Happiness and Mental Health: A Framework of Vitamins in the Environment and Mental Processes in the Person

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The constructs of mental health and happiness overlap with each other to a substantial degree. Positive or negative feelings are intrinsic to each and to their opposites, and the constructs, although distinct, have partly similar causes and consequences. The vitamin model summarized here originated primarily as a perspective on mental health (Warr, 1987) but has since been applied mainly to happiness or unhappiness in settings such as paid work, unemployment and retirement (e.g., Warr, 2007). This chapter also focuses on happiness and unhappiness; it outlines main aspects of the framework as modified over several years.

Conceptual Starting Points

Building on a wide range of earlier perspectives, the vitamin model seeks to be distinctive in three principal respects. First it aims for comprehensiveness in outlook and content, bringing together themes and research findings from diverse models, focusing on sources from within the person as well as from the environment, and including many mental processes beyond conventional types of appraisal. The framework also explicitly addresses different levels of scope, embracing processes in a person’s life as a whole, within separate domains (family life, a social institution, paid work, unemployment, and so on), and also as part of attitudes to particular things, events or ideas. These three levels of scope may be referred to as “context-free”, “domain-specific” and “facet-specific” respectively.

Many approaches to this area are stress-oriented, being focused explicitly and entirely on harmful aspects of the environment and ways to cope with those. That immediately cuts out huge sections of experience, and generates a particular set of orienting concepts and research methods which necessarily exclude other ways of thinking. Schaubroeck (2012, p. 86) has drawn attention to dangers arising from over-reliance on any theoretical framework: “(a) restricting the boundaries of the phenomena that are considered relevant, (b) introducing barriers to changing or supplanting theories, (c) biasing estimation of relationships due to omitted variables, (d) encouraging authors to exclude contrary evidence and insights from their narratives, and (e) limiting how scholars evaluate theoretical contributions”. The vitamin model seeks to minimize those kinds of constraint. Although the framework inevitably creates its own conceptual template, that is intended to be less restrictive than others.

Second, the model does not follow the common practice of conceptualization in terms of mutually exclusive categories of elements, such as “resources” as a group or in terms of sets of stressors which are designated as one or other of “challenges” or “hindrances”. Such approaches are fraught with problems of definition and boundary-setting, and can lead to simplifying
empirical or conceptual generalizations about categories as a whole whereas diverse category-components in fact have multiply-contrastising characteristics and operating mechanisms; components require to be treated separately (e.g., Halbesleben, Neveu, Paustian-Underhahl, & Westman, 2014). The vitamin framework is instead concerned with single features of the environment, each with its own sources and consequences.

A third notable aspect of the model is its divergence from the standard assumption that features in the environment are consistently either positive (e.g., always a desirable resource) or negative (e.g., always a harmful stressor). Instead, it is argued that many environmental features can be either affectively positive or negative depending on their level. The notion that different forms of the same element can be evaluated in contrasting ways leads in turn to an emphasis on environment-outcome relationships which are non-linear rather than linear as is generally presumed.

In overview, the vitamin framework offers an alternative way of thinking about environments and their impact, building on themes from established models and seeking to minimize the conceptual restrictions which are necessarily created by a theoretical structure. For exposition it is presented here in four sections, first addressing types of outcome and then moving on to sources in the environment, sources in the person and outcomes arising jointly from a person and an environment.

**Components of Mental Health and Happiness**

First, what outcomes need to be considered? Drawing on work by Jahoda (1982) and others, Warr (1987) characterized mental health in terms of five broad components: affective wellbeing, competence, autonomy, aspiration, and integrated functioning. Poor mental health almost always embodies negative feelings (low affective wellbeing) as well as impaired functioning in one or more of the other ways cited above. Thus in addition to affective wellbeing which is low a person with poor mental health may be unable to cope with interpersonal or other conditions (being low in competence), feel excessively constrained in thought or action (low autonomy), or disengage from a situation or life in general (low aspiration). The final component of mental health, labeled in the model as integrated functioning, concerns the person as a whole, often through combinations of the other elements. It has been treated in varying ways by different theoreticians and taken to imply different procedures for therapeutic intervention.

Unhappiness and happiness are also characterized in those multiple ways, involving both affective wellbeing and a number of functional elements. The beyond-wellbeing aspects of happiness have been interpreted in different ways and with diverse labels, often described overall as “eudaimonic” in contrast with hedonic experiences in terms of positive or negative affect (e.g., Waterman, 1993). The notion of eudaimonia originated in Aristotle’s (384-322 BC) discussion of the good or worthwhile life, and has more recently been articulated in terms of “flourishing” (e.g., Keyes, 2002; Waterman, 1993). That construct, as well as others in this field, has been treated in dissimilar ways by different authors, but a primary feature is a person’s experience of meaningfulness or identity-linked purpose (e.g., Baumeister, Vohs, Aaker, & Garbinsky, 2013; McGregor & Little, 1998). Additional eudaimonic components of happiness (of different salience in different models) have included a person’s engagement in the world (“aspiration” above), feeling able to achieve personally important goals (“competence” above),
being able to influence one’s life (“autonomy” above), having vitality, and interacting positively with other people (e.g., Huppert, 2014; Seligman, 2011; Warr, 2015). Eudaimonic themes tend to emphasize the functioning rather than affective elements introduced above.

