

THE ECOTHERAPEUTIC POTENTIAL OF NATURE AND TAKING CARE OF ONE'S HEALTH

Hana HORKÁ, Zdeněk HROMÁDKA

Abstract: *The authors focus on improving the quality of life by renewing the relationship between humans and nature in terms of its ecotherapeutic potential. The positive influence of nature on physical and mental health is examined in the context of environmental education and health education. The authors relate the individual components of ecotherapy to the development of ecological feeling, ecological thinking and learning to search for the meaning of life. To illustrate, they present the results of a study exploring how students studying to become teachers of the first five years of primary school associate taking care of one's health with relaxation in a natural environment.*

Keywords: *quality of life, environmental education, ecotherapy, forms of ecotherapy, ecotherapeutic potential of nature, perception of nature, relaxation in nature, taking care of one's health, health education*

About the quality of human life

Quality of life is the fundamental dimension of human existence. It is the right and responsibility of every civilized person; their everyday behaviour shows the quality of his/her life. According to the World Health Organization quality of life means “*an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.*” (WHO QoL Group, Geneva 1993). This concept is comprehensively influenced by the physical health and mental state of a person, the level of his independence and relationships to significant features of the environment. Quality of life is threatened by the modern way of life and the conditions in which a person lives. Among reasons, we find not only the ecological dangers of the world, but also “*the inability to relax, regenerate mental and physical powers (we sleep about 20% less than at the beginning of the 20th century)*” (ZELINA, 2001, pg. 41). Technological progress, various telecommunication and information technologies certainly make human life easier to a certain extent, but on the other hand they also cause stress. The busy life of civilized society is

a source of constant mental and physical tension. It is possible to minimize the harmful effects of stress, mental and muscular tension by relaxing.¹

The subject of our interest is relaxation in nature, or the therapeutic potential of nature as a current and timeless topic, which is connected to and, to a certain extent, conditioned by the relationship a person has to nature and the environment. We would like to contribute to the ongoing discussion about the change of the man–nature relationship in ecopedagogical publications, which is mostly referred to in the context of the goal of “contributing to considerate and economical behaviour towards the environment”. In our case we would like to point out that it is necessary to renew a relationship to nature as a therapeutic factor.

According to J. Krajhanzl the so-called “personal characteristics of one’s relationship to nature” illustrates what relationship to nature a person has. It reflects the way in which people deal with nature and the environment (environmental needs and attitudes) while also taking into account their spiritual potential (capabilities). The author clearly defines the characteristics in the five following areas: 1. the need to connect with nature; 2. certain abilities to connect with nature – performance focused and connected with proficiency and resistance; 3. environmental sensitivity representing the difference of how “deeply” people experience their contact with nature, their observation and responsiveness to nature; 4. ecological awareness²; 5. a person’s attitude to nature (master, steward, partner, religious, hostile and the like. (see e.g. Franěk); whose core characterizes the subdimension of dominance and submission towards nature, kinship (affiliation) and enmity (hostility) towards nature. These areas correspond to environmental education and its contents on the cognitive, affective and psychomotor levels. From a pedagogical point of view, it is important to take into consideration that environmental behaviour also influences a person’s other mental processes, features, characters and states that are directly focused on nature (extra-human world) and environment (e.g. “*adaptation to the environment, proficiency to cultivate potatoes, existential anxiety in the face of the ecological crisis, an animistic perception of nature at the pre-school age, anger with the architects of forest clear cuttings...*”)“ (cp. KRAJHANZL).

Nature as a recreational environment or the (eco)therapeutic potential of nature

The personal characteristics of one’s relationship towards nature is reflected in the approach to taking care of his/her health, in our case in the approach to the acceptance of the extra-productive function of nature; that is, of its curative effect on

1 Most of all, this concerns relaxing the striated skeletal muscles, which contract and shrink under our voluntary control. Thanks to perfect relaxation we contribute to higher and more effective working productivity of not only the individual muscles, but also the psychological side and, in fact, the whole body. Conscious relaxation initiates regeneration processes that take place in the muscles and that, aside from renewing energy, remove toxic waste substances formed during metabolism. Regular relaxation stalls and slows down aging of the whole organism and positively strengthens a person’s state of mind.

