separated, or divorced (Dush, Taylor, & Kroeger, 2008; Glenn & Weaver, 1979; Gove, Style, & Hughes, 1990; Mastekaasa, 1994; Myers, 2000; Proulx, Helms, & Buehler, 2007; Stack & Eshleman 1998; Veenhoven, 1984). Specifically, marriage is associated with the highest levels of well-being, while separation is associated with the lowest levels of well-being, with divorce and widowhood falling in the middle (Helliwell, 2003). However, Diener and colleagues (2000) found that the marriage benefit was smaller in collectivist nations and divorce-tolerant nations. Such discrepant findings call into question whether the marriage benefit exists universally, or whether our well-being is based on relationship *quality* and *satisfaction* regardless of the relationship status category.

Findings also indicate that happier people and those with high life satisfaction are more likely to get married, stay married, and report higher happiness and satisfaction with their partner (Luhmann, Lucas, Eid, & Diener, 2013; Stutzer & Frey, 2006). Those with high life satisfaction are less likely to become separated from a marital partner (Luhmann et al., 2013). The happiest 10% of college students report better romantic relationships (Diener & Seligman, 2002). Overall, those with higher well-being seem to experience better romantic relationships (Demir, 2008). Using the method of coding photographs for positive expressions, several researchers have found that individuals with greater positive expressions have better marital outcomes (Harker & Keltner, 2001; Hernstein, Hansel, Butts, & Hile, 2009; Seder & Oishi, 2012). In a longitudinal study, Kansky and colleagues (2016) found that positive affect in early adolescence predicted lower levels of conflict in romantic relationships a decade later in young adulthood, corroborated by both self- and partner-reported measures of conflict. Gottman (1994) found that stable marriages are characterized by a ratio of 5:1 for positive to negative interactions, including more positive interactions when trying to resolve conflict. These findings point to a possible mechanism of the link between well-being and romantic stability and success: not only do happy people tend to report less negative conflict, but they are also better able to manage conflict when it inevitably arises.

Why might happy people have better relationships? Positive affect is related to more cooperative behavior as measured in studies assessing bargaining techniques (Barsade, 2002; Baron, Rea, & Daniels, 1992; Carnevale, 2007). Further, positive affect has been associated with high levels of caring, trust in others, and feeling respected, interested, and in harmony with others (Diener et al., 2015; Moore, Diener, & Tan, in press). Cross-culturally, positive feelings are linked to social and respect needs (Tay & Diener, 2011). Overall, it appears that positive affect is associated with many universally-important qualities of healthy relationships, such as trust and respect. People with high well-being may place greater value on healthy qualities of relationships, which continues to build positive social relations with others.

Further evidence for possible mechanisms of the link between positive mood and better quality relationships is provided via experimental studies. People manipulated to a positive mood were more talkative and self-disclosing (Cunningham, 1988a) and showed greater compassion, perspective taking, and sympathy for someone in distress (Nelson, 2009). Interestingly, when individuals feel socially *isolated*, they are more likely to feel as though they can't self-disclose or be their authentic self, which leads to more distress (Lepore, 2001; Lepore, Fernandez-Berrocal, Ragan, & Ramos, 2004; Lepore & Helgeson, 1999). Those with greater negative affect tend to have briefer social interactions and distance themselves from others (Silver, Wortman, & Crofton, 1990). Thus, engaging in deeper conversations with others, spending more time with others, and sharing more personal information about oneself may lead to deeper, more intimate, and more fulfilling relationships. These types of conversations and interactions with others are more likely to occur among those with higher well-being.

### **Well-being and work**

Assessing the link between well-being and work functioning and performance may be less straightforward than in our discussions of the link between well-being and other important life domains. This is partially due to the relatively young research field of assessing well-being and work. However, it is also partially due to the many different definitions and measurements of work functioning. It can be challenging to define work success as a global term, as there is such wide diversity in the daily tasks we experience on the job and what may constitute productivity across distinct types of professions.

Nevertheless, prior findings point to a small to moderate relationship between subjective well-being and work performance (Judge et al., 2001; Kinicki, Schriesheim, McKee-Ryan, & Carson, 2002; Riketta, 2008). In particular, there is an overlap between domain-specific job satisfaction and global life satisfaction (Judge & Hulin, 1993; Judge & Watanabe, 1993). In a meta-analysis of almost 500 studies, Faragher and colleagues (2005) found that job satisfaction was also associated with subjective health. In westernized countries, most adults spent most of their day at work. Thus, it is not surprising that we would find some relationship between satisfaction at work and overall satisfaction with one's life. Given the findings that point to a general moderate link between work and well-being, researchers have next tried to understand what job satisfaction means for workers and companies, and how to boost job satisfaction, workplace happiness, and subsequent benefits.