Although functioning has been examined variously in models of mental health, happiness studies have focused almost entirely on the other component – a person’s hedonic state. Referred to above as affective wellbeing, this takes a variety of overlapping forms. For example, core affect can be described in terms of two axes – feeling bad to feeling good (valence, from displeasure to pleasure) and also low versus high activation or arousal, a state of mental or physical readiness for energy-expenditure (e.g., Watson & Tellegen, 1985: Yik, Russell, & Steiger, 2011). Treating the two axes as orthogonal to each other permits the identification of four conceptual segments which may be labeled as feelings of anxiety (high activation, low pleasure), enthusiasm (both high), calmness (low activation, high pleasure), and depression (both low) (Warr, 1990, 2007, 2012). Positive or negative feelings can be measured through several combinations of these affects (e.g., Madrid & Patterson 2014; Warr, Bindl, Parker, & Inceoglu, 2014), and there is evidence that axes from depression to enthusiasm and from anxiety to calmness (characterizing processes of approach and avoidance respectively) are based on separate neurophysiological systems (Carver, 2001; Posner, Russell, & Peterson, 2005). Furthermore, particular environmental factors can influence feelings of these several kinds in different ways (Warr, 2007), and experienced activation and valence themselves predict different aspects of motivation (Seo, Bartunek, & Feldman-Barrett, 2010).

In addition to these forms of core affect, hedonic happiness has also been examined in terms of cognitive-affective syndromes which incorporate not only feelings but also explicit or implicit recollections, anticipations and social comparisons. For example, reports of satisfaction with a job or with one’s life as a whole are based on a wide range of retrospective, current and future considerations. And, as with feelings alone happiness syndromes of these kinds can also be viewed in terms of activation as well as valence (Warr & Inceoglu, 2012; Warr, 2015).

**Influences from the Environment**

Table 1 points to twelve primary environmental features that have been found in empirical research of many kinds to be associated with positive wellbeing (e.g., Crawford, LePine, & Rich, 2010; Humphrey, Nahrgang, & Morgensen, 2007; Luchman & Gonzáles-Morales, 2013; Warr, 1987, 2007). The table is constructed so that feelings in any life context can depend on the first nine aspects. For example, the opportunity for personal control (E1) is essential in any setting for meeting personal goals, for sustaining a sense of personal agency, and for reducing feelings of helplessness. Environmental clarity (E5) is essential to reduce anxiety about an ambiguous future and to make it possible to plan, initiate and regulate actions; and the nature of interpersonal contact (E6) can contribute to both health and wellbeing (Uchino, 2006). In addition to these everywhere-important features (E1 to E9), other influential aspects of the environment are specific to particular domains. In the present case, features E10 to E12 are identified as additionally important in the domain of jobs, and job-related components of each one are illustrated in the second column. As indicated earlier, the model is applicable to many other kinds of setting, allowing for additional factors specific to a particular domain beyond the everywhere-important first nine.
Vitamins and mental processes

Non-linear associations and the vitamin analogy

The importance of these environmental features or their components has been demonstrated by research in many countries, almost always envisaging a linear relationship between levels of wellbeing and the feature. However, it is more likely that the level of an environmental characteristic is associated with happiness or mental health in a non-linear fashion, specifically in a pattern analogous to the effect of vitamins on bodily condition. Vitamins are important for physical health up to but not beyond a certain level. At low levels of intake, vitamin deficiency gives rise to physiological impairment and ill-health, but after a moderate level has been reached (the “recommended, or guideline, daily allowance”) there is no benefit from additional quantities. In a similar manner, it may be that the absence or near-absence of a primary environmental characteristic leads to negative psychological conditions, but that its presence beyond a certain level does not further improve those conditions.

In addition, some vitamins become toxic in very large quantities, so that the association between increased vitamin intake and physical health becomes negative above moderate amounts. This pattern may also occur for certain aspects of the environment, particularly with respect to context-free happiness rather than a more restricted form; many aspects of life are affectively positive until very high levels are reached. This “too much of a good thing” possibility is summarized in Figure 1, where low (“deficiency”) values of an environmental feature are depicted as particularly harmful to happiness and mental health and those in the middle range are shown as having a constant beneficial effect. A second, smaller decrement is proposed at particularly high (“toxic”) values for certain environmental features (labeled as “AD”) but not for others (“CE”).

Those two labels are also based on abbreviations in the vitamin analogy. There are no toxic consequences from very high intakes of certain vitamins: deficiency causes ill-health, but additional doses beyond a moderate amount have a constant effect. Vitamins C and E are of that kind. The abbreviation “CE” in Figure 1 reflects this pattern, and can also stand for “constant effect” in the present model. On the other hand, vitamins A and D are toxic at very high levels, and “AD” in the figure may be read as an “additional decrement”.