2 According to J. Krajhanzl, a person with a low ecological awareness to the protection of nature is “*indifferent and uninterested*”. In worse cases he can actually be sharply opposed to environmentalism. What is certain though is that he does not think twice when doing activities that damage and destroy the environment.”

a person at the therapeutic, relaxation and recreational level. Our surveys of children and young people have shown that nature is perceived as a place for various activities (from excursions into nature to taking care of plants and animals); as a place with beneficial effects (there one can find quiet, calm, comfort, fresh air, greenery, etc.), and we therefore rest, relax and gather strength there. It is commendable that respondents are aware of nature's function in ensuring not only the biological, but also the spiritual and psychological integrity and reproduction of a person, and that nature takes care of not only "a healthy body but also healthy soul, and along with an adequately extensive culture it also develops one's biologically given humanity." (ŠMAJS, 2005, pg. 93)

The ecotherapeutic potential of nature

Nature fulfils a visual quality that is typical for a recreative environment. Kaplan and Kaplan (1989) mention *fascination* (through natural appeal and attractiveness), *complexity* and *coherence* (composed of many diverse elements that match one another) and *extent* (making it possible to conceive space and its continuation). Nature is able to awaken the imagination and feelings that can strengthen and cleanse us. They discuss the ecotherapeutic potential of nature, because the natural environment can positively support the therapeutic process.³

Ecotherapy aids in elevating a person's quality of life by actualising his relationship to nature "not only in the sense of the object outside the person, but also as an actual 'source' of his own biological existence, involving, thus, even his 'psychological and social existence'" (VALENTA, 2008). According to Jordán (ROE, 2008), ecotherapy is established on the awareness of the beauty and spirituality of nature as a therapeutic resource; on using the time spent outdoors and activities done in wide-open spaces also in the area of environmental protection or cultivation for therapeutic purposes; overcoming the anxiety caused by environmental threats.

Ecotherapy happens in various forms – from a client's relatively solitary contact with the natural countryside (from their walks to deserted places, to challenging 'outdoor' types of visiting the outdoors) to 'gardening', painting, taking photographs or tending plants and animals. Cultivating vegetables, flowers, and certain types of fruit is not only a suitable way to relax after some stressful work in today's informatized society, but it is also possibly the only certain way to show (without using abstract concepts and patterns) especially small children "what has been hidden against their will by an anti-natural society: creativity, mystery, dominance and beauty of terrestrial life" (ŠMAJS, 2008, pg. 33).

Ecotherapy works with the senses and feelings in relation to nature and with how we approach and interpret the world, i.e. with the personal 'ecological story' of every individual. What is important for such therapy is the understanding of the wider connections of one's existence as it pursues change of 'oneself' as a necessary part of changing

³ Ecotherapy represents the unification of the ideas of ecopsychology and psychotherapy. It makes use of methods that help clients better connect with nature in the world around them and then, consequently, with nature inside themselves. Ecotherapy takes advantage of psychotherapeutic principles as well as the therapeutic potential of nature (in more detail see Kulhavý, 2009).

the ecological balance. J. Valenta (2008) defines this as ecotherapy; *“here it perhaps approaches a kind of ‘ecological logoeducation’, i.e. fostering a search for the meaning of life – and for ‘things’ – in natural equilibrium.”*

It has been shown that though a society of prosperity is capable of satisfying practically all of a person’s needs, one need is not met. This is “the desire for meaning”⁴, i.e. the need to find meaning in one’s life, in each of life’s situations – and devote one’s self to fulfilling that meaning. Frustration caused by this loss of meaning leads to the search for a substitute (drugs, extremism, consumption) and thus deepens the false circle of problems of a consumer society. Even an addiction to bad environment is a possible cause of some of civilization’s problems: an increasing incidence of neurosis, a pervasive sense of boredom, alienation and ‘lostness’ of young people in cities, high crime rate, aggressiveness, addiction of young people to drugs, gambling, etc.