First, greater job satisfaction is associated with better objective and subjective evaluations of work performance. For example, bank employees who reported higher job satisfaction generated more revenue for their bank (Dotson & Allenby, 2010). In terms of productivity, customer representatives who were in good moods logged more calls per hour than those workers in bad moods (Rothbard & Wilk, 2011). These examples highlight two studies that address how positive mood and job satisfaction can be linked to better work performance based on job-specific *objective evaluations* and measurements of performance. There is more sufficient research suggesting that job satisfaction and affect can relate to *subjective evaluations* of work performance as well. Indeed, high trait positive affect, low trait negative affect, and high job satisfaction have been linked to supervisors' performance ratings of employees (Bouckenooghe, Raja, & Butt, 2013; Peterson, Luthans, Avolio, Walumbwa, & Zhang, 2011; Wright, Cropanzano, & Bonett, 2007). In an in-depth study of MBA students, those with greater positive affect tended to receive higher peer-ratings and staff-observant ratings in terms of contributions to class discussions, competence, and leadership potential (Staw & Barsade, 1993).

There is scarce empirical support indicating the benefit of inducing positive moods on work performance. The experimental findings begin pointing to an increase in subjective work performance, but it is unrelated to objective work performances. In particular, manipulating positive moods was associated with increased collaboration, subjective reporting of individual performance, and optimism for future performance (Carnevale & Isen, 1986; Wright & Michel, 1982). However, experimentally-manipulating well-being did not have an impact on actual cognitive performances on tasks (Tenney, Logg, & Moore, 2015).

Often times, job performance and success can be linked to job experience. Thus, it is reasonable that the longer individuals stay at a job, the greater likelihood they have of success. With most jobs, there is a learning curve during which workers learn their particular tasks as well as workplace rules, culture, and guidelines. If one is able to stay at a job, they may increase mastery over their tasks as compared to individuals who jump around to different jobs. In addition, companies may benefit from retaining successful employees rather than replacing workers and using valuable resources to go through the training process again. Therefore, considering job turnover as a component of workplace functioning and its potential link to well-being is worthwhile endeavor. Those with higher life satisfaction were less likely to change jobs, relocate, or be fired in the next five years (Luhmann et al., 2013). People with higher job satisfaction and greater positive affect are less likely to switch jobs (Porter, Steers, Mowday, & Boulian, 1974). High subjective well-being is related to lower absenteeism and turnover (Tenney, Poole, & Diener, 2016). Several meta-analyses have suggested a small to moderate relationship between job satisfaction predicting turnover and turnover intentions (Griffeth, Hom, & Gaertner, 2000; Tett & Meyer, 1993). Happiness in particular has been associated with workplace stability (not losing one's job) and workplace success (Boehm & Lyubomirsky, 2008).

Of course, a discussion of work performance and well-being would not be complete without highlighting the relationship between well-being and financial success, as measured by income. The link between subjective well-being and income has been studied extensively both within the United States and across the globe (e.g., De Neve, Diener, Tay, & Xuereb, 2013; Diener, Sandvik, Seidlitz,

& Diener, 1993). Happy workers tend to earn higher incomes (Peterson et al., 2011). In a hallmark study by Diener, Nickerson, Lucas, and Sandvik (2002), college freshman high in cheerfulness later earned more money after controlling for parental income. This link between early positive affect and later higher income has been replicated in other samples within the United States (De Neve & Oswald, 2012), Australia (Marks & Fleming, 1999), South Korea (Koo & Suh, 2013), and Russian (Graham, Eggers, & Sukhtankar, 2004). However, Diener and colleagues (2002) noted that the effects between positive affect and higher incomes were strongest for those already from high-income households, whereas those from the lowest income families benefitted from having a mid-level of cheerfulness in predicting the highest later income. Within the United States, changes in income when at a high-income level, resulted in smaller changes in well-being as compared to changes in lower-income brackets, but this was not replicated cross-culturally (Diener et al., 1993).

Other studies that utilize a less advantaged population have failed to replicate the happiness-income link (Diener et al., 1993; Kansky et al., 2016) indicating that perhaps being happy benefits one's earning potential due to other external factors that come along with being wealthy earlier on in one's life. In addition, other researchers have found that income may be linked to life satisfaction but not to the affective components of well-being (Kahneman & Deaton, 2010). The complexity in concluding to what extent well-being and income are linked is also likely due to different measurements and contexts for measuring these constructs.

