Predictors of Well-being; Confounding and Conceptual Circularity in Health Psychology, a Review

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Eija I. Korhonen

Department of Psychology

University of Gothenburg, Sweden

Haraldsgatan 1, S-41314 Gothenburg, Sweden

ORCID ID

orcid.org/0000-0002-3495-9119

Abstract

Conceptualization and measurement of psychological well-being is reviewed. Notions of studies emphasizing the role of physical health in well-being and some disagreements within the empirical research field are mentioned. Yet, the focus is on contamination of different measures of well-being with more global, stable personality traits. This seems largely due to the influence of emotional components. As predictors of well-being often are identical to predictors of positive health outcomes, the reader will occasionally find that well-being constructs are linked to physical health. Due to strong bonds between different levels of health, and since some of the constructs reviewed are found analogous to a macro-level definition of health, conceptual circularity in health psychology is discussed. Personal beliefs/faith and personal abilities resulting in positive emotions and positive self image are found to be the main aspects of well-being. Future research directions are recommended.

Predictors of Well-being; Confounding and Conceptual Circularity in Health Psychology, a Review

Many authors state that self-rated, perceived health is perhaps one of the most important influences on experienced well-being (Larson, 1978; Palmore & Kivett, 1977; Zautra & Hempel, 1984) and happiness (Campbell, Converse, & Rogers, 1976). Although physical health certainly is important to all of us, the relation between physical health and psychological well-being is not that simple (see: e.g., Brief, Butcher, George, & Link, 1993). For instance, Zautra and Hempel (1984) point out that while perceived health is related to subjective well-being, the relationship between physician rated health and well-being may not be that strong. Many studies investigating how people adapt to some chronic condition or disease also show that psychological well-being is not merely dependent on physical health (Affleck, Tennen, Pfeiffer, & Fifield, 1987; Fitzpatrick, Newman, Archer, & Shipley, 1991; Patrick, Morgan, & Charlton, 1986). It cannot be taken for granted that physical health is the main source of psychological well-being.

One disagreement within empirical research on personality and health pertains to the effect of intervening variables in the relationship between the demands of everyday life on one hand, and physical health and psychological well-being on the other. Some authors argue for the direct impact of stressful events on physical health and subjective well-being (e.g., Maddi, Bartone, & Pucetti, 1987), while others claim that this relationship is contaminated with certain personality factors (e.g., Schroeder & Costa, 1984). The type of effects of many well-being measures on health, i.e., if the effects are direct or if they have a buffering role against the negative impact of stressful events, has also been discussed with great zest (see, e.g., Cohen & Wills, 1985; Hull, Van Treuren, & Virnelli, 1987).

Another controversy concerns the relationship between illusions and mental health. Taylor and Brown (1988) challenge the traditional view that a realistic apprehension of oneself and one's circumstances is the cornerstone of mental health. These authors suggest that mental health may comprise a triad of illusory beliefs. They claim that people who hold exaggerated positive views about themselves and their abilities to control life outcomes, or people who are unrealistically optimistic might be more content with life and more productive, as well as more able to take care of themselves and others. According to Doan and Gray (1992) this view is an over-simplification. Doan and Gray (1992) refer to several investigators who have demonstrated that true and false beliefs of the same life-situation co-exist (e.g., Baumeister, 1989: De Hennezel, 1989; Janoff-Bulman, 1989). These authors emphasize the importance of balance between such simultaneously held beliefs.

Whether or not we betray ourselves with false beliefs or illusions, research has shown that individuals who report more psychological problems also report more medical symptoms (Costa & McCrae, 1985b; DeLongis, Folkman, & Lazarus, 1988). It has also been demonstrated that stressful events have a direct impact on perceived health (Headey & Wearing, 1989; Kanner, Coyne, Schaefer, & Lazarus, 1981; Kobasa, Maddi, & Kahn, 1982; Maddi, Bartone, & Pucetti, 1987). For example, DeLongis, Folkman and Lazarus (1988) reported that participants with unsupportive social relationships and low self-esteem were more likely to experience an increase in both psychological and somatic problems on stressful days, than participants high in self-esteem and social support. The somatic problems in this study included flu, sore throat, headaches, and backaches, and the psychological dimension was measured as mood disturbance.

Several studies have also linked negative, unpleasant affect to illness reports (Bradburn, 1969; Clark & Watson, 1988; Cohen, Tyrrell, & Smith, 1993; Watson & Clark, 1992). In an experiment, Cohen, Tyrrell, and Smith (1993) exposed individuals to a low, infectious dose

of a common cold virus. Participants who had experienced higher levels of unpleasant affect over the previous week were more likely to become infected with the introduced virus, than participants who had experienced lower levels of unpleasant affect. Furthermore, psychological stress predicted illness in this study.

Taken as a whole, the literature in health research suggests strong bonds between well-being, affect, and perceived physical health. For instance, Brief, Butcher, George, & Link (1993) suggest that health measured as the frequency of doctor visits is partially mediated by an individual's interpretation of health, a variable, which in turn may be influenced by personality traits. In the study conducted by Brief, et. al. (1993), frequency of doctor visits, the number of surgical operations, and the number of times or the total of days spent in a hospital did not directly affect subjective well-being.

Anyhow, one can say that physical health is important to all of us, though we may not think about it while staying healthy. Factors such as age, education, maturity, and previous illness experiences affect our health consciousness, and, of course, also our health promoting behavior, as well as the importance we for the moment ascribe to physical symptoms/health as a contributor to psychological well-being.

This article focuses on the conceptualization and measurement of psychological well-being. No claims are made for presenting all of the numerous concepts within the empirical research field, or to review research in detail. Furthermore, because various theoretical points of departure and different measurement strategies exist for the concepts discussed, most of them are presented briefly. The problem of contamination of well-being measures with more global, stable personality traits is also highlighted. As a review of the literature in health psychology and related domains shows that the predictors of positive health outcomes are often identical to the predictors of psychological well-being, occasionally, the relationship between some of the well-being measures and physical health is pointed out. In the

discussion section, I will try to cast some light on the problem of conceptual circularity in health research and discuss the main aspects of well-being.

Mental Health and Psychological Well-being.

The research literature is rich with theories and measurement instruments that seek to define mental health and psychological well-being. The first question to be asked is: Are the two concepts, mental health and psychological well-being, exchangeable? I think not. Since we are accustomed to dichotomize, we usually interpret health and disease as the opposite ends of a continuum, so the absence of disorder is implicit in the concept of (mental) health. Still, one can be mentally healthy, yet unhappy. The phrase psychological well-being encloses more than the mere absence of disorder and hence becomes difficult to define. As Costa and McCrae (1980) have pointed out, "'psychological well-being' itself carries with it the connotation of mental health and has been so interpreted by many researchers" (p. 669).

According to Compton, Smith, Cornish, and Qualls, (1996), the empirical research perspectives on mental health can be classified into three domains. These domains, or perspectives, allude to the ancient Greek division of spirit, mind, and body-emotion, and they are termed the personal growth, the subjective well-being, and the stress-resistant personality perspectives, respectively. Compton, et. al. (1996) point out that very few studies includes variables from more than one of these domains. Yet, predominantly the research on mental health proposes the influence of similar personality traits or suggests similar patterns of beliefs or behavior in interaction with the world as the research on physical health. In spite of some minor disagreements with Compton, et. al.'s (1996) perspectives, their classification

seems to be a suitable starting point in trying to sort out different approaches to mental health and some conceptual and methodological issues in the field.

Personal Growth Perspectives

Personal growth theories in psychology usually hold a holistic perspective. They consider the whole life span of an individual and define mental health as the most complete and successful development of an individual's positive psychological qualities and potentials (Compton, et. al., 1996). These theories may roughly be divided into humanist or existential, and phenomenological theories on one hand, and psychoanalytic, neopsychoanalytic, and psychodynamic self-theories on the other. The former ones stress the individual's responsibility and free will, as well as the process of personal growth and maturing, while the latter ones see the individual as determined while striving for successful completion of developmental tasks.

Some of the most well known theories of personal growth are Maslow's* (1968, 1970) theory of the self-actualizing person, Frankl's* (1962) notion of a sense of meaning or purpose in life, Roger's (1961) theory of the fully functioning person, Heath's* (1968, 1991) theory of the maturing person, Kegan's theory of the evolving self, (1982), Seeman's* (1959, 1983, 1989) theory of personality integration, and the psychoanalytic, neopsychoanalytic, and psychodynamic self-theories such as those presented by Freud, (1917, 1953-1974), Fromm (1955), Jung, (1939, 1953-1979), Kohut, (1977), and Erikson, (1959/1980), et. al. The World Health Organization's (WHO, 1947) definition of health also fits in this category, since it, beyond physical and mental health, encompasses social well-being ranging from human rights, education, and freedom to brotherhood.

Of course, numerous other approaches to personality exist, such as the behavior and learning theories, the dispositional approaches such as motivational, trait and temperament theories, as well as the various cognitive theories (see: e.g., Pervin & John, 1997). A variety of these approaches will be represented by different concepts under following headings, yet, many widely known and highly regarded theories will be excluded.

Of the afore-mentioned personal growth theories I will only mention some characteristics of Maslow's (1968, 1970) theory of the self-actualizing person, as this theory is certainly one of the most well-known theories of maturation. According to Maslow (1968, 1970) we have several basic, instinctual needs (motives, impulses, drives) that require satisfaction. Maslow (1968, 1970) regards adjustment as culturally determined, passive in character, including e.g., habits, in contrast to the needs of gratification, which enclose the individual's potentials for self-fulfillment.

Inspired by eastern religion and philosophy, Maslow (1968, 1970) considers the self-actualizing person to successfully move from lower levels of need gratification to higher need levels. Having attained these higher need levels, an individual becomes autonomous and no longer dependent on satisfaction of lower need levels. Taken as steps, or levels, the process of maturing in this gratification theory "supplies a schema for a developmental theory roughly approximating and paralleling Freud's and Erikson's developmental system" (Maslow, 1968, p. 67). Maslow (1968) juxtaposes these "series of increasing basic need gratifications with a series of increasing degrees of psychological health" (p. 67). The gratification theory proposes that complete gratification is analogous to ideal health.

Apparently, the problem associated with the personal growth perspectives is the gap between their theoretical depth, philosophical in character, and the methodological demands of an empirically grounded theory. Ever since the birth of the academic psychology in the late 19th century, the dominant, positivistic ideal has prescribed the methodological rules which

were supposed to guarantee unbiased, objective science. The behaviorist, and somewhat later, the cognitive theories with the emphasis on objective observation and experimental research, came to dominate the academic psychology, whereas the humanistic psychology emerged as an alternative approach (Leahey, 1987).

