

3

OPTIMISM AND FLOURISHING

CHRISTOPHER PETERSON AND EDWARD C. CHANG

Positive psychology is a rapidly emerging initiative within the social sciences, as evidenced by this book and other recent volumes devoted to positive psychology (e.g., Chang, 2001b; Gillham, 2000; Snyder & Lopez, 2002). To paraphrase Seligman (1998), positive psychology entails a focus on human strength as well as weakness, an interest in resilience as well as vulnerability, and a concern with cultivating wellness as well as remediating pathology. Positive psychologists seem to agree that optimism is an important construct to be included in this new approach to psychology (Peterson, 2000; Peterson & Steen, 2002).

As optimism researchers, we are pleased to see optimism featured in what seems to be a long-needed antidote to psychology's focus on what goes wrong with people. But we are also aware of some questions that need to be considered for optimism to thrive as part of this new psychology of flourishing. Perhaps the most general question to be raised concerns the type of optimism most pertinent to flourishing. Optimism and pessimism are both complex concepts, and research to date usually renders them in simplistic fashion.

In this contribution, we discuss optimism as studied within contemporary psychology, and we do so in the context of issues that might profitably be raised about the meaning of these concepts. Although empirical research into optimism has yielded a number of interesting and reliable findings, we believe that the best is yet to come, so long as optimism and pessimism are approached with sufficient conceptual and methodological sophistication. We begin by discussing the meanings of optimism and pessimism, focusing on distinctions that might be made within these constructs but rarely are. We illustrate the power of these distinctions in two ways: (a) by discussing how researchers might look more closely at data in light of them and (b) by summarizing research on the cultural context of optimism that makes most sense in terms of these distinctions.

IN THE BEGINNING: MEANINGS OF OPTIMISM AND PESSIMISM

The term *optimism* is a relatively recent arrival on the historical scene, as is its cousin *pessimism* (Sicinski, 1972). In the 1700s, Leibniz characterized optimism as a mode of thinking, and Voltaire popularized the term in his 1759 novel *Candide*, which was highly critical of the shallowness of an optimistic perspective. Interesting to us, pessimism appeared fully a century later, when it was independently introduced by Schopenhauer and Coleridge.

At least in their original forms, optimism and pessimism were not symmetric. Optimism as discussed by Leibniz was cognitive in its emphasis, reflecting a reasoned judgment that good would predominate over evil, even if goodness were associated with suffering. In contrast, pessimism as discussed by Schopenhauer had an emotional referent: The pessimistic individual was one for whom suffering would outweigh happiness. Note therefore that someone can be optimistic in the cognitive Leibniz sense yet pessimistic in the emotional Schopenhauer sense.

Does it really matter to the contemporary world how Leibniz and Schopenhauer originally defined optimism and pessimism? We think it does because these philosophers introduced complexities that survive in everyday connotations of optimism and pessimism, even if they are neglected by researchers. An optimistic person, as described by Leibniz, is one who has arrived at a *reasoned* conclusion that eventually good will outweigh bad. Optimism is not accepted on blind faith; it is not happiness or even contentment; it is not freedom from setbacks and disappointments. Indeed, Voltaire's *Candide* is not a good example of optimism so defined.

Some of the ostensible puzzles of optimism and pessimism research can be resolved if we approach these constructs as complex and occasionally independent of one another. If we want to cultivate well-being, we need to be clear just how we wish to define the good life. In some cases, optimism as a cognitive perspective should be encouraged even though pessimism as an emotional mode is validated and left intact.

OPTIMISM AND PESSIMISM IN TODAY'S PSYCHOLOGY

Peterson (2000) reviewed some of the contemporary work on optimism, noting that most discussions of optimism take one of two forms. In the first, optimism is posited as an inherent part of human nature, either to be praised or decried. Enemies of optimism, as it were, included such writers as Sophocles, Nietzsche, and Freud, whereas its proponents included such

individuals as Socrates, de Condorcet, Maslow, and Rogers. This first tack on optimism was thoroughly reviewed by Tiger (1979).

The second approach to optimism approaches it as an individual difference: a characteristic that people possess to varying degrees. These two approaches can be compatible. Our human nature provides a baseline optimism, of which individuals show more versus less, and our experiences influence the degree to which we are optimistic or pessimistic. In this chapter, we focus on this second tradition of optimism and pessimism as individual differences, but we return in our conclusion to comment on the first tradition of optimism and pessimism as human nature and the relationship they have to well-being and the “good life.”

At present, the well-known approaches to optimism and pessimism as individual differences include lines of research into (a) dispositional optimism and (b) explanatory style undertaken. Neither of these research traditions makes the sorts of distinctions suggested by our brief historical review, and furthermore, there have been few attempts to examine critically points of convergence and divergence between dispositional optimism and explanatory style. These are different yet related constructs, and one of our purposes is to compare and contrast them. To be sure, there have been some previous attempts to do so, but these have tended to be partisan endeavors, typically written by someone with a clear allegiance to only one of these cognates of optimism and thus a desire to dismiss or subsume the other.

We briefly survey these popular approaches to optimism as an individual difference variable. It is no coincidence that each has an associated self-report questionnaire measure that lends itself to efficient research. The correlates of each version of optimism have therefore been extensively investigated. Research seems to show that optimism, however measured, is linked to desirable characteristics—happiness, perseverance, achievement, and health—although a close reading of the actual studies often leads to the more exact conclusion that pessimism is associated with undesirable characteristics.

In any event, what is less clear is why these correlations occur (Peterson & Steen, 2002). Optimism and pessimism research to date has looked more at correlations with distant adaptational outcomes than at the mechanisms that lead to these outcomes. Researchers have promiscuously moved from one outcome measure to another to still another. This restlessness has doubtlessly kept alive interest in optimism and pessimism, but it has precluded a full understanding of the phenomena.

Especially as optimism researchers join the positive psychology movement, greater attention to mechanisms is needed. We can expect that numerous mechanisms can lead from optimism and pessimism to outcomes and also that the particular mix of mechanisms will depend on the outcome

of interest (Peterson & Bossio, 1991). Complicating any specification of the process by which effects are produced is the fact that the same construct—for example, mood—may be a mechanism in one case but an outcome in another.

Likely mechanisms are to be found on a variety of levels, starting with biology. Emotional mechanisms also deserve attention, given the extensive research literature showing a link between pessimism and depression (Sweeney, Anderson, & Bailey, 1986). There are probably several cognitive pathways linking optimism and pessimism to outcomes. Expectations and attributions are not isolated beliefs but rather parts of a complex knowledge system that can influence well-being in numerous ways. Yet another explanation of why optimistic thinking is related to outcomes entails a social pathway. Pessimistic people are often socially isolated (Anderson & Arnault, 1985), and social isolation predicts poor adaptation in a wide variety of realms (Cohen & Syme, 1985). Conversely, optimistic people may reap the benefits of rich social networks and appropriate social support.

As we see it, the most typical and robust mechanism linking optimism and outcomes entails behavior. We speculate that optimistic individuals may be more likely than pessimistic individuals to enter settings in which good things can and do happen. The more general point is that positive psychologists should not look just within the person but also at the person's setting, including his or her culture. Optimism may influence not only the settings that people choose but also what they do in these settings. Just as important, settings differ in the degree to which they allow positive characteristics to develop and be deployed. Positive psychology should not decontextualize the strengths and abilities that make possible the good life; congratulating the winner should be no more a part of psychology than blaming the victim (cf. Ryan, 1978).