On an organizational level, there is strong evidence suggesting that employee satisfaction is linked with higher earnings for the company as a whole. Prior findings point to a small to moderate relationship between job satisfaction and individual and organizational performance (Harter, Schmidt, & Hayes, 2002; Judge et al., 2011; Kinicki et al., 2002; Riketta, 2008). Organizations that are rated by employees as being the best place to work or those with high employee satisfaction tend to have higher firm earnings (Edmans, 2012; Moniz & Jong, 2014). Longitudinally, employee satisfaction is also linked to higher profits and earnings per share for companies (Koys, 2001; Schneider, Hanges, Smith, & Salvaggio, 2003). Besides financial benefits, employee satisfaction has also been linked to customer satisfaction, productivity, and fewer workdays missed (Harter et al., 2002). However, other researchers have failed to replicate findings between employee and job satisfaction and increased job performance (Clare & Huntsinger, 2009; Forgas & George, 2001; Gruber, Mauss, & Tamir, 2011; Wright, Cropanzano, Denney, & Moline, 2002).

There is scarce longitudinal evidence that addresses the causality of work satisfaction and success versus overall subjective well-being. Are people who are generally happy also likely to see their work through rose-tinted glasses and report higher job satisfaction? Are happy people more likely to seek out fulfilling jobs that bring them more satisfaction? Or do people who find their calling and enter a satisfying, fulfilling career that brings them happiness benefit from subsequent boosts in overall well-being? One recent study found that adolescent positive affect predicted higher levels of career satisfaction and job competence (Kansky et al., 2016). However, few longitudinal studies exist that would allow measurements of subjective well-being prior to individuals entering the workforce that might help address the causality confusion.

As we discussed earlier, people who are happier tend to have better social relationships. Since most workplaces and careers involve interacting with other people, the relationship and well-being

link may extend to the workplace. Whether it is working alongside supervisors, trainees, and coworkers to customers, patients, or those receiving some type of service, job relationships may be important for well-being and satisfaction. Poor quality relationships at work including incompatible goals, poor communication, and hostility have been linked to lower job satisfaction via higher stress and anxiety, reduced commitment to work, and lower satisfaction and confidence in workplace decision making (de Dreu & Weingart 2003; Tepper, 2000). Alternatively, positive emotions boost cooperative behavior (Carnevale, 2007), which may lead to better workplace relationships. In a review, Tenney, Poole, and Diener (2016) report that high subjective well-being is related to more positive relationships in the workplace. Positive, healthy relationships with coworkers, in turn, may also lead to greater productivity because people can debate ideas while understanding and respecting differing opinions or trusting each other to complete assignments (Simons & Peterson, 2000; Stephens, Heaphy, Carmeli, Spreitzer, & Dutton 2013). And, those who report more positive feelings at work received greater social support from their supervisors over a year later (Staw, Sutton, & Pelled, 1994). Positive moods at work also may impact the service one provides as part of their job. For example, customers reported greater satisfaction with the service they received if they perceived genuine positive emotions from those serving them (Grandey, 2003; Grandey, Fisk, Mattila, Jansen, & Sideman, 2005; Hennig-Thurau, Groth, Paul, & Gremler, 2006). More satisfied customers, in turn, may lead to greater revenue for the company overall. Thus, satisfied customers may explain the link between happier workers and greater company revenue.

Besides social relationships as a possible mechanism between high subjective well-being and better workplace performance, creativity and motivation are two additional potential moderators that are important to discuss. Creativity and motivation in the workplace may encourage individuals to work harder, longer, more efficiently, and even possibly with greater enthusiasm and enjoyment. Those with higher positive affect are more likely to interpret a task as being more interesting and more satisfying than those with lower positive affect (Isen & Reeve, 2005; Kraiger, Billings, & Isen, 1989). Therefore, those with higher positive affect may also perceive tasks as more enjoyable before they even begin, increasing their likelihood to start a task or to persevere in completing it. Indeed, positive affect may induce patience and perseverance in delaying gratification (Ifcher & Zarghamee, 2011; Lerner, Li, & Weber, 2013; Pyone & Isen 2011). Tenney and colleagues (2016) found that high subjective well-being is related to greater self-regulation, motivation, and creativity, which all in turn benefit work performance and engagement.