Beyond developmental and clinical observations, the personal growth theories haven't generated that much experimental research based on rigorous, scientific methodologies. Occasionally, the personal growth positions have been blamed for subjectivity. Since these theories bear the character of hermeneutics, the problems of circularity are embedded in them, and if taken to its extreme, the division between the academic, experimental psychology and the humanistic psychology, as well as psychoanalysis, is about valuations of quantitative and qualitative differences. As also Compton, et. al. (1996) point out, no easy-handed, psychometric, self-report instruments are associated with Allport's (1961), Fromm's (1955), Jung's (1939, 1953-1979), or Kegan's (1982), or even with Freud's (1917, 1953-1974) theories[1].

Compton, et. al. (1996) investigated the factor structure of 18 scales which, beside demographics and personal growth, measured subjective well-being, stress-resistant personality, and self-deceptive positivity. Self-deceptive positivity refers to a tendency to use positive illusions to enhance self-esteem. The phrases subjective well-being and the stress-resistant personality are discussed later.

In the Compton, et. al. (1996) study, self-actualization was measured with the Short Index of Self-Actualization by Jones and Crandall, (1986), Roger's (1961) theory of the fully functioning person was measured with the Openness to Experience subscale of the NEO Personality Inventory, (Costa & McCrae, 1985a), Heath's (1968) theory was measured with his own instrument, the Perceived Self Questionnaire (Heath, 1968), Seeman's (1959, 1983, 1989) theory of personality integration was measured with the Personality Integration

subscale of the Tennessee Self-Concept Scale (Fitts, 1988; in Compton, et. al., 1996) and finally, Ryff's Scales of Psychological Well-being were used (Ryff, 1989a, 1989b) as measures of personal growth.

Ryff (1989b) has argued that much of the prior literature on psychological health is founded on conceptions of well-being "that have little theoretical rational" (p. 1069) and consequently "neglect important aspects of mental health" (p. 1069). Ryff's (1989b) model of well-being is based on research from developmental and personality perspectives, and inspired by work conducted, e.g., by Maslow (1968), Rogers, (1961), Erikson, (1959/1980) and Jahoda (1958). Ryff (1989a, 1989b) postulated six criteria of well-being: self-acceptance, personal growth, autonomy, positive relations with others, purpose in life, and environmental mastery, and Ryff and Keyes, (1995) showed that these six factors measure a single, latent construct which they called psychological well-being.

Leaning on the results of a principal-component factor analysis with oblique rotated factors, Compton, et. al. (1996), concluded that the personal growth perspective is "related, but not identical" (p. 409) to the other dimensions of psychological well-being. Four factors with eigenvalues greater than 1.0 were extracted in this analysis, and three of the five afore-mentioned scales intending to tap personal growth and to reflect the theories by Maslow (1968, 1970), Rogers (1961), and Heath (1968), loaded on the second factor. These scales were the Short Index of Self-Actualization by Jones and Crandall, (1986), the Openness to Experience subscale of the NEO Personality Inventory (Costa & McCrae, 1985a), and the Perceived Self Questionnaire (Heath, 1968), respectively.

Ryff's Scales of Psychological Well-being (Ryff, 1989a, 1989b) did not extensively load on the same, second factor as most of the personal growth instruments. Instead, they loaded more strongly on the first factor together with other subjective well-being measures, some of which are presented under the following heading. The Personality Integration subscale of the

Tennessee Self-Concept Scale (Fitts, 1988; in Compton, et. al., 1996), intending to measure Seeman's (1959, 1983, 1989) theory, loaded together with scores on education on the fourth factor, while self-deceptivity, age, and gender loaded on the third factor.

According to Compton, et. al. (1996), post hoc analysis of data suggests that it may be possible to subdivide the personal growth factor into several components. Though the results of the study conducted by Compton, et. al. (1996) must be viewed with caution, they provide support for the complexity of the concepts of mental health and psychological well-being. Compton, et. al. (1996) suggest that, if replicated in the future, these results may also provide support for Allport's (1961) theory or for Maslow's (1968, 1970) hypothesis that personal growth and adjustment needs differ in character. I will return to the results of the Compton, et. al. (1996) study.

In conclusion; personal growth theories in psychology usually hold a holistic perspective. These theories consider the successful development of an individual's positive psychological qualities and potentials across the whole life span and personal growth is often considered analogous to ideal health.

Subjective Well-being Perspectives

The phrase subjective well-being can accommodate countless definitions. For instance, Waterman (1993) termed a certain type of pleasurable affect happiness or hedonic enjoyment and claimed it to be divergent from eudaimonia which results from living in accordance with

the true self. Hence, eudaimonia refers more accurately to the personal growth perspective. Is then subjective well-being analogous to happiness? Is happiness, in turn, analogous to specific positive emotions, and are these specific positive emotions analogous to subjective well-being?

The phrase subjective well-being is certainly difficult to define. Yet, the results of the empirical research show quite obvious patterns. The impact of demographic variables on subjective well-being is almost insignificant (Andrews & Withey, 1976; Campbell, 1976; Diener, 1984, Emmons & Diener, 1985) and several authors assert that subjective well-being consists of three primary components: life satisfaction, positive affect, and negative affect (Andrews & Withey; 1976; Diener, 1984; Diener & Emmons, 1985; Emmons, 1986; Emmons & Diener, 1985; Diener, Emmons, Larsen, & Griffin, 1985).

Life satisfaction refers to cognitive evaluations or judgments about one's life, i.e., the degree to which one's life is acceptable or satisfactory. This theoretical perspective postulates that life satisfaction is a combination of satisfaction in a number of domains, e.g., family life, marriage, financial situation, work, and housing (e.g., Campbell, Converse, & Rogers, 1976). A review of the research literature shows that the emotional dimension of subjective well-being is dichotomized in happiness - unhappiness, pleasantness - unpleasantness, positive affectivity - negative affectivity, optimism - pessimism, etc. Different theoretical points of departure as well as different measurement strategies exist, and these will be exemplified by brief presentations of the most common concepts of subjective well-being.

Many studies have offered evidence that happiness, analogous to subjective well-being, is composed of positive affect and negative affect (Bradburn, 1969; Bradburn & Caplovitz, 1965; Clark & Watson, 1988; Diener & Emmons, 1985; Zevon & Tellegen, 1982; Watson, 1988a, 1988b; Watson, Clark, & Carey, 1988; Watson, Clark, McIntyre, & Hamaker, 1992; Watson & McKee Walker, 1996; Watson & Tellegen, 1985). Bradburn (1969). Bradburn and

Caplovitz (1965) used questionnaires to measure feelings experienced during the past few weeks and showed that the association between positive and negative affect items was very low. The two dimensions of affect also correlated differently with various external variables.

Diener and Emmons (1985) refer to emotion theorists who have criticized the independence of the positive and negative affect. It has been suggested that these affect states vary inversely, but this is the case only over short time spans (Diener & Emmons, 1985). Diener and Emmons (1985) used broad affective words, such as happy - unhappy, and showed that when time periods of weeks or more were considered, the two types of affect were independent. This becomes evident also in the studies conducted by Watson and his colleagues (Clark & Watson, 1988; Watson, 1988a, 1988b; Watson, Clark, & Carey, 1988; Watson, Clark, McIntyre, & Hamaker, 1992; Watson & McKee Walker, 1996; Watson & Pennebaker, 1989; Watson & Tellegen, 1985).

Positive Affect (PA; Watson, 1988a, 1988b; Watson & Clark, 1984; Watson, Clark, & Tellegen, 1984; Watson & Tellegen, 1985) represents the extent to which a person feels enthusiastic or engaged in life in a pleasurable way, and Negative Affect (NA; Watson, 1988b) represents the experience of negative feelings, such as nervousness, sadness, and hostility. Both of these mood factors can be measured either as states, i.e., transient fluctuations in mood, or as traits, i.e., stable individual differences in general affective tone (Watson, Clark, & Carey, 1988).

The bipolar dimensions of mood in self-reports have shown considerable long-term stability (see: Watson & McKee Walker, 1996). The self-report instrument PANAS (Positive Affect - Negative Affect Scale; Watson, Clark & Tellegen, 1988) represents an adjective check-list approach to mood measurement in the research domains of psychological and physical health. This instrument consists of two 10-item scales where respondents are to rate on a 5-point Likert-type scale the extent to which they have experienced Positive Affect,

respectively Negative Affect. The Positive Affect (PA) markers include the terms active, alert, attentive, determined, enthusiastic, excited, inspired, interested, proud, and strong, and the terms comprising Negative Affect (NA) are afraid, ashamed, distressed, guilty, hostile, irritable, jittery, nervous, scared, and upset (Watson & McKee Walker, 1996). Cognitive judgments are implicit in the two affect dimensions, and the instrument have shown convergence both in English, and in a number of other world languages (Clark & Watson, 1988; Diener, Larsen, Levine, & Emmons, 1985; Tellegen, 1985; Watson, Clark, & Tellegen, 1984; Watson & Tellegen, 1985; Zevon & Tellegen, 1982).

Trait-approaches to personality and relations between traits and mood measures.

Beyond the cognitive and emotional aspects of well-being, large amounts of research measure subjective well-being indirectly focusing on stable personality dispositions, i.e., traits. Because there seems to be strong associations between more global traits and subjective well-being in general, some of these approaches will also be considered.

Compton, et. al. (1996) point out that research in subjective well-being "does not attempt to describe behavioral traits found in exemplars of optimal personality development" (p. 406) of the self-actualizing, or fully maturing individual. Studies that relate global personality traits to subjective well-being could be one exception. Yet, I agree with Compton, et. al.'s (1996) notion that in the process of personal growth, something beyond stable personality traits is involved. All the same, Compton, et. al. (1996) measured Rogers' (1961) theory of the fully functioning person with the Openness to Experience subscale of the NEO Personality Inventory (Costa & McCrae, 1985a). The NEO Personality Inventory is based on the five-factor model of personality.

Trait theorists see traits as enduring dispositions to respond similarly across a variety of situations. Traits may have motivational, affective, behavioral and attitudinal aspects (Costa & McCrae, 1988). For decades, Eysenck's (1947) psychobiological, two factor model of personality dominated the experimental and the correlational research in the field (Pervin & John, 1997). Today, the model measures three traits; Extraversion, Neuroticism, and Psychoticism, (Eysenck, 1990; 1992; H. J. Eysenck & M. W. Eysenck, 1985), and it has been challenged by divergent five-factor models, (e.g., the simple-structure model; Costa & McCrae, 1988, 1992; Goldberg, 1992; McCrae & Costa, 1987; the Alternative Five; Zuckerman, Kuhlman, Joireman, Teta, & Kraft, 1993; Zuckerman, Kuhlman, Thornquist, & Kiers, 1991; the circumplex models, and abridged Big-Five circumplex; Hofstee, de Raad, & Goldberg, 1992), and more recently by the Big-Seven (see: Benet & Waller, 1995).