The environmental section of the vitamin model suggests that six of the primary environmental features considered so far may be viewed as analogues of vitamins A and D, and that the other six instead parallel vitamins C and E. Suggested AD vitamins are E1 to E6 in Table 1: opportunity for personal control, opportunity for skill use and acquisition, externally-generated goals, variety, environmental clarity, and contact with others. The CE features thought to have a constant effect beyond moderate levels are E7 to E9 for life in general: availability of money, physical security and valued social position. In addition, for the specific domain of paid work, E10 to E12 are also likely to take the CE form: supportive supervision, career outlook, and equity (Warr, 2007).
Why should certain features of the environment (E1 to E6), desirable at moderate levels, become harmful when extremely high? The curvilinear pattern seems likely for both intrinsic reasons and because of associated effects from other features. Very high levels of some environmental characteristics can become punishing in themselves, and they are likely also to be accompanied by extremely high levels of other features that themselves yield an additional decrement.

Thus features identified as “opportunities” (for control and for skill use; E1 and E2) are expected to yield decrements at the extreme right-hand side of Figure 1 as the “opportunity” becomes an “unavoidable requirement” at very high levels; behavior is then constrained and coerced rather than being encouraged or facilitated. For example, environments that call for unremitting control (a very high level of feature E1) through extremely difficult autonomous decision-making and sustained personal responsibility, or which demand continuous use of extremely complex skills (E2), can give rise to overload problems as very high demands exceed personal capabilities (e.g., Burger, 1989). In part, those problems of excessive control arise from an associated shift to a particularly high level of externally-generated goals (E3). When imposed goals become extremely difficult and/or numerous, multiple demands may also become internally contradictory, beyond a person’s ability to cope (e.g., Warr, 2007, Chapter 6).

Extremely high variety in the environment (E4) requires constant switching of attention and activity, with resulting low concentration and limited attainment of single goals; conflict between contradictory goals and entailed actions may then be present (an aspect of E3), and extreme diversity may prohibit the sustained use of skills (E2). Environmental clarity (E5) appears also to be of this “additional decrement” kind. At extremely high levels, there is no uncertainty about the future, events are entirely predictable and never novel, and a fixed set of role requirements permits no new experiences. Such settings prevent risk-taking, contain little potential for skill development, and provide no opportunity to expand one’s control over the environment.

A similar down-turn of the happiness curve is expected at very high levels of contact with other people (E6). Extremely large social inputs can impair wellbeing through overcrowding and absence of privacy in high-density situations or through a lack of personal control, frequent interruptions, and the prevention of valued activities because of other people’s continuing demands. Behavioral procedures and physical structures to prevent excessive social contact have been created in cultures of all kinds.

Several environmental features are thus assumed to be of the “additional decrement” kind, with their positive association with happiness not only leveling off across the moderate to high range but also becoming reversed at very high levels; research evidence from the domain of jobs will be illustrated below. Harmful effects at very high “toxic” levels are likely to be less severe than at very low levels, since deficiencies in a feature (at the left of Figure 1) carry particularly negative implications for the person; and even excessively high levels retain some of the benefits provided in the moderate range.

The average pattern for context-free happiness in Figure 1 is likely to be slightly different for more narrow forms – domain-specific or facet-specific happiness. The relationship between context-free happiness and an environmental feature is determined simultaneously by a wide
range of features, so that multiple aspects of life (e.g., family, social and job domains) cumulatively bear upon context-free happiness in different ways for different people and with potentially inconsistent or conflicting impacts. Average happiness that is context-free is thus created in many different ways. However, more focused forms of happiness (such as job satisfaction rather than life satisfaction) are less subject to influences from other domains, and the mid-range plateau in Figure 1 is expected to be progressively shorter as consideration moves from context-free to more focused experiences, with environment-happiness associations at the facet-specific level tending to be most linear; see Warr (2007, Chapter 4).

The vitamin model also proposes that, across all their higher range, differences in the other six features in Table 1 (E7 to E12) are then uncorrelated with happiness, exhibiting a “constant effect” in that range (CE in Figure 1). Although extremely high levels of these features can be linked to unhappiness in particular cases, on average across people in general further increases in the high to very high range are not likely to have a negative effect. The high-range negative impact proposed for additional-decrement features (above) was suggested to arise from two sources: each one’s inherent harmful impact at very high levels, and associated harm from other variables. Neither of those impacts is expected on average for high levels of the identified constant effect features. Instead, it is assumed that high to very high values of those characteristics are on average accompanied by similar levels of wellbeing.

In all cases, a non-linear association between the level of an environmental feature and people’s happiness is thus proposed for people in general. Environmental increments of a certain size at lower values are suggested to give rise to greater increases in happiness than do increments of the same magnitude at moderate to high values. Some non-linearity of this kind appears to be logically necessary, since feelings are inherently limited in their intensity; it is not possible for them to continue to increase at the same rate without limit. Between-person variation around this average pattern will be considered later.

