EVOLUTIONARY THEORIES OF EMOTIONAL STATES AND QUALITY OF LIFE

Bachelor Degree Project in Cognitive Neuroscience
Level C, 15 ECTS
Spring term 2011

Naima Röckner

Supervisor: Katja Valli
Examiner: Judith Annett
Evolutionary Theories of Emotional States and Quality Of Life

Submitted by Naima Röckner to the University of Skövde as a final year project towards the degree of B.Sc. in the School of Humanities and Informatics. The project has been supervised by Katja Valli.

2011-06-06

I hereby certify that all material in this final year project which is not my own work has been identified and that no work is included for which a degree has already been conferred on me.

Signature: __________________________________________
Abstract

This review is an exploration of evolutionary theories with the aim to investigate emotional states, well-being and ill-being from an evolutionary perspective. Functional evolutionary theories of emotional states, posit that emotions have evolved as behavior modifiers responding to specific situations that provided fitness benefits in our ancestral past. Exploring this theory gradually uncover clues towards practical, hands-on suggestions as to how to increase life satisfaction and quality of life. Specifically, these suggestions include interacting with kin, reaping stress-reducing and health effects from letting nature be a part of your life, developing deep friendships, and not comparing yourself with the best or most successful individuals in the world.

Keywords: emotional states, evolutionary theories, well-being, ill-being, quality of life, life satisfaction
Table of contents

Introduction .......................................................................................................................... 3

Emotional states and quality of life .................................................................................. 3

Definition of emotional states .......................................................................................... 4

Definition of subjective well-being and ill-being .............................................................. 4

Definition of quality of life ............................................................................................... 5

Evolutionary theories of emotional states and quality of life ......................................... 5

Evolutionary theories of emotional states ........................................................................ 6

Positive and negative emotional states .............................................................................. 6

Well-being and ill-being as behavior modifiers ................................................................. 7

Mismatch theories ............................................................................................................ 9

Mismatch of physical environment: Biophilia hypothesis. ................................................. 10

Mismatch of social environment ....................................................................................... 12

Evolutionary theories on how to increase quality of life ................................................. 13

Darwinian happiness ......................................................................................................... 13

Fourfold quality of life ...................................................................................................... 15

Discussion ........................................................................................................................ 16

Conclusion ......................................................................................................................... 20

References ......................................................................................................................... 21
Introduction

The aim of this paper is to review evolutionary psychological theories of the human emotional states and to discuss any practical implications they may have for quality of life. Positive psychology is a scientifically based branch of psychology that focuses on how to improve the quality of life (Seligman & Csikszentmihalyi, 2000). Yet, positive psychology is not altogether about increasing subjective well-being but also about decreasing the impact of ill-being. Normally the concepts of quality of life, life satisfaction, well-being and ill-being are not examined from the evolutionary perspective. Here, that is what I aim to do, using theories from evolutionary psychology. Human psychological traits are functionally explained within evolutionary psychology as being adaptations to the evolutionary environment (Buss, 1995). In order to understand well-being, ill-being and emotional states, it is important to know how emotional states have evolved in humans and what functions they serve (Buss, 2000).

My aim is to explore evolutionary psychological theories of emotional states and to discuss what impact, if any, these theories have on the quality of life. The review will begin with a presentation of what emotional states are, followed by definitions of well-being, ill-being and quality of life. Then, presentation and exploration of evolutionary theories follows, beginning with evolutionary functions of emotional states that includes positive and negative emotional states and well-being and ill-being, moving on to mismatch theories, and finishing with evolutionary theories on how to increase quality of life.

Emotional states and quality of life

There are many definitions and concepts of emotions, and they are used ambiguously. It is not the goal of this paper to submit a full taxonomy of emotions, nor to give an overview of the research field of emotions. Yet, in order to better understand how emotions have evolved,
Evolutionary Theories of Emotional States and QOL

what function they serve and how emotions are central for how people perceive the quality of their life, there are some concepts that need to be defined.