The number of factors needed to adequately describe personality characteristics has been debated with great zest (see: Costa & McCrae, 1992; Eysenck, 1992; Zuckerman, 1992). Yet, according to Pervin and John (1997), there is an emerging consensus among trait psychologists of the adequacy of five, broad dimensions. There are slight differences between the models and the designations of the domains, but as Costa and McCrae (1988) point out: "the five-factor model should not be identified with any of its operationalizations; it is an evolving scientific construct, not an instrument" (p. 653).

The NEO Personality Inventory (NEO-PI; Costa & McCrae, 1985a; NEO-PI-Revised; Costa & McCrae, 1992, 1995) assesses 30 separate traits organized into five, broad dimensions termed Neuroticism (N), Extraversion (E), Openness (also termed Openness to experience; O), Agreeableness (A), and Conscientiousness (C). According to Compton, et. al.'s (1996) study, Openness to experience, measured with the facets, or domains (i.e., more specific trait components) of fantasy, aesthetics, feelings, actions, ideas, and values (Costa & McCrae, 1988; Costa & McCrae, 1992), could conceptually lie more closely to the personal

growth perspective of psychological well-being, than to subjective well-being in general. What can be said about the other four dimensions?

Although negative emotionality is mainly included in the Neurotiscism dimension, all of the five-factor facets include aspects of both emotion and cognition. Additionally, Costa and McCrae (1988) have postulated that there is no need to develop separate taxonomies for traits and for needs (see: Murrey, 1938), because the five-factor model accommodates both. However, as Pervin and John (1997) point out: "even many trait theorists would suggest that there is more to personality than the Big-Five - for example, people's self-concepts, their identities, their cognitive styles and the unconscious" (p. 294).

The Extraversion facets of the NEO-PI (Costa & McCrae, 1988) are warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotions. Further, Agreeableness consists of the facets trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness, and the Conscientiousness facets are competence, order, dutifullness, achievement striving, self-discipline, and deliberation.

The core of the Neuroticism dimension is the tendency to experience negative emotions, and to possess associated behavioral and cognitive traits. Neuroticism is operationalized as the sum of the facets anxiety, hostility, depression, self-consciousness, and impulsiveness (Costa & McCrae, 1987, 1988). The core of the already discussed, broad mood or trait affect domain, Negative Affectivity (NA; Watson & Clark, 1984; Watson & Tellegen, 1985; Zevon & Tellegen, 1982) is also the experience of negative feelings. These affect states considered in NA are equivalent to emotions. Several studies have shown that Neuroticism and NA are related (see: e.g., Watson & Clark, 1984, 1992), and Watson and Clark (1984) postulated that NA represents the same underlying disposition as neuroticism and trait anxiety. However, Costa and McCrae (1987, 1988) have objections on this matter. They assert that if NA is

considered as an alternative designation of the five-factor domain of Neuroticism, it may prevent recognition of Neuroticism's broader motivational and interpersonal aspects.

In sum; Negative Affect (NA) is related to the Big-Five dimension of Neuroticism, (Watson & Clark, 1984). In turn, Positive Affect (PA) is related to Extraversion (Costa & McCrae, 1980; Diener & Emmons, 1985; Emmons & Diener, 1985; Clark, McIntyre, & Hamaker, 1992). Both NA and Neuroticism partly refer to, as well as they are associated with, measures of trait anxiety (Watson & Clark, 1984), and correspondingly, PA and Extraversion partly refer to, as well as they are associated with, positive emotionality (Eysenck, 1990; Watson, Clark, McIntyre, & Hamaker, 1992). PA and Extraversion, but not NA and Neuroticism, are also associated with social activity (Berry & Hansen, 1996; Watson, Clark, McIntyre, & Hamaker, 1992), and these positive and negative dimensions (PA and NA) have very different correlates in a variety of areas (Watson & Tellegen, 1985).

Furthermore, higher levels of NA are associated with higher amounts of experienced stress (Marco & Suls, 1993; Watson & Clark, 1992). NA has been linked to low self-esteem (Diener & Emmons, 1985; Watson & Clark, 1984) and both, NA and Neuroticism predicts somatic complaints (Clark & Watson, 1988; Costa & McCrae, 1985b; Watson & Pennebaker, 1989) which are associated with acute illnesses such as the common cold (E. A. Leventhal, Hansell, Diefenbach, H. Leventhal, & Glass, 1996).

Regarding physical health, opposed results are also frequently obtained in studies where these constructs are used together with self-reports of physical symptoms (see: e.g., Brown & Moskowitz, 1997). Some of the inconsistencies in the results are due to methodological issues, e.g., retrospective memory bias in self-reports (see: e.g., Brown & Moskowitz, 1997; Watson & Pennebaker, 1989). These inconsistencies reflect an important question, especially as Neuroticism may contaminate the relationship between self-reports of stressful life-events

and physical symptoms causing confounding and tautology in the results. I will return to this issue in the discussion section.

Additional concepts.

Before examining the stress-resistant personality perspectives, there are some additional concepts in the research field of subjective well-being to be mentioned. These constructs focus on the motivational forces, as they are presented in learning theory or social cognitive theory. The following concepts are considered in order to cast some light on their conceptual bonds to subjective well-being and to clarify their interrelatedness.

Watson and his colleagues have presented evidence that mood or trait affect should not be assessed on a single good vs. bad dimension (Watson & Tellegen, 1985). Anyhow, this is the case in many studies investigating subjective well-being with measures of more general, personal belief-systems. Optimism is such a concept (Carver & Scheier, 1994; Scheier & Carver, 1985, 1987). According to Scheier and Carver (1987), this concept grew out of the authors' interest in the processes that underlie behavioral self-regulation. The concept of self-regulation encompasses approximately how a person manages attention, controls thoughts and emotions, selects and responds to situations, etc. (see: e.g., Baumeister, Heatherton, & Tice, 1993; Derryberry & Rothbart, 1988).

According to social cognitive theory, behavior is maintained by expectancies and optimism is defined as generalized expectancies on the part of the individual that good outcomes will generally occur when confronting problems across important life domains. In contrast to optimists, pessimists "tend to hold more negative expectations for the future" (Scheier, Carver, & Bridges, 1994, p. 1063).

Since the publication of the Life Orientation Test (LOT; Scheier & Carver, 1985; LOT-Revised; Scheier, Carver, & Bridges, 1994) its psychometric properties have been debated. For instance, Marshall, Wortman, Kusulas, Hervig and Vickers (1992) found LOT-pessimism to be associated with the personality trait of Neuroticism, and with Negative Affect, whereas LOT-optimism was related to the personality trait of Extraversion and Positive Affect. Similarly Andersson (1996), who in a meta-analytic study combined measurement results of 56 studies which had used the LOT instrument, showed that the LOT shared substantial amounts of variance, e.g., with measures of negative affect. This was reflected in an average weighted correlation of r = -.43 between optimism and negative affect (also called neuroticism in this study) measured with several different instruments. Andersson (1996) concluded that optimism may be "just another measure of negative affect" (p. 723).

Scheier, Carver, & Bridges, (1994) claim that the revised version of the Life Orientation Test (LOT-R; Scheier, et. al., 1994) share only "a modest amount of variance with scales measuring conceptually related concepts" (p. 1075). In a study conducted by the authors, measures of self-mastery, trait-anxiety, self-esteem, and neuroticism were included (Scheier, et. al., 1994).

The concept of self-mastery (Pearlin & Schooler, 1978) refers to the extent to which a person generally feels that he or she is able to be a master of his/her own fate (e.g., "What happens to me in the future mostly depends on me", in SMS; Pearlin & Schooler, 1978). The trait-anxiety measure used in the Scheier, et. al., (1994) study evaluates the extent to which a person experiences a variety of feelings, positive, as well as negative (e.g., "I worry too much over something that really doesn't matter", in STAI; Spielberger, Gorsuch, & Lushene, 1974; in Scheier, et. al., 1994). Self-esteem refers to a person's global attitudes about the self and to his or her feelings of self-worth (e.g., "I feel that I have a number of good qualities", in Rosenberg's Self-Esteem Scale; Rosenberg, 1965). Finally, neuroticism refers to the afore-

discussed personality trait (measured in the Scheier, et. al., 1994, study with both Guilford Zimmerman Temperament Survey; GZTS; Guilford, Zimmerman, & Guilford, 1976; in Scheier, et. al., 1994; and a 10-item version of the Eysenck Personality Questionnaire; EPQ; Eysenck, 1958; Goh, King, & King, 1982; in Scheier, et. al., 1994).

The results of the study conducted by Scheier, et. al. (1994) revealed significant Pearson product-moment correlations[2] between LOT-R and the related concepts. These correlations varied between r = .48, and r = -.53. Even though high correlations do not exclude differences between concepts in question, an average correlation of r = .49 between the positively related concepts in the Scheier, et. al. (1994) study, and an average correlation of r = -.44 between the negatively related concepts, unveil some overlap between the different constructs as these correlations, when interpreted in terms of variance, account for 19 - 25 % of shared variance between optimism on one hand, and each of the concepts of self-mastery, trait-anxiety, self-esteem, and neuroticism on the other. Optimism is still divergent from these measures.

While examining the 6 active[3] items of LOT-R, (e.g., "I'm always optimistic about my future", "I rarely count on good things happening to me"; Scheier, et. al., 1994), it seems that due to the general character of the items, the construct of optimism might fit as a part, or as a subscale, of the personal growth perspective.

Furthermore, optimism has been linked to physical health outcomes. For instance, Scheier, Matthews, Owens, Magovern, Lefebvre, Abbott, & Carver (1989) showed optimism to be associated with a faster rate of physical recovery from coronary artery bypass surgery.

The concept of explanatory style by Peterson and Seligman (1987) is based on the reformulation of the learned helplessness theory. The concept refers to how people differ in their habitual manner of explaining the causes of events. Consequently, it examines differences in causal attributions, i.e., whether individuals attribute poor performance to personal characteristics, or to external factors (Abramson, Seligman, & Teasdale, 1978).

External, unstable explanations for good events differ from the explanatory style for bad events and the former style has occasionally been linked to depression (Peterson & Seligman, 1987). Peterson and Seligman (1987) also present preliminary evidence that the pessimistic explanatory style is associated with immunosuppression, as well as with illness. This construct is measured by the authors with self-report questionnaires and through content analysis of written material (the CAVE technique, described in Peterson & Seligman, 1987).