To what extent have research findings been consistent with these proposals? Only a tiny proportion of studies have examined possible departures from linearity, and many of those are unsuitable for the task since their environmental (e.g., job) scores are restricted in range and do not extend fully from very low to very high levels. Linked to that, research into several characteristics has intentionally focused on only a limited section of high or low scores (only underload or overload, for example).

Empirical evidence about Figure 1 relationships is thus both scarce and often methodologically inadequate. However additional decrements, as proposed for the first six “vitamins”, have been observed in several studies of job-related wellbeing. In respect of E1 (opportunity for personal control), Baltes, Bauer, Bajdo, and Parker (2002) recorded an AD pattern for job satisfaction; the negative impact of very difficult decisions was demonstrated by Anderson (2003) and Burger (1998); and a leveling-off beyond medium levels was present in studies reviewed by Warr (2007). In respect of E2 (opportunity for skill use and acquisition) research extending across a very wide range is not available in job settings, but overlaps of that feature with the curvilinear E1 and E3 suggest that a similar pattern is present.

For externally-generated goals (E3), occupational research restricted to merely low or high demands has shown that wellbeing is, as expected, associated in opposite directions at the
two extremes of the horizontal axis in Figure 1. Across a more comprehensive range of load, additional-decrement patterns have been demonstrated in jobs by, for instance, Karasek (1979) and Warr (1990); and for role clarity (an aspect of E5), significant non-linearity with a decrement at highest levels was observed in job settings by Baltes et al. (2002).

In respect of social contact (E6), research has examined both quantity and quality. In terms of quantity, very low social density can of course yield feelings of loneliness and personal isolation; and very high levels of input from other people have been shown to be undesirable in work settings through studies of open-plan offices (e.g., Brennan, Chugh, & Kline, 2002). An experiment by Deelstra, Peeters, Schaufeli, Stroebe, Zilstra, and van Doornen (2003) arranged for workers in a simulated office setting to receive instrumental assistance from a co-worker, who was in fact a confederate of the investigators. Extremely large amounts of social support of this kind led to a down-turn in affect as in Figure 1. That pattern was also observed in an organizational sample by De Jonge, Reuvers, Houtman, Bongers, and Kompier (2000).

For the other environmental features in Table 1 only a few studies have examined possible non-linearity. However, stabilization of association after moderate quantities has frequently been demonstrated in respect of income (E7) and context-free happiness. A standard increment in income, which can provide a major benefit to people in poverty, yields a smaller benefit to happiness in the wealthy. This constant-effect pattern has been found in comparisons between individuals within a single country (e.g., Diener, Sandvik, Seidlitz, & Diener, 1993) and in terms of average scores for entire nations (e.g., Diener & Seligman, 2004). Examining variation in considerable supervisor behavior (E10), non-linearity at the work-group level (rather than in respect of individuals themselves) was observed by Fleishman and Harris (1962) in a study of subordinates’ grievances and turnover. For equity (E12), Schaufeli’s (2006) review identified non-linear patterns in several occupational studies. This constant-effect (CE) pattern appears likely on conceptual grounds to be widely found: above a moderate level of CE features E7 to E12, further gains (important at low levels) are expected to be of little average consequence.

In some cases, environmental features may combine with each other in an interactive manner, yielding non-linear patterns only in certain combinations. For example, Chung-Yan (2010) found an inverted-U relationship between job complexity and job satisfaction for workers whose job autonomy was low but not for higher-autonomy workers: the tipping point at which additional complexity became undesirable to a job-holder was lower when the freedom to handle that complexity was also low.

In overview, the environmental section of the vitamin model proposes average non-linearity of association between a situation and happiness or unhappiness, with different forms of non-linearity in two sets of features. Additionally but not detailed here because of space limitations, the model contains different predictions for different forms of affective wellbeing as introduced above. For example, job demands that very high are expected and found to have a particularly negative impact in respect of feelings in terms of job-related anxiety-contentment rather than for those along an axis from depression to enthusiasm (Warr, 2007). Another implication of this non-linear account concerns between-study differences. If an examined sample is mainly to the right of Figure 1 in, say, externally-generated demands (E3), a negative association between that feature and happiness is expected. However, if the sample happens to be
more widely spread or located mainly in the middle of the range, a correlation around zero is likely (e.g., Luchman & Gonzáles-Morales, 2013). Observed demands-happiness patterns are thus expected to vary systematically between investigations, and that is indeed the case in occupational research (Crawford et al., 2010, p. 836; Warr, 2007).