Definition of emotional states

There are different kinds of emotional states referred to emotions, feelings and moods (Nesse & Ellsworth, 2009). Surprisingly, there is no consensus among scientists how the emotional states are defined. A classical definition of emotions claims that an emotion consists of a physiological part, a subjective experience, and facial expressions communicating internal states to others (Ekman & Davidson, 1994, as cited in Nesse & Ellsworth, 2009). Emotions are externally triggered as a response to threats and possibilities in the environment. What distinguishes feelings from emotions is that feelings are more directly processed input from the sensory organs, although feelings also include the internal conscious experience and motivation (Grinde, 2002). Mood describes the state of mind someone is in at the moment and is more long-lasting than an emotion, which is time-limited and has more prominent physical expression (Nesse & Ellsworth, 2009).

Definition of subjective well-being and ill-being

Subjective well-being consists of the experience of pleasant emotions, cognitive evaluation of fulfillment and satisfaction in life and a balance between positive and negative affective evaluation (Diener, Lucas, & Oishi, 2002; Snyder & Lopez, 2007). Subjective ill-being is composed of excess unpleasant emotions, a negative view on life satisfaction and fulfillment and the balance between positive and negative affect has become unbalanced. Some negative emotions are a natural part of everyday life and not necessarily indicators of ill-being. However, if negative emotions are present over a long period of time, they can interfere with effective functioning which can make life quite unpleasant and even lead to an emotional disorder such as
Evolutionary Theories of Emotional States and QOL

depression (Diener, 2006). There is a difference between being clinically depressed, which is a long-term state, and low mood which is short-term (Nesse, 1998). Depression is characterized by low energy level, feelings of worthlessness, sadness, loss of sexual interest, loss of appetite, weight reduction, fatigue, self-accusatory ideas, and an inability to concentrate and plan for the future (Gullone, 2000). Thus, depression can be seen as an extreme form of ill-being.

**Definition of quality of life**

The classical definition of quality of life refers to how desirable or undesirable individuals evaluate their lives to be. In the classical definition of, quality of life, the environmental circumstances, such as income and success, are often in focus rather than emotional reactions, that are in focus of the concept subjective well-being (Diener, 2006). However, the concept quality of life can also be used in a broader sense that includes the individual’s perceptions, thoughts, feelings, and reactions to the circumstances, in the same manners as in life satisfaction (Diener, 2006). The higher the life satisfaction, the smaller the gap between what individuals want and what they need and have in their life (Snyder & Lopez, 2007). The concept of Darwinian happiness by Grinde (1996) also refers to quality of life in the broad sense of life satisfaction, and how to increase it using psychological insights. In this paper the term quality of life will be used in the broader sense, and is interchangeable with life satisfaction.

**Evolutionary theories of emotional states and quality of life**

It is debated whether the primary function of emotions is to mediate communication, give rise to motivation and cognitive functions, or influence behavior (Nesse, 1998) by creating action readiness (Grinde, 2002). However, in taking the evolutionary perspective it is impossible to reduce emotions to only one primary function but rather to view emotions as a system that leads
to changes in physiology, cognition and behavior in a coordinated way (Cosmides & Tooby, 2000; Nesse R. M., 1990). The emotional and cognitive evaluations, as well as our reactions, are the main components of life satisfaction and quality of life (Diener, 2006). I will first review the theories addressing why emotions evolved in the first place, and what purpose they serve. Then, I will discuss well-being and ill-being from the evolutionary perspective, as behaviorally adaptive reactions to environmental stimuli, and present the mismatch-theories that state that our ill-being is dependent upon the dramatic cleft between the environment our emotions evolved in and the environment we live in today. Finally, I will discuss life satisfaction in the light of the evolutionary perspective.

**Evolutionary theories of emotional states**

The leading evolutionary theory states that emotions have evolved from recurring situations in ancestral history, and they yielded fitness benefits by transforming behavior (Nesse, 2004). The emotional modification of behavior assisted the individual in more successfully coping with opportunities and threats in the environment. The greater the impact on fitness the emotion had in a given ancestral situation, the more defined the emotion became. In contrast, the less impact an emotion had on fitness, the less defined the emotion became (Nesse, 1998). In the following subsections this theory will be further investigated, starting with positive and negative emotional states, and finishing with well-being and ill-being as behavior modifiers.