Dispositional Optimism

Scheier and Carver (1992) have studied extensively a personality variable they identify as *dispositional optimism*: the global expectation that good things will be plentiful in the future and bad things scarce. Scheier and Carver's overriding perspective is in terms of how people pursue goals, defined as desirable values. To Scheier and Carver, virtually all realms of human activity can be cast in goal terms, and people's behavior entails the identification and adoption of goals and the regulation of actions with respect to these goals. The authors therefore refer to their approach as a self-regulatory model (Carver & Scheier, 1981).

Optimism enters into self-regulation when people ask themselves about impediments to the achievement of the goals they have adopted. In the

face of difficulties, do people nonetheless believe that goals will be achieved? If so, they are optimistic; if not, they are pessimistic. Optimism leads to continued efforts to attain the goal, whereas pessimism leads to passivity.

Scheier and Carver (1985) measure optimism (versus pessimism) with a brief self-report questionnaire called the Life Orientation Test (LOT). Representative items, with which respondents agree or disagree, include,

1. In uncertain times, I usually expect the best.
2. If something can go wrong for me it will. [reverse-scored]

Positive expectations are usually combined with reverse-scored negative expectations, and the resulting measure is investigated with respect to psychological and physical well-being. More recently, Scheier, Carver, and Bridges (1994) have introduced the revised Life Orientation Test (LOT-R), which is believed to be a better measure of dispositional optimism. Whether based on the LOT or the LOT-R, results show that dispositional optimism is linked to desirable outcomes and in particular to active and effective coping (e.g., Carver et al., 1993; Scheier & Carver, 1987; Scheier et al., 1989; Strack, Carver, & Blaney, 1987). However, some studies have found that it may be the decreased use of passive and ineffective coping efforts rather than the increased use of active coping efforts that distinguishes individuals who are dispositionally optimistic from those who are dispositionally pessimistic (Chang, 1998).

The optimism items of the LOT negatively correlate with the pessimism items but not so highly that the LOT or LOT-R are unidimensional (e.g., Chang, D'Zurilla, & Maydeu-Olivares, 1994; Marshall, Wortman, Kusulas, Hervig, & Vickers, 1992; Robinson-Whelen, Kim, MacCallum, & Kiecolt-Glaser, 1997). Furthermore, optimism and pessimism so measured have somewhat different correlates. We discuss some of the relevant studies later in this chapter, but for the time being, let us comment that the occasional independence of optimism and pessimism is more than a methodological nuisance. In substantive terms, some people can be said to have hedonically rich expectations, whereas other people have muted expectations. At the extremes of this dimension, we may find *DSM-IV* personality disorders—for example, borderline personality disorder in the case of extreme expectations and obsessive-compulsive personality in the case of minimal expectations manifesting as anhedonia (American Psychiatric Association, 1994). Be that as it may, it seems prudent for researchers to distinguish optimism and pessimism when using the LOT. It may well be that the independence of optimism and pessimism is related to the separate brain systems apparently responsible for positive versus negative affectivity (R. Davidson, 1984).

Explanatory Style

Seligman and his colleagues have approached optimism in terms of an individual's characteristic explanatory style—how he or she explains the causes of bad events (Buchanan & Seligman, 1995). Those who explain bad events in a circumscribed way, with external, unstable, and specific causes, are described as optimistic, whereas those who favor internal, stable, and global causes are described as pessimistic.

The notion of explanatory style emerged from the attributional reformulation of the learned helplessness model (Abramson, Seligman, & Teasdale, 1978). Briefly, the original helplessness model proposed that following experience with uncontrollable aversive events, animals and people become helpless—passive and unresponsive—presumably because they have “learned” that there is no contingency between actions and outcomes (Maier & Seligman, 1976). This learning is represented cognitively as a generalized expectancy that future outcomes will be unrelated to outcomes. It is this generalized expectation of response–outcome independence that produces later helplessness.

Explanatory style was added to the helplessness model to better account for the boundary conditions of human helplessness following uncontrollability. When is helplessness general, and when is it circumscribed? People who encounter a bad event ask “why?” Their causal attribution determines how they respond to the event. If it is a stable (long-lasting) cause, helplessness is thought to be chronic. If it is a pervasive (global) cause, helplessness is thought to be widespread. If it is an internal cause, self-esteem is thought to suffer.

People have a habitual way of explaining bad events—an explanatory style—and this explanatory style is posited as a distal influence on helplessness following adversity (Peterson & Seligman, 1984). Explanatory style is typically measured with a self-report questionnaire called the Attributional Style Questionnaire (ASQ) that presents respondents with hypothetical events involving themselves and asks them to provide “the one major cause” of each event if it were to happen to them (Peterson et al., 1982). They then rate these provided causes along dimensions of internality, stability, and globality. Ratings are combined by averaging within dimensions, separately for good events and for bad events.

In some versions of the ASQ, respondents make attributions for bad events and good events. Explanatory style based on bad events is usually independent of explanatory style for good events, which points again to the potential importance of distinguishing pessimism and optimism. Explanatory style based on bad events usually has more robust correlations than explanatory style based on good events, although correlations are typically in the opposite directions (Peterson, 1991). However, researchers have not usually looked

for domains in which explanatory style for good events should be especially pertinent. A start in this direction was made by Abramson, Metalsky, and Alloy (1989), who speculated that “good” explanatory style is pertinent to the savoring of good events and may thus be related to recovery from depression. “Bad” explanatory style, emphasized by the reformulated helplessness theory, predicts the onset of depression. But this interesting possibility has not been systematically explored.

A second way of measuring explanatory style is with a content analysis procedure—the CAVE (an acronym for Content Analysis of Verbatim Explanations)—that allows written or spoken material to be scored for naturally occurring causal explanations (Peterson, Schulman, Castellon, & Seligman, 1992). Researchers identify explanations for bad events, “extract” them, and present them to judges who rate them along the scales of the ASQ. The CAVE technique makes possible longitudinal studies after the fact, so long as spoken or written material can be located from early in the lives of individuals for whom long-term outcomes of interest are known.

Remember that the generalized expectation of response–outcome independence is hypothesized as the proximal cause of helplessness, even though research in this tradition has rarely looked at this mediating variable. Rather, researchers measure explanatory style and correlate it with outcomes thought to revolve around helplessness: depression; illness; and failure in academic, athletic, and vocational realms. Results are usually as expected: A pessimistic explanatory style correlates with poor adaptation in a variety of domains.

As explanatory style research has progressed and theory has been modified, the internality dimension has become of less interest. It has more inconsistent correlates than stability or globality, it is less reliably assessed, and there are theoretical grounds for doubting that it has a direct impact on expectations per se (Peterson, 1991). Indeed, internality may well conflate self-blame and self-efficacy, which would explain why it fares poorly in empirical tests. In a modification of the helplessness reformulation, Abramson et al. (1989) emphasized only stability and globality.

The most important recent chapter in helplessness research was the reframing of explanatory style by Seligman (1991) in his book *Learned Optimism*, in which he described how his lifelong interest in what can go wrong with people changed into an interest in what can go right (Seligman, 1975). Research on helplessness was flipped into an interest in what Seligman called optimism, although he could have called it mastery, effectance, or control. His terminology is justified by the central concern in helplessness theory with expectations, but it is worth emphasizing yet again that these expectations tend not to be explicitly studied and also that these expectations are not about the likelihood of good events but rather about the contingency between events, good and bad, and responses.