Another, to optimism related concept which is found to enhance psychological well-being, is hope (Snyder, Harris, Anderson, Holleran, Irving, Sigmon, Yoshinobu, Gibb, Langelle, & Harney, 1991). According to the authors, hope refers to a person's perceptions that relevant life goals can be met. While optimism relates to the outcome expectancies, the definition of hope stresses the reciprocal action between an efficacy expectancy that one can achieve personal goals (refers, according to the authors, to personal agency), and an outcome expectancy that reflects the perception of available strategies for achieving those goals (refers, according to the authors, to the pathways through which a person is to achieve goals; Snyder, et. al., 1991). Snyder, et. al., (1991) report correlations ranging from $r = .50$, to $r = .60$ between the hope construct and optimism (LOT; Scheier & Carver, 1985). Hence, these constructs share approximately 30 % of the variance. Apparently, hope is also related to the afore-mentioned concept of self-mastery (Pearlin, & Schooler, 1978) and even more strongly to the concept of self-efficacy (Bandura, 1977).

Self-efficacy (Bandura, 1977) is based on social cognitive theory and refers to a person's conviction that he or she possesses the abilities (i.e., expectations of personal mastery) which enable him or her to effectively manage or handle environmental demands. Thus, it is closely related to coping (see below). According to Bandura (1977), efficacy expectations are presumed to influence the level of an individual's "performance by enhancing intensity and persistence of effort" (p. 212).

Snyder, et. al., (1991) define an outcome expectancy as a "a belief that a particular behavior will produce a particular outcome" (p. 571). Outcome and efficacy expectancies is in line with the pathways and agency components of the hope construct, respectively. Furthermore, Snyder, et. al., (1991) assert that "focusing on either type of expectancy alone will not completely tap the cognitive set" (p. 572), and further:

> ...from Bandura's perspective, judgments of self-efficacy refer to specific assessments of how well one will perform a particular task in a particular setting. In contrast, hope (like optimism) is conceptualized as a more general cognitive set that applies across particular settings and, as such, hope may yield a wider range of goal-related predictions (p. 572).

Reviewing the 8 items[4] of the Hope Scale [Snyder, et. al., 1991; e.g., "There are lots of ways around any problem" (pathways), "Even when others get discouraged, I know I can find a way to solve a problem" (pathways), "My past experiences have prepared me well for my future" (agency), "I've been pretty successful in life"(agency)] it becomes obvious that one has to either abandon the meaning of the concept of hope as it is defined in dictionaries, or choose another title for this scale. In my opinion, there is no point in giving up the basic semantics of a concept, irrespective of exquisite theorizing.

A review of the items shows that the concept of hope stresses an individual's cognitive evaluations (also termed appraisals, Lazarus, 1991; see below) of his or her abilities to manage or handle situations life brings about (mostly referred to as coping). This model of hope deals with two kinds of expectancies, outcome and efficacy expectancies, yet, despite that the influence of past experiences is embedded in the formulation of the items, this model does not seem to take into account that even evaluations or appraisals are affected by past

experiences reflected in self-confidence, i.e., integrated knowledge of one's capabilities and self-worth.

Research has also shown that personality characteristics or traits such as Neuroticism influence coping (Bolger, 1990; Bolger & Zuckerman, 1995). Lazarus (1991, p. 139) points out that there are both stability over time and across occasions in our appraisals, as well as instability. In the former case, appraisals are considered as traits or styles, and in the latter case, as states or processes. Depending on how a person previously has managed different situations, his or her evaluations may be positively or negatively biased, in favor of the self or to its disadvantage. When mostly positive, these evaluations are reflected in self-confidence. I suspect that the Hope Scale (Snyder, et. al., 1991) taps appraisals of coping-abilities and self-confidence, rather than merely hope.

Beside similarities with the already mentioned concepts, optimism (Scheier & Carver, 1985), self-efficacy (Bandura, 1977), and mastery (Pearlin, & Schooler, 1978), this hope instrument should correlate positively with other coping-related concepts, such as a person's sense of control over the outcomes of life events. The concept of control is derived from the extensive literature on locus of control (Rotter, 1966) and these concepts will further be presented under the following heading. The hope instrument should even be related to concepts such as self-evaluation in social comparison, and with feelings of self-worth. In fact, Snyder, et. al., (1991) report correlations between hope and personal control (r = .54) and between hope and self-esteem (Rosenberg, 1965) (r = .58). The latter correlation sustain the above assumption that the Hope Scale (Snyder, et. al., 1991) taps appraisals of coping abilities and self-confidence, rather than merely hope, since the construct shares approximately 34 % of the variance with the concept of self-esteem.

In conclusion; several authors assert that subjective well-being consists of three primary components: life satisfaction, positive affect, and negative affect. Subjective well-being is, e.g., measured with broad, bipolar affect or mood dimensions, Negative Affect (NA) and Positive Affect (PA). It is also assessed with several, more general concepts such as happiness, or optimism, and, indirectly with various trait measures, e.g., the five-factor model of personality. Additionally other approaches exist. For instance, Emmons (1986) has suggested "that subjective well-being might be better understood in terms of individuals' perceptions of their idiosyncratic goal strivings, rather than in terms of nomothetic personality traits" (p. 1064).

The "Stress-resistant Personality" Perspectives

Certain constructs such as Type A (discussed elsewhere), as well as some of the already discussed dimensions of trait-approaches to personality, such as Negative Affect and Neuroticism, focus on the pathogenic consequences of traits or behavior styles on health and psychological well-being. In contrast, the stress-resistant personality perspectives aim to describe personality characteristics, behavior styles, or belief systems, which bolster against the negative impact of stress or other adversities of life.

Factors capable of buffering the effects of stressful events were denoted resistance resources by Antonovsky (1979). Murphy and Moriarity (1976) wrote of resilience which develops from confronting stressful events and managing them effectively, and Garmezy (1981) about invulnerability to stress (also in Lefcourt, Martin, & Saleh, 1984). Theories of the stress-resistant personality deal with these general health promoting resources and Antonovsky (1979, 1987, 1990) termed this approach salutogenesis as it tries to answer the

question: how come that some people, in spite of adverse life experiences and in spite of many stressful events, stay well and healthy, and find life worthy, while others fall a victim to the adversities of life?

The conceptualization of "sense of coherence" and "hardiness" and some related concepts.

The construct of sense of coherence is a product of interviews with people who had survived the holocaust or had experienced some other kind of trauma (Antonovsky, 1987). Sense of coherence (SOC) is an internal resource which is defined through its three dimensions; comprehensibility, i.e., stimuli deriving from an individual's external and internal environments are perceived as structured and predictable, rather than chaotic and unpredictable, manageability, i.e., the individual perceives these stimuli as manageable, and meaningfulness, i.e., these stimuli are perceived as worthy of commitment and engagement (Antonovsky, 1979, 1987).

Contemporaneously, the construct of hardiness was developed by Kobasa (1979, 1982). This construct bears similarities with the SOC, and it is also defined through its three characteristics; control, i.e., the belief of an individual that he or she can control or influence the events in his or her life, commitment, i.e., an ability to feel deeply committed to the activities of life, and challenge, i.e., an anticipation of change as exciting, rather than disturbing (Kobasa, 1979).

Juxtaposing these two constructs, both similarities and differences appear. Though all of the SOC dimensions refer to both external and internal stimuli, in contrast to the hardiness component of commitment, which merely refers to external stimuli, this hardiness component

and the meaningfulness dimension of the SOC construct, are conceptually closely related as both of them tap engagement in the activities of life. Earlier, we found that the dimension of Positive Affect (Watson, Clark, & Tellegen, 1984) reflects similar engagement, though this concept focuses on the affective tone.

The control and challenge components of hardiness cannot be said to correspond to the other two dimensions of SOC; comprehensibility and manageability, even though the latter bears some similarities with the control dimension of hardiness as both of these components refer to a person's beliefs in his or her abilities to handle or manage situations life brings about, i.e., these components are related to a person's coping abilities.

The conceptualization of the hardiness dimension of control, is derived from the literature on locus of control (Rotter, 1966). The concept of locus of control uses the dichotomous "inner-outer" metaphor, as it focuses on whether people largely are determined from internal resources, or from the influence of the outside world. Although I have not reviewed the extensive literature on locus of control as a whole, I assume that this concept is related to the already discussed concepts, self-efficacy (Bandura, 1977), and mastery (Pearlin & Schooler, 1978), as well as to the concepts of ego-strength (Barron, 1953), and assertiveness. The former has its roots in psychotherapy, while the latter is based on the therapeutic procedures developed by behavior therapists (Salter, 1949) in order to enable a person to act in his or her own interests (Alberti & Emmons, 1970). As already mentioned, all of these concepts are concerned with an individual's ability to handle or cope with his or her environment and they should be reflected in the general concept of self-confidence, which in turn may be a part of a person's overall feelings of self-worth and self-esteem (Rosenberg, 1965).

The conceptualization of challenge also bears similarities with the personality or temperamental trait sensation seeking (Zuckerman, 1979, 1984). Although, this concept is

tied to the physiological arousal of engaging in thrilling events, the common conceptual root of sensation seeking and challenge might be that both of these variables may reflect how people perceive, or even construe, their life events along a dimension of desirability. According to Bandura (1977), "efficacy expectations are a major determinant of people's choice of activities" (p. 194), and even the afore-discussed trait theories consider personality as the antecedent of life events.

Conceptually, the comprehensibility component of the SOC bears some similarities with this idea, since it refers to how an individual perceives stimuli derived from both the external and internal sources. Though, this concept focuses on whether these stimuli are experienced and interpreted as predictable or, in contrast, as chaotic, and not on the desirability of events or how these are supposed to be "conquered".

Compared to the hardiness components, comprehensibility is of molar character. This can be said about the SOC construct as a whole (see also Lazarus, 1991), because it refers to a person's overall belief systems, and does not contribute to understanding, e.g., why and how a person's perception of the world is comprehensible, manageable, and meaningful.

The 29 questions of the Orientation to Life Questionnaire (Antonovsky, 1979, 1987) measuring the three, interrelated dimensions of SOC, are held very general in character and several studies support the unidimensionality, as well as the validity and reliability of the Orientation to Life Questionnaire (Antonovsky, 1993; Frenz, Carey, & Jorgensen, 1993). Additional descriptives are also provided by studies which show negative correlations between SOC scores and self-reports of perceived stress, trait anxiety, and depression (Bernstein & Carmel, 1987; Frenz, Carey, & Jorgensen, 1993; Hart, Hittner, & Paras, 1991; McSherry & Holm, 1994). The interrelatedness of the SOC construct and the hardiness construct with measures of negative affect, respectively, will further be discussed below.