**Positive and negative emotional states.**

Human thoughts, goals, plans and actions mostly have the function to induce positive emotions or to avoid negative emotions, which is why each emotion has a hedonic valence (Nesse, 1990). The hedonic valence is the pleasant or unpleasant affective component. Positive (pleasant) emotions are felt when fitness advantages are to be gained, encouraging a specific
behavior. On the contrary, negative (unpleasant) emotions are experienced when our fitness is threatened by behavior that can be costly from a fitness perspective. A potentially harmful situation that causes negative emotions is something that cannot be ignored and urges to action, thus, negative emotions are strong motivational factors. In contrast, a positive emotion signals that everything is fine, and passivity follows because the goal is reached (Cacioppo & Gardner, 1999). Emotions did not evolve to provide individual happiness, having normal functioning or relate to fellow humans, but rather to maximize reproductive success (Gullone, 2000; Nesse, 2004).

In the ancestral past, emotions that discouraged behavior in order to help avoiding danger, probably occurred more frequently than emotions signaling status quo, and therefore negative emotions evolved to be more distinct (Nesse & Ellsworth, 2009). This dominance of the impact of negative emotions is called negativity bias. However, according to positivity offset, humans tend to view events in a slightly positive way and this is thought to have encouraged exploration, making certain that our ancestors did not miss opportunities (Cacioppo & Gardner, 1999).

**Well-being and ill-being as behavior modifiers.**

Negative emotional states, such as low mood, can be seen as having evolved as defenses (Nesse, 1998). The evolutionary theory about the prolonged state of extreme ill-being, that is, depression, suggests that depression keeps us from engaging in activities that do not contribute to or risk our fitness (Nesse, 2004). There are also evolved mechanisms that produce happiness. Buss (2000) highlights social bonds as especially important to our well-being such as close kinship, deep friendship, mating bonds and cooperative coalitions. Social context do not only
Evolutionary Theories of Emotional States and QOL

produce happiness, but are also a source of ill-being due to social contracts that have not been met.

The function of emotions is to motivate us, and thus the outcomes of events, whether gain or loss, also affect our emotional responses (Nesse, 1998). Low mood and sadness are states that are triggered by loss while happiness and pleasure are emotional states triggered by gain. These responses may sometimes even occur when the outcomes are only imagined, not realized. Situations that include the prospect of gain or loss, opportunity or risk, such as a mate, children, kin, health, friends, status, reputation, group membership, abilities or property, thus give rise to emotions. Nesse (1998) views each emotion as a specific response to a particular threat or opportunity (See Table 1.). According to Nesse (1998), the purpose of these emotional states can be to prevent future losses, motivate the learning new adaptive strategies, and recovery or replacement of lost resources.

Table 1. The instrumental emotions. Adapted from Nesse, 1998, p. 400.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Before</th>
<th>After</th>
<th>Alternative outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>Desire</td>
<td>Pleasure</td>
<td>(Disappointment)</td>
</tr>
<tr>
<td>Social</td>
<td>Hope</td>
<td>Happiness</td>
<td></td>
</tr>
<tr>
<td>Loss</td>
<td>Fear</td>
<td>Pain</td>
<td>(Relief)</td>
</tr>
<tr>
<td>Physical</td>
<td>Anxiety</td>
<td>Sadness</td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For example, hope for a successful outcome may result in either happiness or disappointment, and anxiety experienced before an event may lead to either relief or sadness (Nesse, 1998). Extreme form of sadness is then again conceptualized as depression.

Hopelessness and lack of initiative are the paradox of depression because rather than becoming passive, it might be more useful to get energized and search for opportunities.
However, there are high costs to get involved with any new enterprises and uncertainty as to outcomes. Depressive symptoms simply warn us that the risks outweigh the possible benefits, thus serving an adaptive function (Nesse, 1998).

The protective mechanisms, like depression, kick in when the likelihood of harm is greater than the cost of response. If the cost is likely to be low, the response will occur more often than would seem necessary, this is called the smoke detector principle (Nesse, 2004). This principle acts on the premise that the low cost of false alarms is acceptable due to the high cost of repeatedly failing to produce the right response. This protective smoke detector mechanism would indicate that depression is not a defect, but an adaptive response that just is too easily triggered in our society.