COMPARISONS AND CONTRASTS: WHICH DISTINCTIONS DESERVE ATTENTION?

On one level, the Scheier and Carver approach is congruent with the Seligman approach. LOT/LOT-R correlates and ASQ/CAVE correlates are strikingly similar. Optimism measured in these ways correlates with good mood and absence of depression, good health, achievement, and active coping. Some of the relevant studies have had longitudinal designs that controlled for baseline levels of the outcomes of interest; optimism predicts well-being above and beyond these baselines. Measures of dispositional optimism and explanatory style tend to converge when they are—rarely—examined together in the same study (e.g., Hjelle, Busch, & Warren, 1996; Hull & Mendolia, 1991; Peterson & Vaidya, 2001).

However, a closer look reveals some critical differences between dispositional optimism and explanatory style. As we have already described, the LOT is a straightforward measure of expectation about the occurrence of events. An optimistic expectation leads to the belief that goals will be achieved, although it is neutral with respect to how this will happen. In contrast, ASQ measures perceived causality, so it is influenced in addition by people's beliefs about how goals are realized. Said another way, optimistic explanatory style is more entwined with agency than is dispositional optimism, and this distinction seems an important one for researchers and theorists to keep in mind.

Both approaches either ignore whether optimism or pessimism might be warranted by the objective situation or assume that their reality basis does not matter. Perhaps this is why many researchers approach optimism and pessimism in broad cross-situational terms.¹ In any event, we think the veracity of optimism and pessimism is too important to overlook. Sometimes causal explanations or expectations are well-grounded in reality; they are accurate given the individual's setting and his or her resources. This type of optimism is likely to be linked to desirable outcomes, although a researcher must be sure that the optimistic beliefs add something to prediction of these outcomes above and beyond the reality on which the beliefs are based. Otherwise, results are trivial. So, a wealthy individual may believe that she can pay all of her bills every month, but it is her bank account that makes this

¹There exists a small research tradition based on the premise that optimistic and pessimistic expectancies or attributions may involve situation-, goal-, or content-specific dimensions or concomitants. More than half a century ago, Sanford, Conrad, and Franck (1946) considered the value of assessing for expectancies regarding the consequences of war. More recently, researchers have looked at optimism associated with academic performance (Peterson & Barrett, 1987; Prola & Stern, 1984), love relationships (Carnelley & Janoff-Bulman, 1992), AIDS (Taylor et al., 1992), and even with seeing the dentist (Wardle, 1984). The problem with this research is that it tends not to include measures of domain-irrelevant optimism, which means that the premise of situational specificity is never tested.

possible and not her optimism per se. Such possibilities are why longitudinal designs controlling for baseline levels of the outcomes of interest are more compelling than simple cross-sectional demonstrations of a link between optimism and an apparent outcome.

Sometimes causal explanations or expectations are objectively unrealistic, in which case positive thinking not only pays no dividends but may have considerable costs. For example, a recent study found that the positive associations between negative life events and depressive and physical symptoms were exacerbated by high dispositional optimism (Chang & Sanna, *in press*). That is, dispositionally optimistic individuals who experienced the greatest accumulation of negative life events over a one-year period (implying that their optimism was unwarranted) reported the highest levels of depressive and physical symptoms. It is interesting to note that another study found a very different set of findings when appraised stress, rather than negative life events, was examined. Chang (*in press*) showed that the positive associations between appraised stress and depressive and psychological symptoms were significantly more exacerbated for dispositional pessimists than for dispositional optimists. These findings were consistent across a sample of younger adults and older adults. Given that subjective (e.g., stress appraisal) and objective indexes of stress (e.g., negative life events) have been found to make independent contributions to adjustment (e.g., Cohen, Tyrrell, & Smith, 1993), these contrasting findings for dispositional optimism and pessimism indicate that there may be costs and benefits associated with both of these states (Tennen & Affleck, 1987).

For another example, consider a robust finding documented in the epidemiology literature. Research participants are asked to provide a percentage estimate of the likelihood, compared to peers, that they will someday contract an illness or experience some trauma. People consistently and strikingly underestimate their risks: The average individual sees him- or herself as below average in risk for a variety of maladies, which of course cannot be. This phenomenon is identified as an optimistic bias (Weinstein, 1989), and it is decried because it may lead people to neglect the basics of health promotion and maintenance. For example, people who believe that they are below risk for contracting HIV may behave exactly in ways that increase their risk (Kok, Ho, Heng, & Ong, 1990). Compared to their separate effects, the combination of an optimistic bias and dispositional optimism may result in even more health-compromising outcomes. For example, K. Davidson and Prkachin (1997) found that adults who expressed both high dispositional optimism and a high optimistic bias tended to display the greatest decrease in exercise over a six-week period relative to others who differed from them on these two dimensions.

For yet another example, “John Henryism” is a personality characteristic reflecting the degree to which someone believes that important life

outcomes can be controlled if enough effort is exerted. Among African American males of low socioeconomic status who lack the resources to make their belief in control a reality, John Henryism is linked to elevated blood pressure and presumably to all of the negative cardiac outcomes that result from hypertension (James, Hartnett, & Kalsbeek, 1983). Along these lines, the Type A coronary-prone behavior pattern seems to involve exaggerated beliefs about what the individual can make happen, and this style again has been linked to cardiac morbidity and mortality (Friedman & Rosenman, 1974). One can also argue that such problematic styles as hostility, perfectionism, and procrastination entail erroneous expectations (Peterson, 1999).

In a third case, optimism is neither realistic nor unrealistic but rather indeterminate. A person's circumstances do not guarantee a given outcome, and they do not preclude it. Beliefs thus can translate themselves into outcomes via self-fulfilling prophecies. These types of optimism and pessimism are usually of most interest to researchers, who assign to these beliefs a causal role and thus try to study situations in which optimism and pessimism matter above and beyond reality. There is nothing wrong with this strategy of investigation, and the necessary qualifications are well-understood by researchers. But we must be aware that when the members of the general public hear about a given finding (e.g., "optimism is associated with a long and productive life"), they may not be aware of the necessary qualification, usually because we as researchers do not stress the qualifications ourselves. Optimism in a war zone or during a famine probably has little effect on outcomes that are beyond the influence of an individual person's beliefs. Optimism on one's death bed may bring contentment, but it will not reverse an insidious disease process or prolong life.

Taken together, these ideas about optimism and pessimism as individual differences—both the established theories as well as the qualifications just made—suggest a family of features that should all be taken seriously. A composite account of optimism and pessimism should (a) distinguish positive expectations from negative expectations; (b) acknowledge the person's sense of agency (or not) with respect to the outcomes that are the subject of expectancies; (c) allow for the possibility that these beliefs may be accurate, inaccurate, or indeterminate; and (d) specify whether optimism and pessimism are rendered in mainly cognitive terms or mainly emotional terms. Consider what it means to take seriously these different features. Optimism and pessimism are complex constructs, and it makes no sense to speak of the former as always desirable and the latter as always undesirable. Nonetheless, optimism researchers often generalize glibly across features that matter.