People in positive moods may be more creative and able to think outside the box in workplace situations. The abilities of cognitive flexibility, willingness to think through multiple options, and generating greater diversity of ideas and problem solving techniques all seem to be beneficial skills for the workplace. Those in positive moods have been found to be more creative (Amabile et al., 2005) and curious (Jovanovic & Brdaric, 2012; Leitzel, 2000). In experimental studies when positive mood was induced, the group was able to generate more original ideas (Grawitch et al., 2003) and individuals were more creative (Amabile et al., 2005). Induced positive moods also led to greater cognitive flexibility and broader attention (Baas, De Dreu, & Nijstad, 2008; Isen, Daubman, & Nowicki, 1987; Rowe, Hirsch, & Anderson, 2007; Schmitz, De Rosa, & Anderson, 2009).

Alternatively, negative affect may also induce creativity and perseverance as well. Workers who are unhappy or unsatisfied with their work performance may be motivated to boost their performance by working harder, with greater focus, or with greater creativity. Thus, negative mood and job dissatisfaction can relate to perseverance and creativity in the workplace as well (George & Zhou, 2007; To, Fisher, Ashkanasay, & Rowe, 2012; Zhou & George, 2001; 2003). Group negative affect toward a particular boss or policy may also foster stronger social bonds among coworkers over this shared experience. Stoverink and colleagues (2014) found that people who complain about a common issue bond over shared negative feelings, which may increase social cohesion. Thus, negative affect may help coworkers build stronger relationships amongst themselves, which in turn is related to workplace happiness and productivity. Thus, again we see conflicting evidence pointing to a more complicated picture between ideal well-being and workplace motivation and success.

### **Well-being and resilience**

The final category of outcomes we will discuss as related to well-being is resilience. We refer to resilience here as the ability to bounce back from a negative event as well as the ability to maintain one's status quo when facing negative events (for development of the definition and alternative definitions see Davydov, Stewart, Ritchie, & Chaudieu, 2010). In addition, we will discuss resilience as a mental health concern and thus include psychopathology outcomes associated with well-being within this section rather than under the general physical health section.

Subjective well-being is closely tied to psychological health and many researchers consider flourishing or high subjective well-being on one end of the spectrum with depression, anxiety, and other mental health difficulties on the other. It is not surprising that the happiest people have very low levels of mental health symptoms (Diener & Seligman, 2002). High subjective well-being may also be linked to a lower likelihood of developing mental health problems including depression, anxiety, loneliness, and poor self-worth (Kansky et al., 2016). Many mental illnesses are characterized by symptoms interfering with daily functioning and well-being. If someone presents with anxious symptoms for example, but does not report being disrupted or disturbed by the symptoms, then this often fails to meet diagnostic criteria for a psychological disorder. The awareness of one's symptoms impacting their well-being often is what brings an individual to seek professional help via counseling, therapy, or medication.

Two of the most common mental disorders affecting today's society at large are likely anxiety and mood disorders such as depression (Kessler et al., 2005a; Kessler, Chiu, Demler, & Walters, 2005b; Merikangas et al., 2010). The affective components of subjective well-being have been strongly linked to mental health symptoms common to anxiety and depression. Several hallmark studies seeking to identify an underlying disposition associated with mental illness point to negative affect or neuroticism (Watson & Clark, 1984; Zurawski & Smith, 1987). Using various techniques ranging from factor analysis to classifying clinician ratings of client symptoms and mood, negative affect has been consistently linked to both anxiety and depression, while positive affect is also associated with depressive symptoms (Hall, 1977; Tellegen, 1985). Specifically, researchers have found that high levels of negative affect are correlated with both anxiety and depressive symptoms and diagnoses, but low levels of positive affect are only correlated with depression (Blumberg &

Izard, 1986; Watson, Clark, & Carey, 1988). Thus, it appears that perhaps high negative affect is characteristic of many disorders, but positive affect may only be related to depression or similar mood disorders. Indeed, a hallmark characteristic of clinical depression is anhedonia, which is the loss of pleasure for activities that used to be of interest and enjoyable (Feighner et al., 1972). It is unsurprising that positive affect, or lack thereof, is consistently and strongly related to depression.

Although mental illness is associated with poor well-being, most people are happy most of the time. In studies of almost all nations across the world, the finding that most people are happy has been replicated (Diener & Diener, 1996). Specifically, this means that most people are above mean levels of positive affect and life satisfaction. It is important to be clear that these strong findings do not mean that everyone is blindingly joyful all the time, but rather that most people are above a neutral baseline. In other words, people experience happiness and positive feelings more often than negative feelings most of the time. People also tend to recall more positive than negative events in their lives (Seidlitz & Diener, 1993). This suggests that not only are we currently happier than baseline, but that most people tend to remember happy times more often than unhappy moments.