Mismatch theories

The evolutionary psychological mismatch theory states that there are differences between how people live now in modern day society and how our ancestors lived. It also problematizes the discrepancy between the slow process of evolution and the rapid changes that can take place in the social and physical environment (Buss, 2000). According to the mismatch theory, the presence of negative emotional states and depression result from not living in unison with our evolved nature.

There are many differences between the world our ancestors lived in and our modern world. Today medical progress, tools, and other technologies have helped us overcome some of the problems our ancestors faced, such as predators, diseases, forces of nature, and food supply. In contrast, the problems that we face today are such as drug addiction, energy overconsumption, sedentary lifestyle and subsequent diseases (Buss, 2000).
The physical environment that our ancestors lived in was a natural environment supplying resources, shelter, food and water (Grinde & Patil, 2009). Hominids have lived for some two million years on the savanna of Africa and savanna-like features are still what humans prefer when building parks and gardens in our urban environments (Gullone, 2000). Socially, our ancestors lived their lives as hunter-gatherers in small groups of up to 50 people, had not more than a few potential mates to choose from and had elaborate kin networks. Now we live in urban metropolises, have thousands of potential mates, and family and kin have stepped back in favor for isolated nuclear families (Buss, 2000).

**Mismatch of physical environment: Biophilia hypothesis.**

The biophilia hypothesis by Wilson (1984 as cited in Wilson, 1993) is built on the mismatch theory and more specifically on the mismatch between the natural environment and the modern environment (Grinde & Patil, 2009). The biophilia theory suggests that humans have an innate tendency to direct attention towards plants and other living things because historically nature has been essential for our survival (Wilson, 1993). The rewards and punishments from nature were quickly learned and remembered by our ancestors. Biophilia derives from behaviors leading to approach and rewards whereas biophobia derives from avoidance behavior and punishments (Ulrich, 1993). These basic rules of learning have not changed in the same pace as the environment. The natural environment is the setting where our emotional states and behavioral responses evolved and therefore those mechanisms are still influenced by nature (Ulrich, 1993).

The biophilia theory is supported by the positive effects on well-being by exposure to nature (Grinde & Patil, 2009; Ulrich, 1993), the strong response and phobias connected to evolutionarily significant stimuli (Ulrich, 1993), the aesthetic preferences for savanna-like
Evolutionary Theories of Emotional States and QOL

landscapes and the essential features of natural landscapes (Gullone, 2000; Ulrich, 1993). The empirical support for the biophilia theory derives in part from research on biophobia. For example, Lane and Gullone (1999) found that the most common self-generated fears of adolescents are congruent with dangers in the environment of evolutionary adaptedness (EEA), such as spiders, snakes, high places and enclosed spaces. Humans also tend to have a more prominent reaction to emotional stimuli that would have been threats in the EEA than modern day stimuli (Gullone, 2000).

The relationship humans have with nature has elements of naturalistic awe and pleasure, and exposure to nature has stress reduction, restoration and recovery effects (Ulrich, Simons, Losito, Fiorito, Miles, & Zelson, 1991). The restorative experience has been found to incorporate elements of attention or interest, to increase positive affect and decrease negative effect (Ulrich, 1993). Recovery effects can, for example, be seen in a study by Ulrich (1984) where patients recovered faster after surgery, they had less negative remarks in the nurses’ notes and fewer doses of painkillers when they inhabited a room with a view of trees than patients with a view of a brick wall. Another study shows faster stress recovery with sound of nature than with a noisy environment (Alvarsson, Wiens, & Nilsson, 2010). Additionally, restoration effects of nature have been seen in studies using films with naturalistic scenery (van den Berg, Hartig, & Staats, 2007). Also studies of outdoor activity (Pretty, Peacock, Sellens, & Griffin, 2005), therapeutic use of nature, view of nature (Ulrich, 1984) and potted plants indoors, and a connectedness with nature (Howell, Dopko, Passmore, & Buro, 2011) show the positive effect nature has on well-being (Grinde & Patil, 2009). In contrast, depriving our minds of green surroundings affects our mood negatively (Grinde & Patil, 2009).
In sum, researchers agree that the biophilia theory has merit (Grinde & Patil, 2009; Gullone, 2000; Ulrich, 1993). Exactly how the positive effect the natural environment has on human mind is mediated is not yet known, but that such an effect exists is shown in a large number of studies. The consensus in this research field could be summarized that nature has a positive effect on health and well-being, can induce positive changes in cognition and emotion, and have stress reducing effects (Gullone, 2000). The physical benefits include increased longevity (Takano, Nakamura, & Watanabe, 2002) and self-reported health (Grinde & Patil, 2009).