For example, dispositional optimism is a positive expectation with a cognitive flavor; it collapses across agency and across reality basis. Look at the disparate phenomena that are thereby subsumed. Complicating additional

research into dispositional optimism is that the typical way of scoring this individual difference from the LOT or LOT-R is to juxtapose it with dispositional pessimism (a negative expectation again with a cognitive flavor collapsed across agency and reality bases). Are the possible examples of dispositional optimism meaningful opposites of the possible examples of dispositional pessimism?

In contrast, explanatory style is a negative expectation (given that explanatory style is usually scored from attributions about negative events) with a cognitive flavor and an assumption of agency. What about its reality basis? If we add in the assumptions of the learned helplessness model from which explanatory style sprung, then we might assert that there is a (past) reality basis, but typical research does not look at this (Peterson, Maier, & Seligman, 1993); perhaps it is best to say that like dispositional optimism the explanatory style construct does not make this distinction. Regardless, when we start to investigate what explanatory style does and does not capture, we again see oversimplifications.

For example, a recent study has linked pessimistic explanatory style to increased mortality as a result of accidental trauma (Peterson, Seligman, Yurko, Martin, & Friedman, 1998). On the face of it, this finding may reflect helplessness on the part of pessimists: They are poor problem solvers and do not do a good job removing themselves from harm's way. But follow-up studies have suggested a different interpretation: Those with a pessimistic explanatory style lead a more risky life and may actually prefer potentially dangerous settings (Peterson et al., 2001). What this might mean is not yet clear, but "pessimists" are not acting in helpless fashion—just in a foolish fashion. Inasmuch as other studies show that pessimistic explanatory style indeed predicts helpless behavior in some circumstances (Alloy, Peterson, Abramson, & Seligman, 1984), we must conclude that this form of pessimism indexes different ways of behaving, some well-described by the learned helplessness model and others not.

A close look at which features of optimism or pessimism are tapped by a given operationalization suggest the mechanisms that lead from these psychological states to various outcomes of interest. To continue the example under discussion, if the key feature of a pessimistic explanatory style is diminished agency, then we would expect that pessimistic individuals would respond to unpleasant circumstances by seeking "external" solutions, like putting themselves in situations that promise to distract them. This is exactly what we have found in our research, along with an interesting twist along the lines of gender: Women with a pessimistic explanatory style report that they respond to bad moods by eating, whereas their male counterparts report that they respond to bad moods by doing something dangerous or reckless (Peterson et al., 2001).

WHAT DO THE DATA SHOW?

Most of us casually treat optimism and pessimism as simple opposites. Indeed, we often measure these constructs with the same scale, anchored at one end with optimism and at the other with pessimism. Literally hundreds of studies using a variety of operationalizations and designs show that when people are placed along a continuum from pessimistic to optimistic and examined with respect to some measure of adaptation, “optimism” seems to be correlated with good outcomes and “pessimism” with bad outcomes. The conclusion follows from these findings that optimism accompanies flourishing, whether our focus is on good mood and morale; on perseverance and active problem solving; on social connectedness; on academic, military, political, and vocational success; or on good health, longevity, recovery from illness, and freedom from trauma (Peterson, 2000). These data have been the subject of numerous reviews, and we therefore do not enumerate the relevant studies.

What we do instead is to direct the reader’s attention to Figure 3.1. The x -axis of the graph represents an pessimism–optimism continuum, and the y -axis represents any and all outcome measures of interest. Both axes have identified midpoints. For the x -axis, the midpoint corresponds to the individual who is neither pessimistic nor optimistic—the average Joe or Josephine. For the y -axis, the midpoint is average, typical, or unremarkable functioning with respect to the measured outcome: mood, health, achievement, and so on. A family of hypothetical lines is shown, all of which would be described by the positive correlation coefficients consistent with the typical interpretation of the optimism-flourishing literature. The important point is that each line suggests a different conclusion about the relationship of optimism and pessimism to well-being.

Suppose the outcome measure reflects only degrees of good functioning. Then it is only possible to have lines a , b , or c . The only literally straight line among these is b , which shows that pessimism has a cost and that optimism has a benefit. Line a in contrast shows that pessimism has a cost but that optimism has no particular benefit; it captures what has been dubbed the power of nonnegative thinking. Line c shows that pessimism has no cost but that optimism has a benefit. The remaining lines can be analogously interpreted.

Nearly all optimism research looks at the overall relationship among variables without examining the full distribution of data that make up the relationship. Although imprecise measurement would often preclude definitive distinctions among the literally straight lines and the others, we are aware of no published studies that have even made the attempt. We think that researchers should scrutinize their data as closely possible. If it were established that optimism per se confers no particular advantage beyond

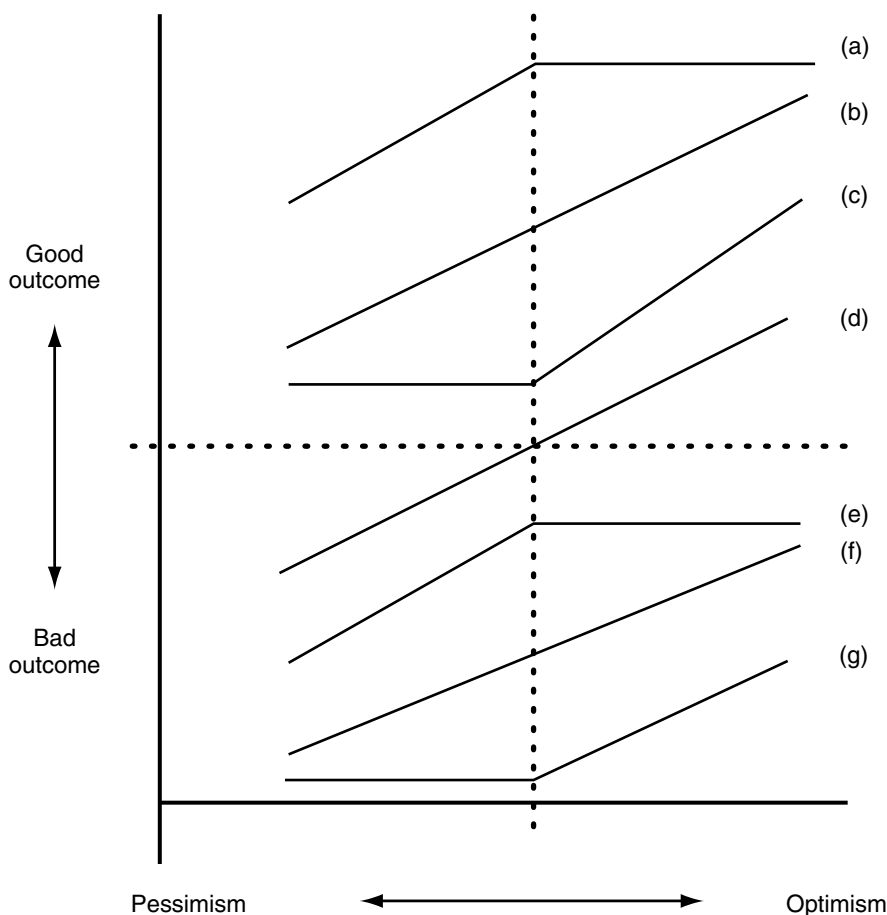


Figure 3.1. What do the data show? Possible forms of a correlation between optimism/pessimism and outcome measures.

the absence of pessimism, we would have an intriguing view of human nature reminiscent of humanistic psychology of the 1960s: People function well unless they have a reason not to do so. Conversely, if pessimism per se does not compromise how people function, we should leave these beliefs alone in therapeutic or preventive interventions. And so on.