In an intensive experience-sampling study of college students, 95% reported more happiness than unhappiness most of the moments during the assessment period and some level of happiness was reported in 94% of the assessment trials (Diener & Larsen, 1984). Interestingly, even the least happy group of respondents reported some level of happiness on 68% of the trials. Also important is the finding that there were rarely trials where respondents reported zero positive and negative affect. Rather, when zero negative affect was reported, 99.5% of respondents endorsed some level of happiness. This hallmark study added to the growing understanding that most people are happy at baseline most of the time.

Since this pivotal study, the finding that we have a happiness offset has been widely replicated. In the Gallup World Poll of 2005-2011, which included 160 nations, 82% of respondents endorsed some positive affect much of the prior day (Diener et al., 2015). This number increased to 91% for those who endorsed zero negative affect during the prior day. Again, even the least happy group endorsed experiencing happiness more often than not. For example, among those least happy, 57% reported some positive affect much of the day before. Informant reports also support this positive offset in that only 8% of the targets were rated below the mean level of happiness by multiple informants (Diener et al., 1995). Further, they found that 97% of the participants were rated as experiencing more happiness than unhappiness. These findings are also corroborated by physiological evidence via brain asymmetry studies which show that at baseline, the majority of participants show activation in the approach centers of the brain indicating positivity (Schneider, Graham, Grant, King, & Cooper, 2009; Sutton & Davidson, 2000).

Nonetheless, bad things and negative events happen as part of life. Although most people are happy most of the time, it is expected and normal for individuals to experience a decrease in happiness as a response to these unfortunate events. We see that following a traumatic event, most people do report lower positive affect or life satisfaction. Those widowed, unemployed, or wheelchair-bound report below average positivity, but still above the mid-level of happiness (Chwalisz, Diener, & Gallagher, 1988; Clark & Georgellis, 2012). These results were also seen in

those with chronic mental disabilities who rated their mood above the mid-level point most of the time in an experience sampling study (Delespaul & DeVries, 1987).

Indeed, most people bounce back quicker than we might expect. Adaptation does not necessarily mean that those who experience negative events revert back to their previous level of functioning, but rather that while their well-being may be negatively impacted immediately, they will eventually bounce back to above neutral in terms of reported happiness. For example, less than one-third of those who experience a natural disaster report severe or significant distress, while most report transient distress (Bonnano, Brewin, Kaniasty, & La Greca, 2010). Those who experienced a negative event, such as developing a disability that prevented them from continuing to work or losing a child or spouse, reported lower subjective well-being post-event compared to pre-event, but they still report more positive feelings compared to negative feelings (Lucas, 2007). Among those who experienced significant negative events in the past year such as assault, poverty, or unemployment, 53% reported that they enjoyed most of the prior day and 60% said they laughed or smiled yesterday (Diener et al., 2015). Overall, we see that most people adapt to negative events such as divorce or widowhood, even though they may not completely revert to their pre-trauma level of functioning (Lucas, 2007).

Studies that assess the impact of minor negative events on one's mood are helpful in thinking of the impact or lack thereof, of negative events on one's well-being. Findings suggest that at baseline, most people are happy. If we are going about our day with no significant events happening, then we are likely to report a slightly positive mood. However, when a negative mood does occur, this immediately detracts from our positivity bias. Fortunately, most people bounce back fairly easily. In an experience-sampling study, those who reported positive mood in the morning also reported positive moods throughout the rest of the day. Of those who reported a negative mood in the morning, 80% reported positive moods later in the day. Alternatively, negative mood following positive mood earlier in the day occurred only 11% of the time (Diener & Larsen, 1984). This hallmark study suggests that it may take more to change our positive mood to a negative mood, but that we are more easily able to make the shift from negative to positive.