Mismatch of social environment.

In order to enjoy life, fulfillment of the basic needs for food, shelter, and good health, and the secondary needs of social life, with family, close friends and associations with other people, are necessary (Grinde, 1996). Both how well our basic physiological needs are met and the way we socialize with others has changed drastically since ancestral days. We have innate cooperative tendencies but expect social contracts to be upheld as well as to gain something in return. This reciprocity worked well in small tribes, but it does not work equally well in the modern society when we do not have a personal relationship with most people we meet (Grinde, 1996). The consequences of this have been suggested to be bad conscience, guilt and the feeling of being deceived and cheated which may then turn into hostility (Grinde, 1996).

Natural selection has produced competitive mechanisms that function to benefit the individual at the expense of others. Nesse and Williams (1994, as cited in Buss, 2000) offer the hypothesis that mass communication gathers everyone into one competitive group and even destroys our more intimate social networks. In our high-tech world we get overexposed to attractive people through media, which causes less satisfaction with our existing mate
relationships and decreases self-esteem (Buss, 2000). In the smaller group of our ancestors it was easier to have a valued skill and be best at something, compared to being forced to compete with everyone else in the world. According to the social mismatch theory, increase in depression originates from self-perceived failures as a result of incorrect comparisons between people's lives and the lives they see in the media. The factor that may contribute to high levels of depression is the social anonymity, social isolation and loss of social support from kin (Buss, 2000).

**Evolutionary theories on how to increase quality of life**

With knowledge from the evolutionary psychological perspective can the quality of life be improved? In evolutionary psychology, the theory is that survival and reproductive success rather than happiness have been selected for. There are two views of looking at happiness over time, a positive and a negative view, the positive resting on the achievements of modern society with medical advancements, comfort of living conditions, and relative safety from accidents and catastrophes. The negative view states that life is getting worse nowadays because of social problems such as criminality, drug abuse and injustice in resource distribution. One of the primary arguments against this view is that the kind of life that society encourages is far from the kind of life that is promoted by human nature (Veenhoven, 2010). Nevertheless, there are theories which bring together evolutionary theories and how to improve quality of life.

**Darwinian happiness.**

The theory of Darwinian happiness is Grinde’s (1996) idea of how the evolutionary perspective can be helpful in improving people’s lives on an individual level and through all society. Darwinian happiness is based on a biological understanding of quality of life and emotions. In order to increase quality of life we need to avoid stress by following our innate tendencies and use the brain’s reward system to our advantage (Grinde, 1996).
Grinde (1996) uses the concept of stress in a broad sense, including physiological and emotional strain that occurs due to not living in our natural environment, which adds up to discord. The concept of discord refers to the negative effect on quality of life and health that results from mismatch due to lack of visual input from plants and nature in our daily life (Grinde, 1996; Grinde & Patil, 2009). Discord also refers to social mismatch, such as living alone, not having close relationships and meeting many strangers every day. For example, the natural emotional response when meeting strangers is fear and curiosity. In modern society it is not socially and culturally acceptable to make eye contact or to make inquiries (curiosity), so we modify our behavior accordingly. This suppression of behavior increases stress which causes negative affect and deteriorating well-being, which in turn can lead to headaches, depression and aggression (Grinde, 1996). Darwinian happiness is combining physical and social mismatch and the evolutionary theory of emotions.

In addition of trying to decrease mismatch or discord from our lives, Darwinian happiness theory encourages us to take advantage of the brain’s reward and punishment systems. Although stimulating the brain’s pleasure center by eating sugar, taking stimulants or engaging in sex, can be rewarding in moderate doses, excess use can lead to abuse that have negative effects for our fitness (Grinde, 1996). According to Grinde (1996), it is a better strategy to aim for long lasting pleasure by maximizing positive sensations and minimizing negative sensations, rather than having immediate pleasure that might be harmful in the long run.