Another criticism of not looking closely at what the data show is that researchers may study lines *e*, *f*, or *g*, and then discuss the results as if the data reflected lines *a*, *b*, or *c*. For example, if we find that pessimistic individuals are depressed and physically ill (e.g., Peterson & Seligman, 1984; Peterson, Seligman, & Vaillant, 1988), we glibly render this result as showing that optimistic people are happy and healthy, even if our outcomes measures

did not “allow” people to manifest happiness or health (e.g., Peterson & Bossio, 1991).

There is more to happiness than the absence of depression (Myers & Diener, 1995), and there is more to health than the absence of illness (Seeman, 1989). But somehow this obvious point can be ignored when optimism researchers interpret their findings. So long as outcome measures reflect only degrees of pathology, no conclusions can be drawn about flourishing. This is an important lesson for positive psychologists of all stripes. It is not enough to study “positive” predictors like optimism or wisdom or courage or future-mindedness; one must also study “positive” outcomes. For example, according to Ryff’s (1989; also, Ryff & Keyes, 1995) conceptualization of subjective well-being, positive psychological adjustment in adults can be viewed as reflecting several relatively distinct and important dimensions (autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance; see also chapter 13, this volume).

An example of the interesting results that can come from a full range of outcome measures is research into defensive pessimism by Norem and Cantor (1986). Some students cope with anxiety about pending exams by expressing negative expectations. This process harnesses their anxiety, which might otherwise interfere with their performance. They actually do better on the exam than individuals who are not allowed to indulge their pessimism. The only way that this finding was possible was by using an outcome measure that allowed a full range of possibilities, from bad to good. These data also show that pessimism is not always dysfunctional: Its role depends on the context.

THE CULTURAL CONTEXT OF OPTIMISM AND PESSIMISM

Let us move to a discussion of the cultural context of optimism and pessimism, where studies to date show that the distinctions so far made matter (e.g., Anderson, 1999; Crittendon, 1996; Domino & Lin, 1993; Heine & Lehman, 1995; Kuroda & Suzuki, 1991; Lee, Hallahan, & Herzog, 1996; Oettingen, 1995; Schutte, Valerio, & Carrillo, 1996). One question is whether cultures vary in their overall optimism and pessimism. In keeping with our argument, we can ask more specifically if cultures differ in the types of optimism that are common. This question then leads to additional questions about the relationship of optimism and pessimism to different outcomes. Do these relationships vary by culture? Are the mechanisms linking optimism and pessimism to outcomes a function of culture?

Remember the features of optimism that we introduced. Might cultures differ in their endorsement of these features? In the contemporary United

States, for example, feeling good is very important to people, and we should expect to see a relentless accent on the positive (Heine, Lehman, Markus, & Kitayama, 1999). In contrast, traditional Muslim cultures value sobriety and solemnity. This does not mean that clinical depression is a goal people seek, but it does suggest that positive expectations do not run amok. “Be your own best friend” is an unlikely bumper sticker slogan to see in Saudi Arabia, for example.

Cultures clearly differ in their emphasis on individual agency (Markus & Kitayama, 1991), and again the contemporary United States would seem to fall far out on this continuum (Peterson et al., 1993). In the United States, the most important goals we have as a people include individual choices, individual rights, and individual fulfillment (Peterson, 2000). Americans are greatly occupied with what they can and cannot accomplish in their everyday lives, and in particular with what they can acquire. These expectations tend to be decontextualized, unqualified by a consideration of the social, economic, and historical factors that can shape outcomes (Wallach & Wallach, 1983). In the United States, all things are possible to the right-thinking individual, and this sort of positive thinking is a tradition that dates back hundreds of years (Meyer, 1988).

Other cultures emphasize individual agency less but other aspects of optimism more. Indeed, optimism need not be attached just to individual agency. Collective agency—collective optimism, if you will—is an important value for cultures that emphasize the collectivity over the individual (Zaccaro, Blair, Peterson, & Zazanis, 1995). So Western cultures have been described as being individualistic (Markus & Kitayama, 1991; Triandis, 1995). In such cultures, individuals are expected to seek independence from others by attending to the self (Greenwald, 1980). As a result, individuals from such cultures grow to develop a sense of the self largely independent of others. In cultures where the independent self is predominant, we find a self-enhancing bias involving overly positive views of the self, illusions of control, and unrealistic optimism (e.g., Taylor & Brown, 1988).

In contrast, the focus in Eastern cultures traditionally has been on a view of the individual who maintains a fundamental relatedness with others (Markus & Kitayama, 1991). Attending to others, harmonious interdependence with them, and fitting in not only are valued but are often expected, which results in an interdependent view of the self (Weisz, Rothbaum, & Blackburn, 1984; Yee, 1992). Within collectivist culture, the resulting bias appears to be toward self-effacement: the tendency to see oneself as being more typical or average than others (Heine & Lehman, 1995).

Insofar as research has linked optimism to self-enhancing biases and pessimism to self-effacing biases, one should find cultural differences in optimism and pessimism. Yet only a few studies have looked at this issue

empirically (Chang, 2001a). We now review some key findings obtained in two recent studies of cultural differences in the features of optimism and pessimism.

Optimism and Pessimism Among Asians and Non-Asians

In a recent study, Lee and Seligman (1997) assessed the explanatory style for both bad events and good events of three college student groups: mainland Chinese, Chinese Americans, and European Americans. With respect to explanatory style for good events, both Chinese Americans and European American students had elevated scores relative to mainland Chinese students. Thus, Chinese Americans appeared to be just as optimistic as European Americans, whereas mainland Chinese were less optimistic than the two American groups. In contrast, both mainland Chinese and Chinese Americans had elevated scores for explanatory style for bad events compared to European Americans. So Chinese Americans appeared to be as pessimistic as mainland Chinese, whereas European Americans were less pessimistic than both Asian groups.

These findings raise some possibilities for future investigation. For example, that pessimistic explanatory style based on bad events was elevated for both Asian groups raises the possibility that this sort of pessimism might be a sensibility of Asians less likely to change with acculturation. Said another way, what has *not* changed for Chinese who have immigrated to the United States? Kao, Nagata, and Peterson's (1997) research provides one answer: A pessimistic explanatory style (based on bad events) was linked among a group of Asian American college students to a style of family upbringing that emphasized submissiveness and deemphasized dominance.

In a different study, Chang (1996) examined dispositional optimism and pessimism in Asian American and European Americans college students. All participants completed measures at two points in time. At Time 1, participants completed a version of the LOT separately scored for optimism and pessimism (Chang, Maydeu-Olivares, & D'Zurilla, 1997). At Time 2, approximately a month and a half later, participants completed measures of depressive symptoms and physical symptoms.

As Lazarus and Folkman (1984) argued, links between individual differences variables like optimism and adjustment are likely to be mediated by styles of coping. Hence, a measure of coping strategies that assessed engaged coping (i.e., problem solving, cognitive restructuring, expressing emotion, and seeking social support) and disengaged coping (i.e., problem avoidance, wishful thinking, self-criticism, and social withdrawal) was also included in the study at Time 1.