Furthermore, McSherry and Holm (1994) report that compared to those individuals who score high on the SOC measure, low SOC subjects are less likely to believe they have the social, material, or psychological resources needed to cope effectively with stressful situations. In accordance with the already suggested relations of hardiness to other coping related concepts, McSherry and Holm (1994) suggest relationships between the SOC construct and the concepts of cognitive appraisal, i.e., how a person evaluates environmental demands (Lazarus, 1991), self-efficacy (Bandura, 1977), and self-statements or attributions, i.e., whether individuals attribute poor performance to personal characteristics or to external factors (Abramson, Seligman, & Teasdal, 1978; cf. explanatory style), as well as to perceived social support (e.g., Cobb, 1976). As McSherry and Holm (1994) observe, Holahan and Moos (1990) amongst others have shown that social support also serves as coping assistance under high stress conditions (Thoits, 1986, 1995), and buffers for the negative effects of stress (for reviews, see: Cohen & Wills, 1985; Thoits, 1995).

Some comments on the measurement of "hardiness".

Hardiness was originally studied amongst business executives (Kobasa, 1979; Kobasa & Pucetti, 1983) and lawyers (Kobasa, 1982), and it was measured with several instruments. These instruments were based on negative indicators to measure the construct. Consequently, the measurement strategies used received lots of criticism (see: e.g., Funk & Houston, 1987). Wiebe and Williams (1992) also point out that the original hardiness measures were developed for a specific population, i.e., for white males dealing with work or achievement-oriented stressors. Stress could be perceived differently by other groups in other social settings (Wiebe & Williams, 1992).

In this context, the question of interpersonal orientation, i.e., whether a person is self-directed or directed towards others (Riesman, Glazer, & Denney, 1950) also arises. In the tradition of self-theories in social psychology, the emphasis has been on the individual's responsiveness to social situations and on his or her adaptability. According to Briggs and Cheek (1988) several concepts in this tradition use the "inner-outer" metaphor. Although, this dichotomy has been criticized (see: Briggs & Cheek, 1988), it could be assumed that, for instance, concepts derived from the developmental perspectives, such as the degree of autonomy vs. the degree of dependency on significant others, might influence the experiences of stressful situations. When encountered with stress in interpersonal contexts, factors such as attachment (Bowlby, 1969-1980) i.e., the quality of the bonds between persons in a relationship, as well as the general character of the relationship, ought to have an impact on the stress-experience in these particular situations. There is a vast difference between a mother seeing her child encounter danger, and a business executive's ever so hard decision-making concerning the employees. For instance, Lazarus and his colleagues (Lazarus, 1991;

Lazarus & Folkman, 1984) emphasize the importance of a process-oriented view which stresses situational, motivational, and relational characteristics of, e.g., stress-experiences.

Other methodological issues connected with the research on hardiness, such as direct effects vs. buffering effects of the construct on health, have also received attention (see: e.g., Funk, 1992; Maddi 1990; Hull, Van Treuren, & Virnelli, 1987; Rhodewalt & Zone, 1989; for review, see: Wiebe & Williams, 1992). Several studies have found that the challenge component contributes very little to the overall hardiness construct (Compton, Smith, Cornish, & Qualls, 1996; Funk & Houston, 1987; Hull, Van Treuren, & Virnelli, 1987: Roth, Wiebe, Fillingim, & Shay, 1989; for recommendations regarding the measurement of hardiness, see, e.g., Hull, Van Treuren, & Virnelli, 1987). While early research on hardiness dealt with the unidimensional construct, the trend has been that later research has turned to the use of three independent subscales (Ganellen & Blaney, 1984; Hull, Van Treuren, & Virnelli, 1987; Kravetz, Drory, & Florian, 1993).

"SOC", "hardiness", and negative aspects of well-being.

Both hardiness and SOC are types of health proneness measures. Kravetz, Drory, and Florian (1993) writes: "Although both of the above-described theories of health proneness traits link these traits dynamically to negative affects, they do not identify them with the latter undesirable psychological states" (p. 235). These authors summarize some of the criticism of hardiness and they point out that the central question has concerned to which extent hardiness assesses the negative aspects of psychological well-being. Hence, the question arises: is hardiness closely related to maladjustment? (Funk & Houston, 1987). For example, Funk and

Houston (1987) showed that when scores on measures of negative affect were removed, the significance of the relationship between perceived health and hardiness was eliminated.

Kravetz, Drory, and Florian (1993) attempted to determine the degree to which SOC and hardiness are related to measures of negative affect. They administered the 29-item scale measuring SOC (Antonovsky, 1987), the three, separate hardiness components compiled by Kahn (1986; in Kravetz, et. al., 1993), Rotter's (1966) Locus of Control Scale, and three measures of negative affect (anger, anxiety, and depression) to a sample of 164 male patients in rehabilitation from coronary heart disease. The results showed that the construct of SOC and the three separate hardiness scales were to some extent related (correlations ranging from $\underline{r} = .31$, to $\underline{r} = .48$), and that they all correlated negatively ($\underline{r}$ ranging from -.18, to -.53) with measures of negative affect.

Kravetz, et. al. (1993) tested the structural relationships between the measures of health proneness and the measures of negative affect with LISREL (Jöreskog & Sörbom, 1985). These analyses revealed the best fit (reflected in nonsignificant χ^2 and other fit indices) of an oblique, two-factor model. These latent factors were termed "health proneness" and "negative affect". Unfortunately, this report doesn't reveal the strength of the paths between the factors in this specific model. Anyhow, the authors conclude that it cannot be ruled out that these two latent factors reflect the negative and positive affect dimensions of psychological well-being. If the model received in this study is appropriate, it means, according to the authors, that "SOC would be related to both the positive and negative aspects of (...) well-being" (p. 242), while hardiness would primarily be related to the positive dimension. The negative correlations between the health proneness measures and the measures of negative affect may have obscured these relationships.

Furthermore, Kravetz, et. al. (1993) point out that "in approximately 50 per cent of the SOC items the term feeling is used to inquire about the respondents affect. [But] only about ten per cent of the Hardiness Scale items use this term" (p. 242).

Anyhow, many studies have shown that low-hardy individuals, as well as persons with low scores on SOC, experience more distress. The aim here is not to review all of these studies, but to exemplify some of the questions raised. For a more comprehensive review on hardiness the reader is referred to, e.g., Wiebe and Williams (1992).

Confounding with other trait-measures.

It has already been mentioned that several investigators have suggested that many well-being measures tap the trait Neuroticism indirectly (Allred & Smith, 1989; Funk, 1992; Costa & McCrae, 1987). How then are these two health proneness measures, SOC and hardiness, related to personality traits such as neuroticism? Some of the studies investigating hardiness' relation to neuroticism are reviewed in Wiebe and Williams (1992), still more recent investigations exist.

For instance, Florian, Mikulincer, and Taubman (1995), conducted a longitudinal study where 276 Israeli recruits completed questionnaires on hardiness, mental health, cognitive appraisal, and ways of coping at the beginning and end of a 4-month combat training period. These authors showed that hardiness has positive impact on mental health. Yet, in this study, a direct path between low commitment and psychological distress may reflect some confounding with neuroticism. On account of the longitudinal design, the authors were able to show that even after controlling the hardiness-distress association at Time 1, the

commitment and control components still predicted changes in mental health at Time 2. Again, the component of challenge did not contribute to this relationship which was mediated by appraisal and coping variables. The authors conclude that the impact of hardiness on mental health is due to this mediating role of appraisals and coping, though, some aspects of low hardiness may reflect negative affect or neuroticism.

In turn, Strumpfer (1997) found the SOC to be associated with Negative affectivity. Although NA and Neuroticism are related (see earlier discussion in this review) and though some confounding with Neuroticism may be inherent also in the construct of SOC, the relationship found in this study (r = -.30) is not strong enough to support the criticism discussed.

Still, more support for contamination with Neuroticism comes from a study conducted by Gibson and Cook (1996). These authors administered a battery of questionnaires including the Eysenck Personality Inventory (H. J. Eysenck & S. B. G. Eysenck, 1964; in Gibson & Cook, 1996), Antonovsky's (1987) Sense of Coherence Questionnaire, and the Revised Dispositional Resilience Scale (Bartone, Ursano, Wright, & Ingraham, 1989) as a hardiness measure, and the General Health Questionnaire (Goldberg & Williams, 1988; in Gibson & Cook, 1996), to a sample of 95 university students.

Gibson and Cook (1996) investigated the relationships of each and every item on SOC, hardiness, and neuroticism questionnaires. Because of negatively skewed data, ordinal in character, the authors used nonparametric statistics (Kendall's correlations). Of the 29 SOC-items, 19 correlated with Neuroticism. The total SOC-scale was related to the General Health Questionnaire, but this relationship was eliminated when items with significant correlations with neuroticism were removed. Similarly, 15 of the 45 items measuring hardiness were significantly related to neuroticism, and the removal of these items from the total hardiness score eliminated also hardiness' relation to the General Health Questionnaire. The authors

conclude that the SOC and hardiness constructs measured with the afore-mentioned instruments are indirectly measuring neuroticism.

It could be argued, that the remaining 10 SOC-items, especially as they are very general in character, are not enough to reveal the relationship between SOC and perceived health. Though, the remaining 30 hardiness-items should be enough to uncover such a relationship. Gibson and Cook's (1996) report does not specify which items were removed. Further, in line with previously reviewed results, hardiness, but not SOC, was also slightly related to Extraversion, i.e., to a dimension of personality, comprising mainly positive affect.

In accordance with Kravetz, et. al.'s (1993) observation, the Gibson and Cook (1996) study provides still another example of confounding of the constructs due to the inherent emotional components.

In conclusion, I agree with Wiebe and Williams' (1992) notion, that the research literature on hardiness provides inconsistent support for the construct in question. The different subscales of hardiness may not measure a unidimensional construct, such as the SOC. Some of the inconsistencies in the results of hardiness research may depend on the fact that hardiness has been measured in very many different ways. Since the original hardiness scales were developed for a quite homogenous sample of business executives, the concept may mainly tap work-oriented stress-experiences.

Anyhow, research shows that the SOC construct and some components of the hardiness construct (control and commitment), first of all are associated with enhances in psychological well-being. Several studies have also shown that high-hardy individuals report less physical symptoms than low-hardy individuals, but the results of the stress-buffering effects of

hardiness are inconsistent (see also Wiebe & Williams, 1992). Additionally, the construct of SOC has been linked to physical health, but even these results yield some inconsistencies.