**Principal Sources within the Person**

The vitamin model also addresses the ways in which happiness or mental health derive from within a person himself or herself. Two kinds of within-person source are important: longer-term characteristics, such as dispositional or demographic features, and an individual’s way of attending to and thinking about particular situations as they are experienced. In the former respect, personality traits such as neuroticism, extraversion and conscientiousness have been shown to be significantly related to many happiness indicators (e.g., Friedman & Kern, 2014; Inceoglu & Warr, 2011; Steel, Schmidt, & Shultz, 2008), as are scales of self-esteem and self-efficacy (Chang, Ferris, Johnson, Rosen & Tan, 2012). Demographic features such as age (e.g., Blanchflower & Oswald, 2008; Stone, Schwartz, Broderick, & Deaton, 2010) and gender (e.g., Rosenfield & Mouzon, 2013) are also significantly related to some forms of happiness or mental health. In regard to shorter-term processes, feelings are partly a function of several comparative judgments, concerned with where one has been, where one now might be instead, how the future might develop, and assessments of self-efficacy, novelty and personal salience (Warr, 2006). Representing this section of the vitamin model, ten explicit or underlying judgments of those kinds are summarized in Table 2 together with questions that people might ask themselves in respect of each one. Sometimes their operation is outside conscious awareness.

(Table 2 about here)

In respect of judgment J1 in the table, it is regularly found that “downward” comparisons with other people (i.e., judgments made relative to people who are worse-off in the relevant respect) tend to enhance a person’s own happiness (e.g., Wheeler, 2000). Some studies in employment settings have adopted the framework of equity theory to examine social comparisons of several kinds, finding that perceived input-output ratios in comparison with other people’s ratios affect feelings; happiness can depend in part on perceptions of fairness in relation to other people. For example, satisfaction with level of pay has been shown to depend on perceived comparisons with other people’s level relative to their effort, skill and other “inputs” (e.g., Adams 1965) or with income within the local community (Hagerty, 2000). Schaufeli (2006) has documented similar themes in respect of social exchange in organizations, and social-comparative cognitive processes of this kind are likely in respect of several other environmental contributors in Table 1.

Comparisons with other situations (J2 in Table 2) can be of two kinds – in relation to situations that were expected (J2A), or relative to those that otherwise might have occurred (J2B). In the first case, laboratory studies and everyday experience have confirmed that events that are unexpected have a greater impact on happiness or unhappiness than do those that were expected. The J2B comparison involves consideration of either poorer or better counterfactual alternatives, those which are contrary to the facts. People may focus attention on other ways in which their current situation might instead have developed, for example judging that the situation could be a lot worse or better than it is. Upward counterfactual judgments (relative to a more
attractive possibility) tend to evoke unpleasant feelings, whereas downward comparisons (which consider possible alternatives which are worse than reality) can increase happiness (Olson, Buhrman, & Roese, 2000). The process was illustrated by Medvec, Madey and Gilovich (1995) in a study of olympic medalists. Those receiving silver medals for achieving second place tended to be less happy with their position than were bronze medalists in third place. Many second-place winners appeared to base their feelings in part on upward counterfactual comparisons (“I failed to be the best”), whereas athletes in third place were more likely to make downward comparisons, being pleased to have reached the medal positions (“I did better than all the rest”).

Third in Table 2 are assessments of previous and likely future trends (J3). For example (J3A), has this stressful situation been getting better or worse? Have I moved adequately towards a goal? Given that goals may be defined as “internal representations of desired states” (Austin & Vancouver, 1996), good progress towards a goal (a “desired state”) is generally associated with better wellbeing, and low or negative progress gives rise to reduced wellbeing (e.g., Lyubomirsky, Sheldon, & Schkade, 2005).

Table 2 also draws attention to the possible impact on wellbeing of expectations about a future trend (J3B). This has sometimes been examined as perceived probability of success, and positive expectancies of that kind are significantly associated with affective wellbeing (e.g., Emmons, 1986). Furthermore, in settings of multiple objectives both expectancy and perceived proximity to attainment contribute to the allocation of effort to certain goals more than to others (Louro, Pieters, & Zeelenberg, 2007). One implication is that in stressful situations unhappiness is expected in part to be a function of expected future levels of that stress (Meurs & Perrewé, 2011; Warr, 2006). Examining the extent to which employees mentally “switch off” after a working day, Sonnentag and Bayer (2005) concluded it is not only the amount of time pressure that one has faced at work that makes psychological detachment difficult, but also the anticipation that time pressure will continue during the working days to come.

The mental processes reviewed so far (J1 to J3) have their impact on happiness or unhappiness through comparisons with reference standards that are external to the person. J4 to J6 in Table 2 operate instead in relation to a person’s own bench-marks, in terms of self-efficacy, novelty and personal salience.

Self-efficacy (J4 in Table 2) reflects a person’s perception that he or she is competent in relation to present or expected demands. Both retrospective and prospective judgments about situation-related self-efficacy are likely to influence happiness. In the first case, recent behavior is compared against one’s bench-mark level of competence: have I coped well or poorly?. For example, recognition that one has failed to prevent a controllable negative event might give rise to even more unhappiness. Scheck and Kinicki (2000) found that employees’ positive assessments of their self-efficacy during an organizational change were linked to lower perceptions of threat and potential harm. In addition, future-oriented beliefs about one’s personal efficacy in a situation (such as “I’m going to be able to handle this” or “I’m not going to cope”) are expected to influence current happiness, even when a perceived ability to exercise control over that situation is in fact illusory (e.g., Bandura & Locke, 2003).