Several questions were addressed. First, do Asian Americans and European Americans differ on optimism or pessimism as measured by the LOT?

Like Lee and Seligman (1997), Chang (1996) found that the two groups did not differ with respect to optimism. However, the Asian Americans were more pessimistic than the European Americans.

Second, do optimism or pessimism differentially predict adjustment among Asian Americans and European Americans? To address this question, Chang (1996) conducted a series of regression analyses to identify predictors of each adjustment measure for each ethnic group. In addition to separate optimism and pessimism scores, scores on each of the coping strategies (as well as age and sex) were also included. Results of these analyses indicated that there were indeed different predictors of adjustment in the two groups. Among Asian Americans, low scores on optimism predicted psychological and physical adjustment, whereas among European Americans, high scores on pessimism predicted psychological adjustment.

Third, are there differences in the pattern of associations among the study variables between Asian Americans and European Americans? Chang (1996) found that the pattern of correlations between the various study measures for Asian Americans was different from the one found for European Americans. Most striking was the difference in the direction of the associations between pessimism and two of the engagement coping strategies (problem solving and expressing emotions) for Asian Americans compared to European Americans. Specifically, pessimism was negatively associated with use of problem solving and expressing emotions for European Americans. In contrast, pessimism was found to be associated positively with use of these coping strategies for Asian Americans. So, increased active coping among Asian Americans was predicted by high pessimism scores, where decreased active coping among European Americans was predicted by high pessimism scores.

Asians as Defensive Pessimists?

Is the complex pessimism of Asians a problem, or might it be beneficial in the cultural context in which it occurs? One possibility might be that pessimism helps Asians achieve positive consequences. As Norem and Cantor (1986) and Aspinwall and Brunhart (1996) argued, optimism and pessimism are not simply what people *have* because they are optimists or pessimists but rather a reflection of what people *do* (e.g., using a particular way of thinking about certain things) in relation to a specific goal. Hence, Asian Americans also might use their pessimism as a strategy to think about potential negative consequences as a means to motivate themselves toward proactive behavior (e.g., problem solving) while at the same time preserving social harmony through the expression of modesty (e.g., not setting themselves apart from their peers). Insofar as the link between pessimism and problem solving does result in more positive rather than negative

consequences, this can help explain why elevated pessimism is maintained among Asians. As emphasized earlier, greater research attention to mechanisms can help make sense of why culture seems to matter.

CONCLUSION

We have covered a number of topics in this chapter, from the philosophical origins of the notions of optimism and pessimism to empirical studies of these psychological characteristics among different ethnic groups. The general theme that runs through what we have written is the idea that distinctions matter. Optimism and pessimism are not simple opposites, and findings with respect to the one construct cannot be flipped into conclusions about the other. Furthermore, within the constructs of optimism and pessimism, there are potentially important features that should be taken into account. Most research, including our own, has not grappled fully with these distinctions, but we urge strongly that future research take them seriously, especially as cross-cultural studies of optimism and pessimism are beginning in earnest.

Western investigators are translating the LOT and the ASQ and going forth to measure the optimism and pessimism of the world. Interesting findings will no doubt result, but we suspect that these might be even more interesting if researchers do not expect optimism and pessimism to work the same way in all cultures. Different cultures will emphasize different features of these psychological states, and they will likely bear different relationships to different outcomes. In that regard, it is worth briefly returning to our earlier comments on the importance of assessing expectancies with respect to positive outcomes. It is critical for researchers to consider what are appropriate and inappropriate positive and negative outcomes. For example, although many of the dimensions of subjective well-being (e.g., autonomy, personal growth, and self-acceptance) identified by Ryff and her colleagues are likely to appear as meaningful indexes of adjustment for most Westerners, it remains to be seen whether they are useful and meaningful for most Easterners.

We do not doubt that some form of optimism or the absence of some form of pessimism is linked to the good life around the world, but just which forms will probably vary. If we wish to encourage well-being and help people flourish, we need more than a one-size-fits-all optimism-boosting program. Remember Chang's (1996) finding that lack of optimism—not the presence of pessimism—predicted subsequent depressive symptoms in Asian Americans. Accordingly, a culture-specific intervention consistent with Beck's (1976) cognitive framework might focus distinctly on increasing optimistic thoughts in distressed Asian American clients rather than on decreasing their

pessimistic thoughts. As noted by Chang (1996), “By decreasing pessimism in Asian Americans, one could conceivably take away a major source of motivation that is related to adaptive and engaged coping behaviors such as problem solving” (p. 121). Hence, it may be particularly valuable to use interventions that focus on increasing this client group’s level of optimism, whereas for European Americans, it may be more valuable to use interventions that focus on decreasing their level of pessimism.

Furthermore, findings from Chang’s (1996) study also suggest the need for examining the clinical significance of various *combinations* of high and low optimism and pessimism within individuals. Because Asians and Asian Americans may “normally” express elevated levels of pessimism (Chang, 1996; Lee & Seligman, 1997), it would be important to distinguish subgroups who do and do not express a concomitant level of optimism. For example, Asian Americans who express high levels of pessimism relative to European Americans, but little optimism, may be particularly vulnerable to psychological and physical problems. In contrast, it may be that some Asians, despite high expectations of negative outcomes, express a “balance” of negative and positive thoughts that functions adaptively for them. Because most of the conceptual models and measures of optimism and pessimism have been based on studies of Westerners (e.g., European Americans), it may be useful to develop models of optimism and pessimism that are derived from an understanding of other cultural groups.

Optimism is predicated on evaluation—on given affects and emotions, as it were—and these, of course, vary dramatically across cultures. Because of the simplicity of the LOT and the ASQ, researchers may be tempted simply to translate these measures and administer them. This would be a mistake if we want to understand the many faces of flourishing. Future research, as we see it, should approach optimism and pessimism as nuanced and culturally shaped.

Another important strategy for future research is to take a developmental approach. What are the origins of optimism and pessimism in different cultures? Are they differentially socialized? Studies like this might answer a normative question of interest to positive psychology: Is the typical person an optimist, a pessimist, or expectationally neutral? Does something unusual in the course of development need to occur to impart to someone an optimistic world view? Is optimism simply the developmental default, deep-wired into human beings by evolution (Tiger, 1979)? Or is pessimism the default? Or perhaps the child is a blank slate, equally able to become an optimist or a pessimist, depending on the idiosyncratic influences to which he or she is exposed throughout life? Is optimism linked to flourishing among children as it appears to be among adults?

Aristotle thought that youth lacked the life experience to decide for themselves how to pursue the good life. Indeed, he believed that only elders

who had lived a full life could accurately appraise whether or not they had lived a good life. As if contemporary researchers have conspired to agree with Aristotle centuries ago, the extant literature on optimism, however conceptualized, has focused largely on adults (Fischer & Leitenberg 1986). However, some preliminary findings show that children can learn to be less pessimistic and to solve their problems more effectively; these skills promote greater resilience (Gilham, Reivich, Jaycox, & Seligman, 1995). The cultivation of resilience among children may well provide a route to the good life among adults, and we call for its further study.