Investigations reviewed in this article also reflect the fact that all of the constructs mentioned bear some similarities and that there certainly is some degree of overlap between them. The picture becomes even more multifaceted as studies such as those conducted by Bernard, Hutchison, Lavin, and Pennington, (1996) show the interrelatedness of ego-strength, hardiness, self-efficacy, self-esteem, optimism, and maladjustment. The positive associations between these concepts ranged from r = .24, to r = .49, while maladjustment naturally correlated negatively with the rest of the concepts (r ranging from -.30, to -.58). As a latent hierarchical factor termed "health proneness" in the structural analyses (LISREL) conducted, loaded two second-order constructs termed "self-confidence" and "adjustment", this study also supports the notion that these concepts may not be independent.

One of the main questions concerns the degree of contamination with more global personality traits, e.g., Neuroticism. In the Bernard et. al. (1996) study, the structural, hierarchical model showed that the second-order factor termed "adjustment" was negatively related to Neuroticism and positively related to Conscientiousness and Agreeableness of the afore-discussed Big-Five dimensions. The other second-order factor, "self-confidence", was related to Extraversion. According to the authors, the strength of these relationships (40% of variance accounted) suggested that the six factors in this study (ego-strength, hardiness, self-efficacy, self-esteem, optimism, and maladjustment) still are divergent from the personality trait dimensions. Mostly due to the interfering effects of emotional components, some overlap between different constructs seems unavoidable.

Some additional notions.

In defining the salutogenetic perspective and the resistance resources to stress encapsulated in the construct of sense of coherence, Antonovsky (1987) sought for similar thoughts in the writings of, e.g., Boyce (1983; in Antonovsky, 1987), Erikson (1959/1980), Kobasa, (1979), Moos, (1985), Reiss (1981; in Antonovsky, 1987), and Werner and Smith (1982; in Antonovsky, 1987) among many others. For a review of these similarities the reader is referred to Antonovsky (1987).

Still, I wish to add in this article a brief notion of the cognitive-experiential self-theory (CEST) by Seymour Epstein (1973; 1990), since here discussed constructs appear to correspond with some parts of this theory. According to Epstein (1990) everyone develops a personal theory of reality. Although this is not the place to present CEST in its entirety, I will cite some of the most important postulates of the personal theory of reality. Epstein (1990) writes:

> The four basic postulates include the degree to which the world is regarded as benign versus malevolent; the degree to which it is regarded as meaningful (including predictable, controllable, and just); the degree to which others are regarded favorably rather than as a source of threat; and the degree to which the self is regarded as worthy (p. 165).

These postulates of the personal theory of reality sound at this point quite familiar. Although the two former refer to stimuli derived merely from the outside world, they bear some similarities with the already reviewed constructs, sense of coherence (SOC; Antonovsky, 1987) and hardiness (Kobasa, 1979).

The dimensions of SOC were comprehensibility, manageability, and meaningfulness, and the hardiness components were control, commitment, and challenge. It was concluded that the SOC dimension of meaningfulness and the hardiness component of commitment were conceptually similar in character. The postulate of the personal theory of reality that the world is predictable and controllable parallels these concepts, as well as the hardiness component of control, which, in compliance with this postulate of the personal theory of reality, refers to a person's beliefs in his or her abilities to manage or control situations life brings about (cf. coping).

Furthermore, it is in place to point out that a belief that the world is just as defined by CEST, doesn't correspond with the early idea of an attributional process, whereby people see the world as a place in which they get what they deserve and deserve what they get. This construct of belief in a just world, by Lerner (1970), hints rather at the process by which any person may derogate and blame a victim of some circumstances in order to maintain his or her belief that the world is just. In this context, I believe that the derogation of others primarily enhance the process of maintaining one's self-esteem, rather than solely the maintenance of a belief that the world is just. A study conducted by Fein and Spencer (1997), and an unpublished pilot study by the author (Korhonen, 1995), supports this idea.

In contrast, the research conducted by Janoff-Bulman (1989) is influenced by the cognitive-experiential self-theory (Epstein, 1990). This research considers the changes in a person's beliefs, perceptions of vulnerability, and feelings of self-worth as a consequence of extreme life events (Janoff-Bulman, 1989). The vast area of research in self-esteem corresponds also with the fourth postulate of the personal theory of reality.

Discussion and Conclusions

Kobasa (1979) builds the construct of hardiness upon the theorizing of existential psychologists. In spite of differences in theoretical foundations between the hardiness construct (Kobasa, 1979) and the SOC construct (Antonovsky, 1987), similarities can be found as both authors have, for example, been inspired by the theories of Fromm (1947, 1955). It could be argued that these constructs, due to their character that more or less offer a holistic view on well-being and health resources of an individual, are related to the personal growth perspectives on psychological well-being. Obviously, they differ from this perspective because of their emphasis on resistance resources to stressors. Yet, doesn't personal growth require abilities to cope effectively with everyday stressful events to enable a person to live up to his or her fullest potential? In this perspective, both the subjective well-being and the stress-resistant personality approaches are subcategories of personal growth. In addition, many of the concepts reviewed in this article might fit into more than one category. Here, I would like to point out that the categorization in this review primarily served as working assistance.

Interestingly, the constructs of hardiness and SOC loaded on different factors in the factor analysis conducted by Compton, Smith, Cornish, and Qualls, (1996). While hardiness loaded on the same, second factor as most of the instruments measuring personal growth, SOC loaded on the first factor together with all of the subjective well-being measures including, e.g., happiness, optimism, affect balance, as well as Ryff's (1989a, 1989b) scales of psychological well-being (though Ryff's scales in this study were intended to measure personal growth, they loaded more strongly on this first factor). The content validity of the scales used in the Compton, et. al. (1996) study, could, of course, be questioned, as one might assume that the concepts which are of more molar character should, through their generally

held operationalizations, load on the same factor as the personal growth measures. This wasn't the case in the Compton, et. al., (1996) study. More accurately, all of the instruments with generally held questions loaded on the same factor, divergent from the factor enclosing most of the personal growth measures. The generally held operationalizations may to a greater extent allow the influence of both emotional factors and our personal belief systems on the results.

Anyhow, according to Compton, et. al. (1996), the findings suggest that resistance to stressors may be related to both subjective well-being, reflected in the experience of positive affect, and the perspective dealing with personal growth. This supports the afore-mentioned idea that resistance to stressors, as well as subjective well-being, could be regarded as subcategories of the personal growth perspective.

The Two Main Aspects of Well-being Reviewed

I think that SOC and hardiness loaded on different factors in the Compton, et. al. (1996) study due to their already discussed conceptual differences and the broad character of the SOC instrument allowing influences from a person's beliefs and his or her world view. For example, the above-mentioned study conducted by McSherry and Holm (1994) showed that individuals who scored low on the SOC measure were less likely to believe that they had the resources needed to cope effectively with stressful situations.

At this point, beside the emotional components, two main aspects of psychological well-being emerge. Many of the concepts reviewed, e.g., happiness, optimism, SOC, explanatory style, hope, etc., seem to reflect an individual's belief systems including general and intrapersonal faith as well as interpersonal faith. This molar concept of faith, (not to be

interpreted as religious faith), is founded on basic trust (e.g., Bowlby, 1969-1980) acquired while growing up, and modulated through experiences across the whole life-span (cf. Epstein, 1990).

In this context, it seems appropriate to refer to the concept of appraisal (Lazarus, 1991). Appraisals seem to be the key components in many of the above-mentioned constructs. Appraisals refer to cognitive evaluations, and undoubtedly an individual's integrated belief systems and faith, influence all evaluative cognitions and appraisals, and probably all mental processes. With belief systems I refer to an individual's world view as a whole, including beliefs about the self and others, as well as specific beliefs irrespective of whether or not these are influenced by, or based upon knowledge, while faith, as I use the word, comprise the component of basic trust, which sometimes emerges in religious faith in a higher power. The component of basic trust is the reason why I prefer the term faith to denote this aspect of well-being.

Beliefs are also emphasized by the cognitive-experiential self-theory (CEST; Epstein, 1973, 1990). In contrast to most cognitive theories of today, paralleling psychoanalytic theories, CEST proposes three conceptual systems: the rational, experiential, and associationistic systems, operating primarily at the conscious, preconscious, and unconscious levels, respectively. The different conceptual systems encompass basic beliefs or schemas. These "beliefs are of two kinds: 'descriptive' and 'motivational'" (Epstein, 1990, p. 166). While the descriptive schemas include beliefs about the self and the world, the motivational beliefs are tied to desires as well as to avoidance of what one dislikes. An individual doesn't necessarily have to be aware of these schemas, since basic beliefs exist at all system levels and they vary in their degree of complexity.

Moreover, the CEST states that motivational beliefs are formed by early experiences of emotional importance. As the child develops, the schemas must change in order to

correspond with the changing character of his or her relationship with the environment. CEST ascribes past experiences a central role in developing the schemas. Thus, past experiences also influence emotions experienced in new, similar situations. These feelings can be subtle, but they may motivate behavior as well as influence cognition. Furthermore, appraisals as defined by Epstein (1990) are in line with Lazarus (1991) definition of the concept. According to both of these theorists, appraisals can be subtle, momentary, and implicit. This allows beliefs/faith to influence all perceptions. Beliefs, in turn, are influenced by past experiences and life events. For instance, Janoff-Bulman (1989) suggests that the experience of a particular, traumatic event probably changes an individual's basic beliefs, though generally, basic "beliefs acquired early in life (...) can be expected to be resistant to modification" (Epstein, 1990, p. 172).

The other molar aspect or factor which may enhance psychological well-being comprises concepts that might be called resistance resources to stress, or simply a person's abilities (to handle or manage environmental demands). For example, the concepts of self-efficacy, control, mastery, and divergent coping abilities are all related, and they all primarily reflect an individual's skills or capabilities which enhance resistance to stress, as well as they, in the end, enhance subjective well-being and personal growth in general. The control component of the hardiness construct and the dimension of manageability in the construct of SOC also fit in this category, but when the aim of an investigation is mainly to tap resistance resources, the mere use of the SOC instrument is not recommended since SOC seems to encompass something more than mere resistance to the negative impact of stress. For instance, in a study based on a nation-wide Swedish sample (N = 2003), Larsson and Kallenberg (1996) found that the SOC scores increased with age. Could the construct in question tap the degree of maturity? Of course, this doesn't eliminate the resistance resources embedded in it. Actually, these might increase with age and maturity.

I have reviewed studies which uncover the relatedness of several concepts in the research field in question. Actually, both of the proposed wide aspects of well-being, faith and abilities, are reflected in many of the constructs reviewed (e.g., the SOC, optimism, self-efficacy, and hope). A sense of self-worth, belief in oneself and faith in one's abilities to manage or handle environmental demands, or why not faith in God or faith in general, together with one's actual abilities result in positive emotions, feelings of self-worth, confidence, and probably optimism, as many of the reviewed studies indicate. In this context, also the role of past experiences emerges as an important contributing factor to psychological well-being.