Why do some people tend to bounce back from events while others develop clinical or sub-clinical mental health symptoms? One possible mechanism is a characteristic coined resilience. Although resilience has had its share of definition confusion (see Johnston et al., 2015 for a review), we will borrow the definition of resilience that refers to the ability to both recover quickly after experiencing a traumatic or negative event and also to lessen the severity of the initial negative response to a difficult event (Davydov et al., 2010). Rutten and colleagues (2013) propose that there are three domains that determine one's resilience: attachment style, positive emotions, and sense of purpose in life. Most applicable to our discussion of well-being thus far is the component of positive emotions. Indeed, positive emotions are considered an important contributor to resilience (Seligman, Steen, Park, & Peterson, 2005). As mentioned above, positive emotions boost physical health, increase pain tolerance, and quicken recovery time (Fredrickson & Levenson, 1998; Ong, Mroczek, & Riffin, 2011; Ong, Zautra, & Reid, 2010; Pressman & Cohen, 2005; Zautra, Johnson, & Davis, 2005). Further, evidence begins pointing to the utility of positive emotions in boosting mental health, increasing the speed of psychological recovery to negative events, and decreasing the detriment

individuals report following adverse events (Tugade & Fredrickson, 2004). That is, positive moods may help individuals experience less severe negative emotions and when they do experience negative emotions, they recover faster as compared to those with lower positive affect.

Positive emotions may help individuals perceive adverse events as more manageable and surmountable. For example and as discussed above, positive emotions are associated with quicker cardiovascular recovery to anxiety-producing film clips (Fredrickson & Levenson, 1998; Fredrickson et al., 2000). Beyond experimental evidence supporting the link between positive affect and less negative reactivity to stressful events, findings also point to this association outside of laboratory-induced settings in everyday life. Positive emotions during stressful times throughout the day seem to buffer against strong and stable negative emotional responses and thus positive moods relate to better psychological health and well-being in the future (Geschwind et al., 2010b; Wichers et al., 2007; Wichers et al., 2010). Not only does experiencing positive emotions help buffer against mental health problems, but the ability to draw out these experiences to a longer duration is related to improved resilience as well (Geschwind et al., 2010a). Using positive emotions during potentially stressful or difficult events has been linked to less negative emotional arousal and faster cardiovascular recovery partially due to increased emotion regulation strategies that are associated with drawing on the positives (Tugade & Fredrickson, 2004).

Positive emotions may play a role in psychological treatment as well. Increases in positive emotion during the first week of treatment for depressed patients predicted fewer depressive symptoms 6 weeks later (Geschwind et al., 2010a). Recently, interventions aimed to specifically increase positive emotions have been assessed to determine their utility in alleviating mental health symptoms. Positive psychology interventions include engaging in kindness-promoting activities, socializing, writing gratitude letters, and learning and practicing optimistic and flexible thinking (Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011; Seligman et al., 2005; Sin & Lyubomirsky, 2009 for a review; Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006). These interventions have been proposed to target both anxiety disorders and depressive symptoms (Fava et al., 2005; Seligman, Rashid, & Parks, 2006), but they seem to be most effective for the latter. Remember that prior findings indicated that negative affect was linked to both anxiety and depression, but positive affect was only related to depression. It should be unsurprising that interventions targeting increasing positive emotions would be best suited for depression. The field of positive psychology interventions is relatively new and much more research on what types of activities and for who in particular these treatments may be best suited for is warranted.

If increasing positive moods can benefit those with depressive symptoms, can those without psychological distress also reap the rewards of increasing positive affect? According to Keyes (2006; p. 7), flourishing is “a state of mental health in which people are free of Diagnostic and Statistical Manual mental disorders such as major depression and filled with high levels of emotional, psychological, and social well-being. Human languishing is a state of emptiness in which individuals are devoid of emotional, psychological, and social well-being, but they are not mentally ill.” He proposes that the vast majority of mentally healthy adults are not suffering from depression, languishing, or flourishing. But rather, most people are in the middle – not depressed but not optimizing their mental health either. Further research on the impact of positive interventions or even

smaller attempts to bolster positive affect for the majority of the population in the middle of the spectrum between flourishing and clinical mental health problems will be enlightening.

## Implications

We provided cross-sectional, correlational, longitudinal, experimental, cross-cultural, and other innovative methodological evidence highlighting the importance of subjective well-being in benefitting work, social relationships, health, and resilience. Although well-being is a subjective perspective of how we think we are functioning in our everyday lives, there are many objective indicators that also point to how strong of a role well-being plays in our functioning in many other important life domains.

There are several important implications following the strong evidence supporting the link between well-being and crucial life domains. Diener (2006) proposed a set of guidelines encouraging policymakers, government affairs workers, and other businessmen to use the construct of well-being to inform economic decisions and policy development. He proposed that well-being is useful in developing, assessing, and measuring progress in policies including prevention and intervention work. Other researchers have also proposed including well-being in developing national policies and measuring national quality of life (Dolan & White, 2007; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). Indeed, several countries have already begun assessing subjective well-being as a way to measure quality of life and to inform public policy and government decisions (Dolan, Layard, & Metcalfe, 2011; Hagerty et al., 2001; Helliwell, Layard, & Sachs, 2014).