REFERENCES

- Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review*, 96, 358–372.
- Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology*, 87, 49–74.
- Alloy, L. B., Peterson, C., Abramson, L. Y., & Seligman, M. E. P. (1984). Attributional style and generality of learned helplessness. *Journal of Personality and Social Psychology*, 46, 681–687.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Anderson, C. A. (1999). Attributional style, depression, and loneliness: A cross-cultural comparison of American and Chinese students. *Personality and Social Psychology Bulletin*, 25, 482–499.
- Anderson, C. A., & Arnault, L. H. (1985). Attributional style and everyday problems in living: Depression, loneliness, and shyness. *Social Cognition*, 3, 16–35.
- Aspinwall, L. G., & Brunhart, S. M. (1996). Distinguishing optimism from denial: Optimistic beliefs predict attention to health threats. *Personality and Social Psychology Bulletin*, 22, 993–1003.
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York: International Universities Press.
- Buchanan, G. M., & Seligman, M. E. P. (Eds.). (1995). *Explanatory style*. Hillsdale, NJ: Erlbaum.
- Carnelley, K. B., & Janoff-Bulman, R. (1992). Optimism about love relationships: General vs. specific lessons from one's personal experiences. *Journal of Social and Personal Relationships*, 9, 5–20.
- Carver, C. S., Pozo, C., Harris, S. D., Noriega, V., Scheier, M. F., et al. (1993). How coping mediates the effect of optimism on distress: A study of women with early stage breast cancer. *Journal of Personality and Social Psychology*, 65, 375–390.

- Carver, C. S., & Scheier, M. F. (1981). *Attention and self-regulation: A control-theory approach to human behavior*. New York: Springer-Verlag.
- Chang, E. C. (1996). Cultural differences in optimism, pessimism, and coping: Predictors of subsequent adjustment in Asian American and Caucasian American college students. *Journal of Counseling Psychology*, 43, 113–123.
- Chang, E. C. (1998). Dispositional optimism and primary and secondary appraisal of a stressor: Controlling for confounding influences and relations to coping and psychological and physical adjustment. *Journal of Personality and Social Psychology*, 74, 1109–1120.
- Chang, E. C. (2001a). Cultural influences on optimism and pessimism: Differences in Western and Eastern construals of the self. In E. C. Chang (Ed.), *Optimism and pessimism: Implications for theory, research, and practice* (pp. 257–280). Washington, DC: American Psychological Association.
- Chang, E. C. (Ed.). (2001b). *Optimism and pessimism: Implications for theory, research, and practice*. Washington, DC: American Psychological Association.
- Chang, E. C. (in press). Optimism-pessimism and stress appraisal: Testing a cognitive interactive model of psychological adjustment in adults. *Cognitive Therapy and Research*.
- Chang, E. C., D’Zurilla, T. J., & Maydeu-Olivares, A. (1994). Assessing the dimensionality of optimism and pessimism using a multimeasure approach. *Cognitive Therapy and Research*, 18, 143–160.
- Chang, E. C., Maydeu-Olivares, A., & D’Zurilla, T. J. (1997). Optimism and pessimism as partially independent constructs: Relations to positive and negative affectivity and psychological well-being. *Personality and Individual Differences*, 23, 433–440.
- Chang, E. C., & Sanna, L. J. (in press). Optimism, accumulated life stress, and psychological and physical adjustment: Is it always adaptive to expect the best? *Journal of Social and Clinical Psychology*.
- Cohen, S., & Syme, S. L. (1985). *Social support and health*. Orlando, FL: Academic Press.
- Cohen, S., Tyrrell, D. A. J., & Smith, A. P. (1993). Negative life events, perceived stress, negative affect, and susceptibility to the common cold. *Journal of Personality and Social Psychology*, 64, 131–140.
- Crittendon, K. S. (1996). Causal attribution processes among the Chinese. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 263–279). Hong Kong: Oxford University Press.
- Davidson, K., & Prkachin, K. (1997). Optimism and unrealistic optimism have an interacting impact on health-promoting behavior and knowledge changes. *Personality and Social Psychology Bulletin*, 23, 617–625.
- Davidson, R. J. (1984). Affect, cognition, and hemispheric specialization. In C. E. Izard, J. Kagan, & R. B. Zajonc (Eds.), *Emotions, cognition, and behavior* (pp. 320–365). New York: Cambridge University Press.

- Domino, G., & Lin, W. (1993). Cancer metaphors: Taiwan and the United States. *International Journal of Psychology*, 28, 45–56.
- Fischer, M., & Leitenberg, H. (1986). Optimism and pessimism in elementary school-aged children. *Child Development*, 57, 241–248.
- Friedman, M., & Rosenman, R. (1974). *Type A behavior and your heart*. New York: Knopf.
- Gillham, J. (Ed.). (2000). *The science of optimism and hope: Research essays in honor of Martin E. P. Seligman*. Radnor, PA: Templeton Foundation Press.
- Gillham, J., Reivich, K. J., Jaycox, L. H., & Seligman, M. E. P. (1995). Prevention of depressive symptoms in school-children: Two-year follow-up. *Psychological Science*, 6, 343–351.
- Greenwald, A. G. (1980). The totalitarian ego: Fabrication and revision of personal history. *American Psychologist*, 35, 603–618.
- Heine, S. J., & Lehman, D. R. (1995). Cultural variation in unrealistic optimism: Does the West feel more vulnerable than the East? *Journal of Personality and Social Psychology*, 68, 595–607.
- Heine, S. H., Lehman, D. R., Markus, H. R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review*, 106, 766–794.
- Hjelle, L. A., Busch, E. A., & Warren, J. E. (1996). Explanatory style, dispositional optimism, and reported parental behavior. *Journal of Genetic Psychology*, 157, 489–499.
- Hull, J. G., & Mendolia, M. (1991). Modeling the relations of attributional style, expectancies, and depression. *Journal of Personality and Social Psychology*, 61, 85–97.
- James, S. A., Hartnett, S. A., & Kalsbeek, W. D. (1983). John Henryism and blood pressure differences among black men. *Journal of Behavioral Medicine*, 6, 259–278.
- Kao, E. M., Nagata, D. K., & Peterson, C. (1997). Explanatory style, family expressiveness, and self-esteem among Asian American and European American college students. *Journal of Social Psychology*, 137, 435–444.
- Kok, L. P., Ho, M. L., Heng, B. H., & Ong, Y. W. (1990). A psychosocial study of high risk subjects for AIDS. *Singapore Medical Journal*, 31, 573–582.
- Kuroda, Y., & Suzuki, T. (1991). A comparative analysis of the Arab culture: Arabic, English and Japanese languages and values. *Behaviormetrika*, 30, 35–53.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Lee, F., Hallahan, M., & Herzog, T. (1996). Explaining real-life events: How culture and domain shape attributions. *Personality and Social Psychology Bulletin*, 22, 732–741.
- Lee, Y.-T., & Seligman, M. E. P. (1997). Are Americans more optimistic than the Chinese? *Personality and Social Psychology Bulletin*, 23, 32–40.
- Maier, S. F., & Seligman, M. E. P. (1976). Learned helplessness: Theory and evidence. *Journal of Experimental Psychology: General*, 105, 3–46.

- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224–253.
- Marshall, G. N., Wortman, C. B., Kusulas, J. W., Hervig, L. K., & Vickers, R. R. (1992). Distinguishing optimism from pessimism: Relations to fundamental dimensions of mood and personality. *Journal of Personality and Social Psychology*, 62, 1067–1074.
- Meyer, D. (1988). *The positive thinkers: Popular religious psychology from Mary Baker Eddy to Norman Vincent Peale and Ronald Reagan* (Rev. ed.). Middletown, CT: Wesleyan University Press.
- Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science*, 6, 10–19.
- Norem, J. K., & Cantor, N. (1986). Defensive pessimism: Harnessing anxiety as motivation. *Journal of Personality and Social Psychology*, 51, 1208–1217.
- Oettingen, G. (1995). Explanatory style in the context of culture. In G. M. Buchanan & M. E. P. Seligman (Eds.), *Explanatory style* (pp. 209–224). Hillsdale, NJ: Erlbaum.
- Peterson, C. (1991). Meaning and measurement of explanatory style. *Psychological Inquiry*, 2, 1–10.
- Peterson, C. (1999). Personal control and well-being. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 288–301). New York: Russell Sage.
- Peterson, C. (2000). The future of optimism. *American Psychologist*, 55, 44–55.
- Peterson, C., & Barrett, L. C. (1987). Explanatory style and academic performance among university freshmen. *Journal of Personality and Social Psychology*, 53, 603–607.
- Peterson, C., Bishop, M. P., Fletcher, C. W., Kaplan, M. R., Yesko, E. S., et al. (2001). Explanatory style as a risk factor for traumatic mishaps. *Cognitive Therapy and Research*, 25, 633–649.
- Peterson, C., & Bossio, L. M. (1991). *Health and optimism*. New York: Free Press.
- Peterson, C., Maier, S. F., & Seligman, M. E. P. (1993). *Learned helplessness: A theory for the age of personal control*. New York: Oxford University Press.
- Peterson, C., Schulman, P., Castellon, C., & Seligman, M. E. P. (1992). CAVE: Content analysis of verbatim explanations. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 383–392). New York: Cambridge University Press.
- Peterson, C., & Seligman, M. E. P. (1984). Causal explanations as a risk factor for depression: Theory and evidence. *Psychological Review*, 91, 347–374.
- Peterson, C., Seligman, M. E. P., & Vaillant, G. E. (1988). Pessimistic explanatory style is a risk factor for physical illness: A thirty-five year longitudinal study. *Journal of Personality and Social Psychology*, 55, 23–27.
- Peterson, C., Seligman, M. E. P., Yurko, K. H., Martin, L. R., & Friedman, H. S. (1998). Catastrophizing and untimely death. *Psychological Science*, 9, 49–52.

- Peterson, C., Semmel, A., von Baeyer, C., Abramson, L. Y., Metalsky, G. I., et al. (1982). The Attributional Style Questionnaire. *Cognitive Therapy and Research*, 6, 287–299.
- Peterson, C., & Steen, T. A. (2002). Optimistic explanatory style. In C. R. Snyder (Ed.), *Handbook of positive psychology* (pp. 244–256). New York: Oxford University Press.
- Peterson, C., & Vaidya, R. S. (2001). Explanatory style, expectations, and depressive symptoms. *Personality and Individual Differences*, 31, 1217–1223.
- Prola, M., & Stern, D. (1984). Optimism about college life and academic performance in college. *Psychological Reports*, 55, 347–350.
- Robinson-Whelen, S., Kim, C., MacCallum, R. C., & Kiecolt-Glaser, J. K. (1997). Distinguishing optimism from pessimism in older adults: Is it important to be optimistic or not be pessimistic? *Journal of Personality and Social Psychology*, 73, 1345–1353.
- Ryan, W. (1978). *Blaming the victim* (Rev. ed.). New York: Random House.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069–1081.
- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719–727.
- Sanford, R. N., Conrad, H. S., & Franck, K. (1946). Psychological determinants of optimism regarding consequences of the war. *Journal of Psychology*, 22, 207–235.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology*, 4, 219–247.
- Scheier, M. F., & Carver, C. S. (1987). Dispositional optimism and physical well-being: The influence of generalized outcome expectancies on health. *Journal of Personality*, 55, 169–210.
- Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical well-being: Theoretical overview and empirical update. *Cognitive Therapy and Research*, 16, 201–228.
- Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67, 1063–1078.
- Scheier, M. F., Matthews, K. A., Owen, J. F., Magovern, G. J., Lefebvre, R. C., et al. (1989). Dispositional optimism and recovery from coronary artery bypass surgery: The beneficial effects on physical and psychological well-being. *Journal of Personality and Social Psychology*, 57, 1024–1040.
- Schutte, J. W., Valerio, J. K., & Carrillo, V. (1996). Optimism and socioeconomic status: A cross-cultural study. *Social Behavior and Personality*, 24, 9–18.
- Seeman, J. (1989). Toward a model of positive health. *American Psychologist*, 44, 1099–1109.

- Seligman, M. E. P. (1975). *Helplessness: On depression, development, and death*. San Francisco: Freeman.
- Seligman, M. E. P. (1991). *Learned optimism*. New York: Knopf.
- Seligman, M. E. P. (1998). Positive social science. *APA Monitor*, 29(4), 2, 5.
- Sicinski, A. (1972). Optimism versus pessimism (Tentative concepts and their consequences for future research). *The Polish Sociological Bulletin*, 25–26, 47–62.
- Snyder, C. R., & Lopez, S. J. (Eds.). (2002). *The handbook of positive psychology*. New York: Oxford University Press.
- Strack, S., Carver, C. S., & Blaney, P. H. (1987). Predicting successful completion of an aftercare program following treatment for alcoholism: The role of dispositional optimism. *Journal of Personality and Social Psychology*, 53, 579–584.
- Sweeney, P. D., Anderson, K., & Bailey, S. (1986). Attributional style in depression: A meta-analytic review. *Journal of Personality and Social Psychology*, 50, 974–991.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103, 193–210.
- Taylor, S. E., Kemeny, M. E., Aspinwall, L. G., Schneider, S. G., Rodriguez, R., et al. (1992). Optimism, coping, psychological distress, and high-risk sexual behavior among men at risk for acquired immunodeficiency syndrome (AIDS). *Journal of Personality and Social Psychology*, 63, 460–473.
- Tennen, H., & Affleck, G. (1987). The costs and benefits of optimistic explanations and dispositional optimism. *Journal of Personality*, 55, 376–393.
- Tiger, L. (1979). *Optimism: The biology of hope*. New York: Simon & Schuster.
- Triandis, H. C. (1995). *Individualism and collectivism*. San Francisco: Westview Press.
- Wallach, M. A., & Wallach, L. (1983). *Psychology's sanction for selfishness: The error of egoism in theory and therapy*. San Francisco: Freeman.
- Wardle, J. (1984). Dental pessimism: Negative cognitions in fearful dental patients. *Behaviour Research and Therapy*, 22, 553–556.
- Weinstein, N. D. (1989). Optimistic biases about personal risks. *Science*, 246, 1232–1233.
- Weisz, J. R., Rothbaum, R. M., & Blackburn, T. C. (1984). Standing out and standing in: The psychology of control in America and Japan. *American Psychologist*, 39, 955–969.
- Yee, A. H. (1992). Asians as stereotypes and students: Misperceptions that persist. *Educational Psychology Review*, 4, 95–132.
- Zaccaro, S. J., Blair, V., Peterson, C., & Zazanis, M. (1995). Collective efficacy. In J. E. Maddux (Ed.), *Self-efficacy, adaptation, and adjustment: Theory, research, and application* (pp. 305–328). New York: Plenum Press.