In summary, Darwinian happiness urges us to try to diminish discord from our lives, and instead of give in to pleasurable urges that could be harmful in the long run, search for long-lasting pleasure. Grinde (1996) proposes that happiness would be obtained by fulfilling both physiological and social basic needs, and then fill our life with the extras, such as, art, music,
sports, dance, and intellectual tasks. Then, according to Grinde (1996), we reap benefits of pleasure in the form of high quality of life.

**Fourfold quality of life.**

Veenhoven (2000; 2010) has divided the quality of life into four different aspects presented in a matrix (see Table 2 below). The two rows represent the potential and outcomes, and the columns represent external circumstances and internal qualities of the individual.

Table 2. The four qualities of life and the evolutionary psychological analogues in brackets. Adapted from Veenhoven (2010, pp. 109, 111).

<table>
<thead>
<tr>
<th>External qualities</th>
<th>Internal qualities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Life potential</strong></td>
<td><strong>Livability of environment</strong> (Biotope)</td>
</tr>
<tr>
<td></td>
<td><strong>Life-ability of the person</strong> (Fitness)</td>
</tr>
<tr>
<td><strong>Life results</strong></td>
<td><strong>Utility of life</strong> (Continuation of species ecological function)</td>
</tr>
<tr>
<td></td>
<td><strong>Enjoyment of life</strong> (Survival)</td>
</tr>
</tbody>
</table>

The first quadrant, *Livability of the environment*, refers to the habitability of the environment and living quarters. This would correspond to the habitat or the natural environment of our ancestors with food, shelter and social competition. How well an individual is equipped to cope with problems that arise in life is represented in *Life-ability of the person*. Functional defects, mental and physical health issues, and positive health factors such as resilience, energy, autonomy, creativity and use of strengths, are life-abilities according to Veenhoven (2000; 2010). In evolutionary psychology, this quadrant represents fitness which is the organism’s capability to thrive in the environment. In *Utility of life*, Veenhoven (2000; 2010) communicates that high
quality of life includes a societal perspective, living in harmony with the environment and contributing to society. Biologically, this corresponds to fitting into one’s ecological niche, and contributing to the survival of the species. The final quadrant, *Enjoyment of life*, represents the inner outcomes of life. This is the subjectively experienced quality of life, and includes subjective well-being, life satisfaction and happiness. Happiness is defined as to what degree individuals like the lives they lead (Veenhoven, 2000; 2010). The corresponding evolutionary term of enjoyment of life is depicted as *Survival*, the outcome of the individual’s fitness and adaptation to the environment.

Veenhoven’s (2000; 2010) model of quality of life is in reality problematic to convert into actual measurements. Happiness or enjoyment of life is a subjective state of mind that can only be measured by individual feedback. The other quadrants are almost impossible to measure at all. However, according to Veenhoven (2000; 2010), there are valuable conclusions to be inferred from the enjoyment of life/survival quadrant alone. If people are enjoying their life, their environment, internal life-ability and utility of life, these factors are apparently sufficiently good to produce happiness (Veenhoven, 2000; 2010). Thus, positive affect indicates good adaptation to both the external and the internal circumstances of life, as well as a good fit between life potential and life results, causing enjoyment of life. While negative affect is an indicator of non-optimal level of adaptation to circumstances and a gap between the potential and the results, which increases the likelihood that the individual is doing poorly in life (Veenhoven, 2000; 2010).

**Discussion**

My aim for this review was to explore evolutionary psychological theories of the human emotional states and to discuss any practical implications for quality of life. In order to not have
to re-invent the wheel when it comes to increasing quality of life and life satisfaction, it is important to learn from the past, and learn what the mechanisms are that make up the building blocks of well-being and ill-being.

Emotional states evolved from situations in ancestral history where emotions influenced behavior in a way that increased fitness (Nesse, 2004). This modified behavior enabled the individual to cope with opportunities and threats in that specific situation. Positive emotions are motivators to encourage approach behavior when advantages are present and negative emotions motivate withdrawal from dangerous or fitness-reducing situations. It is important to keep in mind that emotions did not evolve to produce happiness, but to optimize reproductive success (Gullone, 2000; Nesse, 2004). Fitness gained by coping adaptively with fitness-reducing situations was probably greater than fitness lost by approaching situations that may or may not lead to fitness behavior or other situations. This might explain why we are biased to give more attention to problems, remember them, and why negative emotions are more distinct than positive (Nesse & Ellsworth, 2009).