Subjective well-being has been associated with high quality social relationships and citizenship, employee productivity and company revenue, and physical and mental health. Specifically, those with higher well-being tend to report fewer sick days at work, more job stability with less turnover, and may even be more productive on the job. Those employees high in well-being are more likely to think and work creatively, collaboratively, and perhaps even more efficiently in the workplace, which can contribute to greater individual productivity and increased overall company revenue. Implementing policy change in the workplace to foster employee satisfaction and improved relationships among coworkers has the potential to generate economic benefits downstream.

Generally, high well-being benefits physical and mental health. Those with higher levels of well-being tend to report less mental distress overall, bounce back from negative events faster, and experience a lesser decrease in their mental health when they encounter a potentially stressful or challenging situation compared to their less happy counterparts. Interventions aimed to boost well-being have also led to decreased mental health difficulties at the same time. Therefore, including well-being as a measure of progress or outcome of mental healthcare may have significant clinical applications. The empirical support for these interventions can inform the development of treatments for both mentally healthy *and* distressed populations that can be applicable to a broader audience. Developing empirically-validated treatments for clinical and subclinical populations that incorporate strategies to enhance well-being is thus a potential significant implication given the strong link between well-being, mental health, and resilience.

Beyond mental health, well-being is also strongly tied to physical health benefits. For example, high well-being has been linked to fewer cardiovascular problems, faster recovery from stress or

physical ailments, and higher pain tolerance. It has also been linked to a host of beneficial health behaviors such as better medication adherence, less likelihood of smoking, and greater likelihood of maintaining a healthy lifestyle including diet and exercise. Thus, including measures of well-being within the medical model of treatment to track patients' prognosis and recovery seems worthy of debate (Fuhrer, 1994). Findings can inform treatment of physical health problems by perhaps including a well-being intervention as part of treatment or utilizing the construct as an outcome to assess quality of life and recovery.

The findings of a strong link between well-being and beneficial outcomes in a variety of key domains have the potential for significant implications in medical and mental health treatment, workplace organization and environment scaffolding, and national and economic policy change.

### **Limitations, and Future Directions**

Although research in this field has grown exponentially over the past several decades, there are still many more unanswered questions. We next review the limitations in our understanding of the benefits of well-being and suggest future research directions. Overall, the experimental evidence for the benefits of subjective well-being needs work. The vast majority of experimental studies use mood manipulation as a proxy for well-being. However, many mood manipulation studies fall prone to experimenter bias or demand characteristics, or fail to show long-term effects. Experimental studies that tap into positive psychology interventions begin addressing the limited generalizability of mood manipulation studies and add support to the possible benefits of boosting well-being. Further, interventions begin to demonstrate the potential for long-term changes in well-being, but this remains a relatively sparse area of research (Diener et al., 2017; Tenney et al., 2016). In particular, the field substantially lacks experimental support when evaluating well-being predicting work success. Within this domain, few studies address this directly and those that do tend to use relatively small sample sizes.

Potential third variables are also important considerations between the link of well-being and many outcomes we discussed here. For example, the role of childhood and family environments may explain the relationship between our domains of interest and well-being. Perhaps family effects influence health behavior and choices, rather than affect being the main driver of longevity and physical health. Parenting styles and family environments may also impact our relationship styles with others throughout life, complicating the link between well-being and interpersonal functioning. Future research on potential confounds is necessary to understand the mechanisms and influences of well-being and important outcomes.

Much research presented here tends to focus on the benefits of high positive affect, life satisfaction, or well-being. However, this lends itself to two potential problems. First, this seems to neglect the possible benefits of experiencing *some* negative affect. Second, there may be limits on how much positivity is useful before becoming detrimental. Thus, more research is needed on the ideal balance between positive and negative affect under different circumstances to maximize benefits. In a review of longitudinal and survey data, Oishi, Diener, and Lucas (2007) found that people who experience the highest levels of happiness are the most successful in terms of close

relationships and volunteer work, but that those who experience slightly lower levels of happiness, as compared to the highest levels, are most successful when considering income, education, and political participation. This points to the potential benefit of some negative affect in predicting beneficial outcomes, but this remains a generally understudied area of research.