More support for the coping-related concepts' mutual correspondence comes from studies that highlight the mediating role of these variables in psychological well-being. For instance, Florian, Mikulincer, and Taubman (1995) concluded that the impact of hardiness on mental health is due to the mediating role of appraisal and coping variables. Though the difference between mediating and moderating variables hasn't been discussed in this review (for discussion of this matter, see, e.g., Zika & Chamberlain, 1987), it seems appropriate to assume that appraisals are the key components reflecting an individual's beliefs/faith in many of the concepts reviewed and that the concepts measuring abilities may function as mediators between variables such as stress and health or buffer against stress' negative effects.

Affect, well-being, and personality.

According to Wallace (1966) personality might be regarded as a set of abilities. Paulhus and Martin (1987) follow this notion and apply a multifaceted approach to personality. These authors distinguish between personal abilities, capabilities and traits. Capabilities refer to the

"ease of carrying off a particular response when required by the situation" (p. 355), and thus, are modulated by an emotional response, while abilities refer to "the degree of skill with which an individual can execute a particular social routine under optimal conditions. An ability includes knowing what to do and how to do it" (p. 355). A closer look at the capabilities as they are defined in the Paulhus and Martin (1987) study unveils that they are operationalized almost synonymous to emotions, or the capacity to express emotions.

Paulhus and Martin (1987) compared capabilities with measures of personality traits and found them to be divergent from traits. In contrast, capabilities were related to self-efficacy, as the perceived capacity of an individual is a central theme in both of these models. Furthermore, capabilities were related to interpersonal control and high self-esteem (Paulhus & Martin, 1987). Paulhus and Martin's (1987) conceptualization of capabilities as synonymous to emotions provides an example of the confounding role of affect in the concepts reviewed. It seems impossible to accurately define anything without taking into account the contribution of emotional components. Emotions certainly play an important role and they are reflected in both aspects, beliefs/faith and abilities, of mental health research.

According to the CEST, emotions function as indicators of cognitions in the experiential system (Epstein, 1990). While emotions are reactions to specific stimuli, moods are enduring states that may occur without specific stimuli. According to Epstein (1990), a basic difference between moods and emotions is that

> emotions are produced by preconscious appraisals of the momentary implications of a particular stimulus, whereas moods are produced by preconscious appraisal on a much larger scale (namely, where one currently stands in life and what one's future prospects are) (p. 170).

Perhaps the afore-discussed moods, Positive Affect (PA; see, e.g., Watson, Clark, McIntyre, & Hamaker, 1992) and Negative Affect (NA; see: e.g., Watson & Clark, 1984) could be considered as results of an individual's preconscious appraisals influenced by belief systems? In that case, moods might be due to variations in a person's faith!

What then can further be said about the well-being measures' relatedness to the stable personality traits? Schmutte and Ryff (1997) state that there is a tendency to operationalize well-being "almost exclusively in terms of affect" (p. 551). As the broad affect domains PA and NA correspond to the personality traits of Extraversion and Neuroticism, the boundaries between the constructs of well-being and personality traits are blurred (Schmutte & Ryff, 1997). In this review, the trait-approaches to personality were presented as indirect indicators of well-being.

Schmutte and Ryff (1997) found that each of the six subscales on Ryff's (1989a, 1989b) well-being instrument possessed a unique set of correlates among the dimensions of the Big-Five (NEO-Five-Factor Inventory; NEO-FFI; Costa & McCrae, 1992; in Schmutte & Ryff, 1997). For example, when the effects of negative and positive affect (measured with scales compiled by Radloff, 1977; in Schmutte & Ryff, 1997) were partialled out, there still remained significant, negative correlations between Neuroticism and each of the three subscales: self-acceptance, environmental mastery, and personal growth. Similarly, the subscales purpose in life, personal growth, and positive relations with others, all correlated significantly with the Extraversion dimension of the Big-Five even after the affect factors were partialled out. This is not surprising since both the trait dimensions and Ryff's (1989a, 1989b) scales on well-being involve emotional components.

Headey and Wearing (1989) have proposed a model of well-being that accounts for the effects of contamination with personality traits. In the preliminary, longitudinal study conducted, well-being was defined as life satisfaction, positive affect, and negative affect,

and the measurement of well-being was carried out with structured interviews (Headey & Wearing, 1989). These authors state that each person has a normal level, or equilibrium, of both the experience of subjective well-being and the pattern of life events. The equilibrium levels are predictable on the basis of stable personality characteristics which are considered as antecedents of life events. In turn, life events are regarded as antecedents of well-being. Thus, the equilibrium levels are partly due to personality factors and partly due to life events. This dynamic equilibrium model by Headey and Wearing (1989) asserts that when the quality of life events for a particular individual changes, i.e., when life events deviate from his or her normal level, this affects the experience of subjective well-being. Consequently, this model also allows specific experiences to influence well-being and according to the authors, life events affect subjective well-being above the effects of personality variables.

Concepts Confounded with the Definition of Health

The construct of sense of coherence (SOC).

The use of the same concepts in measuring physical health and mental health as well as psychological well-being goes to show that there is a strong association or bond between the different levels of health. One important question in this research concerns the definition of health. From the personal growth perspective, ideal health is defined analogous to the fully maturing and self-actualizing person (Maslow, 1970). The salutogenic perspective also points in this direction since a person with a high sense of coherence (although not rigid SOC, see: Antonovsky, 1987) is "health personified".

Lazarus (1991) has also pointed out the similarity between the construct of SOC and other molar concepts such as optimism and self-confidence. According to Lazarus (1991) the construct of SOC suffers from two conceptual and scientific problems. First, since health is defined holistically combining three dimensions; the physiological, the social, and the psychological factors, this causes empirical difficulties as we no longer are able to evaluate how one level of analysis influences the other. Lazarus (1991) writes:

> Without raising this crucial question, the global proposition remains an article of faith rather than merely a hypothesis. Indeed, however pleasing its theme, holistic medicine has tended to be just that, an article of faith rather than a commitment to discover the truth (p. 389).

Lazarus (1991) asserts that we should instead keep the physiological, the psychological and the social dimensions of health separate, and conduct research on their functional interrelatedness. According to Lazarus (1991), sense of coherence is a molar concept and "molar concepts alone cannot lead to understanding" (p. 390). Lazarus (1991) writes:

> ..., the sense of coherence is a global and vague personality trait rather than a detailed and specific set of adaptational processes. Although it is presumed to be causal in health, the sense of coherence is also greatly confounded with the adaptational outcome it is supposed to explain, because health itself, as defined holistically, contains the same states and processes as the sense of coherence. It would be complete tautology to say that healthy people feel good and have a positive sense of themselves and the world because they have a positive sense of themselves and the world and feel good. The problem is to say what healthy people do that makes them different from those who are ill (p. 390).

Furthermore, as Lazarus (1991) points out, this world with crime and constant wars going on, is not always a nice and good place to live in. While some people starve to death, it would look like as health, defined as the sense of coherence, characterized by a feeling of confidence and belief that the world and life is a predictable history where everything will be all right, is a private matter for well-educated white people who are well off and living comfortable lives in the western countries (Lazarus, 1991). Still, this doesn't fit in with the fact that the construct of SOC grew out of interviews with people who had survived the holocaust or lived through some other kind of trauma (Antonovsky, 1987).

Anyhow, I believe that perspectives on psychological well-being, such as personal growth, should rather be considered as a consequence of other factors. The questions should

be: what are these factors? and, how come that some people are able to actualize themselves and mature across the whole life-span, while others seemingly "get stuck" in their everyday lives no matter how boring or how demanding these lives are? As the mode of expression says, some people are born with a silver spoon in their mouths, while others have to struggle for their daily existence. In spite of social differences, many persons have worked their way up to create their lives such as they wish them to be, and yet, many of these persons remain open to new experiences and new possibilities to mature as human beings.

The most interesting question in this context concerns those, who, despite adverse life events and in spite of missing opportunities manage, both psychologically and socially, to find their own way in life, and despite hardship stay healthy and well. The answers to these questions should perhaps be sought for in childhood circumstances and in socioeconomic circumstances, rather than in personality traits or molar concepts such as how optimistic these people are. Where does optimism come from, is the question. How are some people able to change tuff circumstances to better ones, or, from where and how does they attain those positive characteristic embedded in the construct of SOC? I would not be surprised if faith and/or basic trust, acquired throughout the childhood, together with abilities reflected in integration of the cognitive and emotional aspects of the personality are some of the most influential factors. Since beliefs and abilities themselves are broad concepts, they must obviously be divided into subcategories in empirical research

Trait-approaches to personality.

Research in personality traits regards traits as antecedents of psychological well-being. Kobasa (1990) asserts that "in most contemporary health and personality studies, one does not find a sufficient degree of clarity about what personality is" (p. 24).

The trait-approaches discussed in this article, ignore an individual's abilities to cope or handle environmental demands (Paulhus & Martin, 1987). Since these approaches focus on specific contents rather than on particular processes, they measure personality factors on a macro-level (Uleman, Winborne, Winter, & Shechter, 1986).

Folkman, Lazarus, Dunkel-Schetter, DeLongis, and Gruen, (1986), point out that this is the critical difference between trait-oriented approaches on one hand, and situation or process-oriented approaches to personality, health, and well-being on the other. Several authors recommend multifaceted approaches that link behavior to health and well-being, rather than investigations of mere correlations between personality traits and measures of physical symptoms (Bowers, 1987; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Krantz & Hedges, 1987; self-report measures have been criticized elsewhere).

Many authors have also emphasized that the broad mood domain Negative Affect (NA) and the Neuroticism dimension of the three and five-factor models of personality are nuisance factors in the collection of self-reports on physical health (Schroeder & Costa, 1984; Watson & Clark, 1984, 1992; Watson, Clark, & Carey, 1988; Watson & Pennebaker, 1989). Watson, Clark, and Carey (1988) writes:

> In fact, different measures of anxiety and depression are as highly correlated with each other as they are among themselves, and thus often load on a single, undifferentiated factor, together with measures of hostility and anger,

> neuroticism, physical complaints, repression-sensitization, irrational beliefs, and (on the opposite pole) with ego strength and social desirability (p. 346).