Negative emotional states, such as depression, may have evolved as a defense mechanism to prevent engage in potentially costly behavior (Nesse, 1998; 2004). This mechanism is initiated when probability of harm is greater than the cost of the response. The motivational aspects of emotional states are closely connected to prospect of gain and loss of physical or social resources (Nesse, 1998). Negative emotional states are triggered by loss while positive emotional states are triggered by gain.

The mismatch theory states that there are differences between how people live now in modern day society and how our ancestors lived, and that negative emotional states result from living in harmony with our human nature. The theory focusing on the mismatch of the physical
environment is called the biophilia hypothesis. Numerous scientific results support the biophilia theory, for example positive effects of well-being by exposure to nature (Grinde & Patil, 2009). Studies of outdoor activity, having a view of nature, and potted plants indoors, show the positive effect that nature has on well-being (Grinde & Patil, 2009). Not only does nature have a positive effect on health and well-being but can also cause positive changes in cognition and emotion, and might have stress reducing effects (Gullone, 2000). The full extent of how the positive effect of nature is mediated is not yet shown.

Mismatch of the social environment of our ancestors compared to the present, may be one source of ill-being. For example, mass communication makes us compete against all other humans, instead of the few individuals a group used to be composed of (Buss, 2000). But not all is worse, and theories have emerged on how to increase life satisfaction by drawing on evolutionary ideas of well-being and ill-being. According to Darwinian happiness, quality of life is increased by fulfilling basic physiological and social needs, in other words by living in harmony with our human nature, and to use the brain’s reward system to induce positive emotions and reduce negative emotions (Grinde, 1996). To top life off, we can indulge in sports, music, art, dance, and intellectual tasks. This “recipe” for increased life satisfaction is very similar to Veenhoven’s (2000; 2010) fourfold quality of life. The gist of it is that quality of life can be measured by how much someone enjoys his or her life, and that tells us whether the environment, the inner life abilities, and the social contributions are enough to produce happiness.

It is reasonable to speculate that the large discrepancies between ancestral and modern environments create unanticipated psychological problems and reduce the quality of life. Still there are things we can do in our lives to improve the quality of it. Buss (2000) identifies
Evolutionary Theories of Emotional States and QOL

compromises that bring together the best of our ancestor’s way of life and the advantages from modern society. For example, the use modern technology to sustain and establish emotional closeness to kin is recommended, even if there is geographical separation, and, deep friendships can partially make up for not being close to kin (Buss, 2000). From the biophilia theory we can take the advice that negative effect of mismatch can be reduced by increasing visual input from plants, for example, by having potted plants indoors, building houses and living quarters with a view of nature, and spending time at parks, in gardens or in the wilderness (Grinde & Patil, 2009). The second best choice would be to increase visual input by surrounding us with pictures that show natural features. The stress reducing effect of nature can be a key to health benefits because even small amount of exposure to nature has stress reducing effects, and therefore, the negative effects of stress, such as cardiovascular disorders and depression, could be reduced (Grinde & Patil, 2009). The findings within biophilia research have shown other correlations to exposure to nature that promote health and well-being, such as physical activity, social elements (if nature is experienced with others) and escape from everyday routines and demands (Grinde & Patil, 2009).

In summary, there is a common pattern in both evolutionary foundations for our emotional states and how to increase the quality of life. The pattern is to spend time in nature and try to adapt our urban way of life and to use the advantages from our modern era and use them in accordance with our human nature. In order to reduce negative emotions, reachable life goals can be set and we are encouraged not to compare our lives with the most successful individuals in the world. Have big dreams and goals, but if they are unattainable, revalue their importance.
Conclusion

In having explored the human emotional states from an evolutionary psychological perspective, I have found that there are theories that support practical implementations for quality of life. The findings have shown that there are fundamental benefits to be gained by looking at the evolution of emotional states in order to increase quality of life. In conclusion, insights from evolutionary theories can aid anyone wanting to improve the quality of their lives.
References