Also important are a person’s assessments of the novelty or familiarity of a current situation (J5 in Table 2). Continued exposure to a situation tends to reduce its affective potential,
either negative or positive, so that more familiar inputs come to generate feelings that are less intense. In part, you evaluate your position in terms of what you are used to; the same environmental input can be evaluated differently after a period of adaptation.

Biological and psychological processes of habituation have been widely observed, when responses to a stimulus become diminished after repeated presentation of that stimulus. Such a change may be viewed in terms of a raised comparison level, when exposure to earlier stimuli establishes a higher standard against which later stimuli are judged. Over time, instances of a particular stimulus have to exceed that increased threshold in order to influence wellbeing to the same degree. For example, judgmental thresholds may be indexed as the average pleasantness of recent experiences (Parducci, 1995). An increase across time in this average pleasantness implies that a later event or situation has to be still more pleasurable (exceeding the raised judgmental standard) before it has the same impact on wellbeing.

Much research has demonstrated that positive feelings in response to a constant or repeated environmental stimulus can gradually become reduced or even give way to indifference. For example, Brickman, Coates, and Janoff-Bulman (1978) reported adaptation across time in people who had won large sums of money in a state lottery, and also found that victims of serious accidents did not appear as unhappy as might have been expected (see also Oswald and Powdhthavee, 2008). Brickman and colleagues drew attention to a common perceptual error, when observers see victims of misfortune as more distressed than do those people themselves.

Forms of hedonic adaptation have also been illustrated in several projects in organizations. Boswell, Boudreau, and Tichy (2005) studied wellbeing changes longitudinally among employees voluntarily moving into a new job. Overall job satisfaction was found to increase immediately after entry into a new position, but in subsequent years it declined significantly as individuals became adapted to the realities of their role. Daniels and Guppy (1997) examined employees’ strain as a function of particular environmental stressors, finding that experienced strain was less from those stressors that had previously been encountered. In that respect, everyday experience suggests that the capacity to manage a substantial level of demand often becomes ratcheted up after a period of coping with increased pressure; demands that initially caused difficulties and strain can more easily be handled after a person has become adapted to the high demands. A reverse form of habituation is through affective contrast. When a new stimulus is substantially less or more attractive or painful than the one immediately preceding it, it can be experienced as markedly pleasant or unpleasant. Rather than always being fixed, the affective consequences of an environment can depend in part on variables within the person.

Adaptation can operate through other judgments in the framework. For example, changes in J1 and J2B (comparisons with other people and with other possible situations) can contribute to adaptation, as people over time come to reinterpret their situation through new social comparisons or by emphasizing different counterfactual possibilities. In addition, adaptation can give rise to psychological changes in relation to environmental features. For example, environmental clarity (E5 in Table 1) can increase as knowledge develops, and contact with other people (E6) may be modified as mutual learning occurs between an individual and people in his or her setting. Adjustment to a situation may also involve shifts in related goals (E3), as different activities are undertaken or a person’s ability to attain particular objectives becomes
enhanced or reduced.

The happiness or unhappiness of people whose situation has improved or deteriorated is for these reasons likely to return towards an equilibrium level, perhaps being held under personal homeostatic control (Cummins, 2000). The “dynamic equilibrium model” of Headey and Wearing (1992) proposes that each person has a customary level of wellbeing, and that changes from that level are likely to be only temporary as subsequent adaptation occurs. Headey and Wearing observed this pattern in a community sample across a six-year period. The longitudinal pattern reported for job-changers by Boswell et al. (2005) (above) also illustrates a return to baseline happiness levels after a temporary increase. Within banking organizations, Griffin (1991) found that, although the content of employees’ jobs remained enhanced for several years after job redesign, their overall job satisfaction increased only temporarily before falling back to its earlier level. This tendency for happiness and unhappiness to stabilize around a person’s “set point” is reflected in significant associations with personality traits (illustrated above) and in the high consistency of affective states across time (e.g., Trzesniewski, Donnellan, & Robins, 2003).

Finally in Table 2 are judgments about the personal salience of an environmental feature (J6); these are likely to have a moderating influence on happiness in many domains of life. Table 2 points out that relevant themes may be viewed at three levels of generality – concerned with the value attached to role membership (J6A) (for example, the strength of one’s commitment to having a job), the salience of role characteristics (J6B) (e.g., how much one values personal autonomy in a job), or the personal value of core tasks (J6C) (for instance, how much one is attracted to playing football or working with animals) (e.g., Warr, 2007). Given limited space, discussion in the next section will be restricted to J6B, concerned with the role of personal values.

Environmental and Personal Influences in Combination

In bringing together perspectives that are environment-centered and person-centered, joint operation of several forms can be envisaged. For example, the two kinds of variable might have a moderating impact on each other, with one’s association depending on the level of the other; or mutual impact can develop across time, for example as individuals’ cognitive, physical or personality attributes encourage a transition into or out of certain environments or a concentration on certain activities. Joint operation of those kinds can involve personal variables that are either relatively long-term (e.g., dispositional traits) or shorter-term and possibly fluctuating (e.g., situation-specific judgments).