Costa and McCrae (1980, 1985b, 1987) among others, have reported that a wide variety of medical complaints are associated with high levels of Neuroticism. Many studies have also linked high levels of NA (measured either as a state or as a trait affect dimension) to physical symptoms (e.g., Clark & Watson, 1988; Leventhal, Hansell, Diefenbach, Leventhal, & Glass, 1996; Watson & Pennebaker, 1989). Trait NA is considered analogous to the Neuroticism dimension by the majority of investigators (see: Andersson, 1996; Watson & Clark, 1984; 1992), and since these constructs more or less enclose the tendency to report more physical symptoms, circularity and contamination of results in this research on health is inevitable. I do not recommend the mere use of these measures together with self-reports of physical symptoms in health research.

Limitations of this review and future directions.

It may be that emotions are always due to cognitions, i.e., appraisals of the interactions with the environment (Lazarus, 1991). The cognition-emotion controversy hasn't been discussed in this paper (see: Lazarus, 1982, 1984; Zajonc, 1980), but disregarding the primacy of either one, emotions certainly also depend on personal belief systems, which in turn are founded on earlier experiences (cf. Epstein, 1990). Actually, many authors have emphasized the important role of beliefs, past experiences (e.g., Epstein, 1990; Janoff-Bulman, 1989) and appraisals (e.g, Florian, et. al., 1995; Lazarus, 1991) in well-being research. Due to lack of space, the role of illusions, or the relationship between realistic and

unrealistic beliefs and appraisals, were not discussed in this paper. In this matter, the reader is referred to, e.g., Baumeister (1989), Doan and Gray (1992), Janoff-Bulman (1989), and Taylor and Brown (1988).

However, it seems to me that the empirical research in general risks getting too disrupted - or at least, it too seldom tries to pull the research to a more wholesome picture. Although most psychological theories stress the importance of past experiences, the empirical research often overlooks their impact or attributes life events to stable personality traits. This, I believe, does not contribute to understanding. The trait-approaches to personality reviewed in this article are based on a psychobiological foundation, and as the empirical research has shown, this position ignores the impact of past experiences in the development and growth of personality across the whole life-span, as well as it ignores a person's abilities. Personality, according to these theories, is usually considered as the antecedent of life events, not vice versa. Even though life experiences theoretically would be considered as antecedents of personality traits, the divergent trait-measures tell us nothing about why and how. To suggest that a person is unhappy because he or she scores high on the measure of Neuroticism, does nothing but diagnose.

Here, it is in place to point out that the main limitation of this review is that it covers a vast area of research at the expense of a more detailed "in-depth-study". Besides that the role of unrealistic and realistic beliefs in well-being research was left uncommented in this review, research reports uncovering the various well-being concepts' or personality trait measures' associations with physical health has been tremendously limited as the emphasis has been on the conceptualization of mental health and psychological well-being. In general, most of the concepts reviewed in this article have been linked either to perceived, self-reported health, or, in some cases to professionally observed health status in a number of studies (see: e.g., Antonovsky, 1987; Contrada, Leventhal, & O'Leary, 1990; Costa &

McCrae, 1987; Eysenck, 1996; Leppin & Schwarzer, 1990; Peterson & Seligman, 1987; Scheier & Carver, 1987; Scheier, Matthews, Owens, Magovern, Lefebvre, Abbott, & Carver, 1989; Watson, 1988a; Wiebe & Williams, 1992; Wiedenfeld, O'Leary, Bandura, Brown, Levine, & Raska, 1990). As not all, or not even most of the studies linking well-being concepts to physical health have been reviewed, valuable information might have been overlooked.

Still another weakness in this article is that although mental health is emphasized, both mental and physical health are considered. This is partly due to the strong bonds between the different levels of health. A review of the literature in health psychology and related domains also shows that the indicators of mental health are often analogous to the indicators of physical health. I would like to say that "due to conceptual circularity", the two health dimensions are brought together in this review.

Regarding well-being, designs such as the dynamic equilibrium model proposed by Headey and Wearing (1989) offer an interesting perspective. Because this model accounts for the effects of personality factors proposing a dialectic interplay between the experience of subjective well-being and the pattern of life events, it points out new possibilities since it could be expanded to account for the effects of past experiences on personality reflected in belief systems/faith and to involve the role of personal abilities. Faith and abilities, the main aspects of well-being, result at best in positive emotions, feelings of self-worth, confidence, and probably optimism, all of them markers of psychological well-being. Hence, faith should also reflect the role of future expectations.

It is suggested that research in health psychology can benefit from the focus on dynamic models that emphasize the interaction between the most important aspects that contribute to well-being – beliefs and abilities – and to the emotions involved. The role of past experiences

and future expectations, as well as the actual socio-economic conditions that people live under should also be studied to broaden our understanding of well-being and health.

Summary

The well-being concepts in this review were classified into the personal growth, the subjective well-being, and the stress-resistant personality perspectives. These categories served mainly as working assistance, since the concepts reviewed may fit into more than one category as many of them enhance resistance to stressors as well as subjective well-being and personal growth in general. Still, leaning on the preliminary factor-analytic study conducted by Compton, Smith, Cornish, and Qualls (1996), the concepts with generally held operationalizations such as optimism and happiness seem to fit into one category. The construct of sense of coherence (SOC) also fits in this category, yet, it was questioned if the SOC actually measures the degree of maturity, or if the resistance resources against the negative impacts of stress embedded in the SOC concept, probably increases with age?

Additionally, it was questioned if the concepts with generally held questions contribute to the understanding of health and well-being. The main point is to answer the question: How does a person acquire resistance resources against illness or the positive qualities embedded, for example, in the concept of SOC? Are we born with these qualities, or where does optimism come from? Childhood circumstances?

This review proposes that, beside our emotions, the factors enhancing psychological well-being predominantly comprise two aspects – personal abilities and faith. Many of the concepts reviewed seem to reflect an individual's general, intra-, and interpersonal faith, and

basic trust, as well as resistance resources to stress, or simply abilities. A sense of self-worth, belief in oneself and faith in one's abilities to manage or handle environmental demands, together with one's actual abilities, result in positive emotions, feelings of self-worth, confidence, and probably optimism. In this light, it is not surprising that some of the concepts reviewed has been criticized for being confounded with negative affect (see: e.g., Andersson, 1996; for review on hardiness, see: Wiebe & Williams, 1992). The importance of past experiences as a contributing factor to psychological well-being was also emphasized, as well as the interplay between the different aspects of well-being.

According to Paulhus and Martin (1987) "an ability includes knowing what to do and how to do it" (p. 355). Concepts related to coping, such as self-efficacy, control, and mastery reflect both faith in one's abilities (cf. self-confidence), and a person's actual skills to handle the environmental demands. First of all, these abilities enhance resistance to stress, though even subjective well-being and personal growth are dependent on successful management of everyday stressful events.

It was assumed that appraisals are key components that reflect the individual's faith / belief in many of the concepts reviewed and that the concepts measuring abilities can act as mediators between stress and health variables because they buffer against the negative effects of stress.

The trait-approaches were included in this review as indirect measures of well-being. One of the main questions concerned the degree of contamination of different measures of well-being with more global, stable personality traits, such as the five-factor model dimensions. The Neuroticism dimension of the Big-Five corresponds to the broad mood domain, Negative Affect, and similarly the trait Extraversion seems to resemble the Positive Affect dimension. The influence of Negative Affect and personality traits have more or less

been found inherent in various well-being concepts. This is mostly due to the effects of emotional components embedded in both the trait-measures and the well-being concepts.

Models that account for the impact of personality factors reflected in a person's belief systems/faith and personal abilities were recommended in research on well-being, as well as variables reflecting the actual socio economic circumstances. The dynamic equilibrium model by Headey and Wearing (1989) which proposes dialectic interplay between different factors enhancing psychological well-being could be expanded to such a model. The interaction of the influence of past experiences and future expectations reflected in faith and thereby in well-being, as well as consequent emotions, should also be illuminated. Furthermore, the use of coping-related concepts (abilities) was recommended in research on resistance resources to stress.

Another important question concerned conceptual circularity in health psychology. The definition of health is embedded in the personal growth perspectives and in concepts such as the SOC construct. Though the SOC captures the dimension of faith, the use of SOC in measurement on physical health causes tautology (see: Lazarus, 1991, p. 390, also quoted here). It was also concluded that since the traits Neuroticism and Negative Affect more or less encompass the tendency to report more physical symptoms, circularity and contamination of the results in this research area on health is inevitable. The mere use of trait-approaches together with self-reports on physical symptoms in health research was not recommended. Limitations of this review were also mentioned.

In conclusion: personal belief systems, i.e., faith or basic trust acquired while growing up and personal abilities to handle or manage the environmental demands, both resulting in positive emotions and both reflected in feelings of self-worth and confidence, seem to be the main aspects of well-being.

Afterword.

I fully agree with Lazarus (1991) on conceptual circularity in health psychology and the inability of broad concepts to contribute to understanding, but I still think there is more holistic medicine than meets the eye (not to confuse holistic medicine with alternative medicine from which I take distance from!)

I also believe in the importance of keeping the different levels of health separate in the empirical research, though I disagree with Lazarus' (1991) notion that holistic medicine would only be an article of faith. Holistic medicine should rather be considered a hermeneutic approach to the contextual understanding of personality, health, and disease. Yet, criticism is one of the driving forces of science and from a scientific point of view there certainly is reason for Lazarus' (1991) statement since faith actually is a major part of holistic medicine – but as Lazarus himself with his cognitive-motivational-relational theory of emotions tries to pull the picture together, there still remains the vast role of subjective experience, partly based on beliefs.

At this point it is easy to slip into philosophical discussions about objectivism and subjectivism or the good or bad of reductionism. It is also easy to personally forget the objective aims of unbiased science and end up in discussing its conditions, especially those of "freedom". Yet, no matter how much we know, our knowledge is in its infancy, and most often we deceive ourselves. Why do I say this? I say this, because as living, loving, human beings we hardly know ourselves and despite quantum theories, we are unable to define the mystery of life, the mystery of consciousness, and we're scarcely able to define the concept of health in its entirety. As a final, humble question, I would like to ask: Aren't we what we believe us to be? So much for faith.

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Footnotes

* also listed in Comton, et. al., (1996).

1 Regarding the psychodynamic theories Rorschach Inkblot Test, (see: Pervin & John, 1997) and Thematic Apperception Test (TAT; Murray, 1938), are widely used.

2 From now on, if nothing else is stated, "correlations" refer to Pearson product-moment correlations.

3 The LOT Scale consists of 10 items, 6 active and 4 filler items.

4 The Hope Scale consists of 12 items, 4 active "pathway" items and 4 active "agency" items, plus 4 filler items.

Author note

Eija I. Korhonen, Doctoral Student, Department of Psychology, University of Gothenburg, Sweden.

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eija.i.korhonen@gmail.com