When might negative affect be beneficial for work, health, relationships, and resilience? It is possible that experiencing some negative affect within the workplace may be motivating to improve productivity, foster autonomy, and increase groupthink or contributions. It is also possible that workers who make a mistake and experience embarrassment or guilt may be motivated to work harder to fix their mistake. Negative moods have been shown to improve memory recall and decrease memory bias (Forgas, Vargas, & Laham, 2005), which suggests the possible utility of negative affect in workplace situations that rely on accuracy and correct judgment. How much and what types of negative affect that are most useful for motivation is a realm yet to be discovered.

Happy people have strong relationships, but we also know that social bonds can be strengthened through support provided and received during hard times and adversity. For example, self-disclosing personal, and often distressing, information, apologizing, or showing embarrassment have all been linked to increasing social bonds between people (Gruber et al., 2011; Keltner & Anderson, 2000). Especially within romantic relationships, self-disclosure and relying on a partner for support while also reciprocating that support has been associated with greater relationship satisfaction (Gove et al., 1990; Hansen, Christopher, & Nangle, 1992; Williams, 1988). Forgas (2011) found that positive moods were associated with more self-disclosure, but that negative moods were linked to reciprocating with more appropriate and accurate self-disclosure and to being more attentive to others' behaviors. This suggests that negative moods may lead to greater empathy and more accurate support given to those in need, which are potential benefits of negative affect for social relationships. In addition, the vulnerability and sometimes highly emotional content of negative affect shared between close individuals can foster even closer social bonds over time. Again, more research is needed to understand under what circumstances negative affect may be adaptive for social relationships.

Although negative and positive affect have been linked to health behaviors such as committing to fitness plans, diet regimens, and medication adherence, we are still unsure to what degree negative versus positive affect motivates people to initiate and sustain these long-term commitments to healthier lifestyles. Perhaps negative affect leads one to seek out lifestyle changes via healthy behaviors and health choices, which may decrease negative affect and boost positive affect. This boost in positive affect may account for the sustained implementation of healthier behaviors. However, the balance in affect in terms of motivation to initially improve health has not been disentangled yet. The influences of various forms of high and low subjective well-being on health are underdeveloped areas of research (Diener et al., 2017).

Diener and colleagues (2017) provide clear suggestions for future areas of health-related well-being research. Although we reviewed many important mediators of the link between well-being and health and longevity, more research regarding the moderators and interactions of these relationships is needed. Similarly, Tenney and colleagues (2016) provide a review of the current state of the field of well-being and work-related outcomes including suggestions for future research. Across both

reviews, the authors point to the need to further assess under what conditions and to what extent subjective well-being influences health and work performance.

Finally, we see that negative affect underlies many mental health problems, whereas positive affect and optimism are related to resilience. Negative affect, characteristic of mood and anxiety disorders, may motivate individuals to seek treatment, which ultimately is beneficial for their well-being and psychological health. In addition, negative affect may lead people to more accurately remember past events, even adverse events, so that they take the precautions to avoid similar transgressions in the future. Some negative affect may buffer against the escalation of mental health problems when facing a potential stressor. However, again more research is needed to determine under which circumstances and to what extent certain negative feelings may be beneficial in building resilience and mental toughness.

In summary, we see that there is evidence pointing to the benefits of some negativity across a variety of situations. For example, experiencing embarrassment, humility, or guilt may encourage people to try to mend their relationship or fix their mistake, which can lead to improvements in social relationships or work functioning. Negative affect regarding one's mental or physical health may encourage positive behavior changes via seeking professional or medical guidance or changing unhealthy habits. Not only do we need to increase our understanding of what context, type, and amount of negative affect is beneficial for our well-being, but we also need to further assess the limits of when too much positivity is harmful. Gruber and colleagues (2011) extensively review the literature indicating that there are risks associated with too much positive affect, but this remains an understudied area. Overall, there is little research considering the limits of positive feelings and well-being and the possible benefits of negative feelings (see Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Gruber et al., 2011).

## **Conclusions**

Subjective well-being is an important predictor and outcome of many important life domains. In particular, we provided a review of the evidence suggesting that positive and negative affect, and life satisfaction all have the potential to lead to important benefits within work, relationships, health, and resilience. While the field of subjective well-being has grown exponentially in recent years, greater attention to the moderators and mediators of the benefits of well-being, the limits of positive feelings on well-being, possible benefits of negative affect, and stronger experimental evidence supporting these claims are necessary next steps to more fully understand the importance of well-being. With these research questions yet to be answered, well-being continues to emerge as a vastly important quality of life measure impacting many aspects of daily functioning. Thus, it has the potential to inform economic, workplace, and healthcare policy to benefit individuals, and ultimately, society.

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