Longer-term personal influences

Mediation of a personality-happiness link has been illustrated in occupational research by Judge, Bono, and Locke (2000) and Grant and Langan-Fox (2007), and evidence is growing about the moderation of associations by relevant aspects of personality; environmental features can have either more or less impact depending on certain dispositional traits. For example, Kahn, Wolfe, Quinn, and Snoek (1964) and Keenan and McBain (1979) showed that the correlation of role ambiguity with aspects of happiness differed between workers with low and high ambiguity-tolerance. Personality moderation has also been reported by, for example, Vroom (1959),
Moderation of this kind has also been demonstrated in respect of workers’ continuing value preferences for particular job features. Individuals who more value a particular job characteristic are more likely to be affected by the degree to which it is present or absent. Much research has confirmed that correlations between relevant job features and job satisfaction are greater for workers who more strongly value the features (e.g., Loher, Noe, Moeller, & Fitzgerald, 1985). However, observed person-situation interactions are not always statistically significant, and an additional, higher-order, moderator is required to account for this variation between studies. Warr and Inceoglu (2015) have suggested a possible explanation in terms of an environmental feature’s “affective strength” – the degree to which assessments are evaluatively similar between people.

Personal dispositions are expected also to influence the non-linearity of associations, being associated with lower or higher tipping-points. For example, substantial task demands can sooner overload workers who are less able, while their more competent colleagues cope with those demands and may seek still more challenge. Greater demands are thus expected to give rise to a leveling-off and down-turn in wellbeing at more moderate levels for less able individuals than for those who can cope. Similarly, low scorers on a particular personality trait will sooner reach a tipping point for trait-relevant environmental features; they do not want still-higher levels of those features in the way that high-trait individuals do. Rego et al. (2009) found that workers with a lower need to belong showed greater non-linearity in the association between degree of social support and affective wellbeing than did high-need workers; for individuals with a lower need for interpersonal input, high levels of support more readily yielded decrements beyond the tipping point than for workers who more sought that support. Between-person differences in tipping-point of this kind are also expected in respect of traits such as (for example) optimism, perfectionism and neuroticism.

Shorter-term personal influences

In these ways environmental features are associated with happiness or unhappiness to different degrees and in different ways according to characteristics of an individual. This pattern is likely to be linked to disposition-related differences in ways of thinking and feeling about one’s environment, and mental processes of that kind require inclusion in studies and models of wellbeing.

A key research requirement is for the creation of robust measures of thought-processes that can be incorporated in such studies. There are undoubtedly problems in the measurement of cognitive activity, and the reliability and validity of some retrospective self-reports is open to question. Nevertheless, given that observed correlations between environmental features and outcome indicators are often only moderate and that causal mechanisms can depend on the mental processes involved, it is essential that empirical research includes measures of at least some of the Table-2 judgments in research in this area. For example, the nature of a person’s social or counterfactual comparisons (J1 and J2B) should be recorded, and preferences (J6B) should routinely be examined within studies of environmental characteristics and their outcomes. Given that the degree of discrepancy between job content and a worker’s preference for that
content is in general linked to job-related wellbeing (e.g., Ostroff & Judge, 2007), more research into specific forms of misfit and different aspects of wellbeing would now be valuable (Warr & Inceoglu, 2012). It is also important to learn about factors linked to the occurrence or non-occurrence of each type of Table-2 judgment. Their prevalence, and thus relative priority and potential impact, is likely to be associated with factors such as the nature of a setting, personality traits, age and gender, and differences in cognitive emphasis are also likely to depend in part on local norms in a group or wider culture (Warr, 2006).

Interventions to enhance happiness

In addition to environment-and-person studies that examine together the two kinds of variable (above), a third combined approach is through individual-level interventions to enhance happiness or mental health. Counseling procedures to reduce strain in a particular setting often seek to encourage relaxation, meditation, stress awareness, more appropriate assertiveness, or improved time management and goal-setting. Some programs have applied themes from cognitive behavioral therapy, in which a trainer and a client work together to identify a person’s negative thoughts and seek to replace those by more constructive routines. Between-person variations in the process and outcome of intervention now deserve additional investigation.

In employment settings, strain management programs have proved to be effective across at least several subsequent weeks (e.g., Richardson & Rothstein, 2008), especially for workers with high initial levels of distress (Flaxman & Bond, 2010). Positive findings in non-job settings have been brought together by Sin & Lyobomirsky (2009) and applied to happiness at work by Warr and Clapperton (2010). Systematic person-centered studies of this kind, introducing and monitoring change and individual variation, are in effect experiments into the impact of potentially important cognitive and affective variables. They take us more directly to potential within-person causal explanations, and are thus desirable for both practical and theoretical reasons – both to reduce strain and also to develop and test models about underlying person-level processes in particular environmental conditions.

Overview and Future Directions

This chapter and its underlying model have emphasized that, in order to understand and enhance mental health and happiness it is essential to bring together aspects of the person and features of an environment. Within that overall need we should explore the presence of non-linear relationships between environmental features and different outcomes, and examine how non-linearity may vary between individuals with different characteristics. More developed understanding of mental processes of the kind illustrated in Table 2 is also required, to move beyond the limited notion of primary appraisal of stressors which is common in this area (e.g., Webster, Beehr, & Love, 2011). In addition, research into happiness needs to extend beyond the traditional emphasis only on affective wellbeing to also consider eudaimonic themes (at present more common in mental-health perspectives), and cyclical processes across time clearly require more extensive investigation.

The vitamin model is an overarching framework which is open to more detailed specification in particular settings. Broad frameworks of this comprehensive kind aim to provide a theoretical fabric and set of constructs within which particular micro-models of component
processes may be investigated. Theories are always open to development and adjustment, and it is essential that research moves to and fro between broad framework-construction as here and the targeted empirical examination of more limited models.

References


Figure 1. The vitamin analogy: proposed "additional decrement" (AD) and "constant effect" (CE) relationships between environmental features and context-free happiness. For context-specific and facet-specific happiness see the text.
Table 1  
**Principal Environmental Characteristics Affecting Happiness or Unhappiness, with Investigated Themes in Job Settings**

<table>
<thead>
<tr>
<th>Environmental feature</th>
<th>Investigated components in paid work</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1. Opportunity for personal control</td>
<td>Personal influence, autonomy, discretion, decision latitude, participation</td>
</tr>
<tr>
<td>E2. Opportunity for skill use and acquisition</td>
<td>A setting’s potential for applying and developing expertise and knowledge</td>
</tr>
<tr>
<td>E3. Externally-generated goals</td>
<td>External demands, challenge, workload, underload and overload, competition from others, task identity, role conflict, work-home conflict, required emotional labor</td>
</tr>
<tr>
<td>E4. Variety</td>
<td>Variability in task content and social contact, varied work location</td>
</tr>
<tr>
<td>E5. Environmental clarity</td>
<td>Predictable outcomes of action, clear requirements, role clarity, task feedback, low future ambiguity</td>
</tr>
<tr>
<td>E6. Contact with others</td>
<td>Quality of social interaction and relationships, quantity of social contact, interdependence with others, team working</td>
</tr>
<tr>
<td>E7. Availability of money</td>
<td>Available income, pay level, payment for results</td>
</tr>
<tr>
<td>E8. Physical security</td>
<td>Working conditions, degree of hazard, quality of equipment</td>
</tr>
<tr>
<td>E9. Valued social position</td>
<td>Significance of a task or role, position in valued groups, contribution to society</td>
</tr>
<tr>
<td>E10. Supportive supervision</td>
<td>Sympathetic consideration by bosses, fair treatment by supervisor, concern for one’s welfare, effective supervisory behavior</td>
</tr>
<tr>
<td>E11. Career outlook</td>
<td>Job security, the opportunity to gain promotion or shift to other roles</td>
</tr>
<tr>
<td>E12. Equity</td>
<td>Justice within one’s organization, fairness in the organization’s relations with society</td>
</tr>
</tbody>
</table>
### Table 2

**Situation-based Mental Processes (not always in current awareness) with Implications for Happiness or Unhappiness**

<table>
<thead>
<tr>
<th>Type of mental process</th>
<th>Illustrative self-questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1. Comparisons with other people</td>
<td>J1. “How does my situation compare with that of another individual/group or people in general?”</td>
</tr>
<tr>
<td>J2. Comparisons with other situations</td>
<td>J2A. “How does my situation compare with the situation I expected?”</td>
</tr>
<tr>
<td>J2A. Previously-expected situation</td>
<td></td>
</tr>
<tr>
<td>J2B. Counterfactual situation(s)</td>
<td>J2B. “How might the situation have developed in other ways?”</td>
</tr>
<tr>
<td>J3. Comparisons with other times</td>
<td>J3A. “Up to now, has the situation deteriorated, improved, or remained unchanged?”</td>
</tr>
<tr>
<td>J3A. Previous trend</td>
<td></td>
</tr>
<tr>
<td>J3B. Expected future trend</td>
<td>J3B. “From now on, is the situation likely to deteriorate, improve, or remain unchanged?”</td>
</tr>
<tr>
<td>J4. Assessment of self-efficacy</td>
<td>J4. “How effective was/is my performance in this situation?”</td>
</tr>
<tr>
<td>J5. Assessment of novelty or familiarity</td>
<td>J5. “To what extent is the situation unusual or previously experienced?”</td>
</tr>
<tr>
<td>J6. Assessment of personal salience/value</td>
<td></td>
</tr>
<tr>
<td>J6A. Rated importance/evaluation of role membership</td>
<td>J6A. “How much do I want to be in this role?”</td>
</tr>
<tr>
<td>J6B. Rated importance/evaluation of a role characteristic</td>
<td>J6B. “How much do I value this feature?”</td>
</tr>
<tr>
<td>J6C. Rated attractiveness of core tasks in the role</td>
<td>J6C. “How much do I like the things I have to do?”</td>
</tr>
</tbody>
</table>