There are studies carried out in hospitals, dentist offices and prisons (e.g. KAHN, 1997) which have shown the positive effects of the natural environment on a person’s physiological and emotional well-being. The positive influence of nature and natural scenery on human physical, psychological and social health has also been confirmed by a series of studies (ULRICH and colleagues, 1991; FRANĚK, 2001; KULHAVÝ, 2009). Pedagogues cannot fail to see the information showing that some children and young people avoid practical contact with nature and are basically afraid of it. Three main factors have been indicated to cause a negative reaction to the outdoors: 1. Fear of coming into contact with feared objects or situations; 2. A predisposition to an aversion of the outdoors and 3. Expecting certain degrees of comfort thanks to life in a modern and comfortable environment. (Franěk 2001 according to Bixler; Floyd, 1997). Understanding negative perceptions of the outdoors is very important for environmental education and education for a healthy life, especially in the context of changing conditions to fulfil their goals. Even our teachers have noticed that some children experience noticeably negative feelings on excursions into the outdoors – especially fear of the forest, fear of wild animals, insects and spiders, they loathe many things and they complain that they are cold or hot, they grumble about the rain and hardly tolerate the wind. In other words, nature for them is “terrifying, disgusting and uncomfortable”. Research indicates that those who have the least direct experience with nature have the greatest fear of the outdoors. The responsibility for their anxiety lies mostly in the way that snakes, insects and spiders are depicted in children’s books, horror films, etc. (Koucká, 2006). While fear is caused by anxiety from things in the outdoors, a reaction of aversion may be based on the fact that we perceive the outdoor environment as something unclean. One huge influence on the formation of such an aversion to the outdoors environment is lectures on the invisible “bacteria”. Several studies have given a very bizarre image of bacteria – on where they come from and what they look like. These images

4 See Frankl’s studies that proved the highest occurrence of the so-called “existential neurosis” (caused by the loss of the meaning of life),

5 Why don’t we compare it to the leaflets on display at Czech medical institutions? Do they show visits to the outdoors as desirable or do they mostly warn people about “ticks, algae, ultraviolet rays, mushrooms, germs that can stick to forest fruits from the saliva and fecal matter wild animals leave, etc.”?? (STREJĚKOVÁ, 2005)

have been formed mostly through commercials⁵ for pesticides and cleaning products (FRANĚK, 2001).

It is true that neither the nature “out of doors” nor our own internal nature, or naturalness, completely tell us how to live in harmony with the environment. Cultural bearings play an important role – for example in the form of accepted behavioural norms and manners. It is the words and actions of parents, teachers, and pedagogical aid workers and what is shown in the media (children’s books and on television) that make nature worth loving and protecting (HAAN, 1993, pgs. 18-20). Therefore, it is evident that the process of personality development does not happen without a solid emotional bond between children and their mothers, nor does it happen without the formative influence of the natural environment, that is, without the “second mother” – nature, but also not without the sociocultural collective as the “third mother”. (ŠMAJS, 2005, pg. 94) Among this collective are teachers, or educators, in the role of guides, partners, facilitators and the like, who are able to find the ethical dimension of environmentalism, cultivate respect for other forms of life and show that nature is, in its own inimitable way, beautiful and interesting as an object of study and is a sought-after object for the most diverse of free-time activities (VIŠŇÁK, 2009). They can cope with the impending problems of “virtual reality” and environmental isolation that are leading to an inability to see life in a real context.

What do students of Education think about relaxation in the outdoors – a survey of students of Education for Primary School at Pedagogical Faculty of Masaryk University

1. Sample population

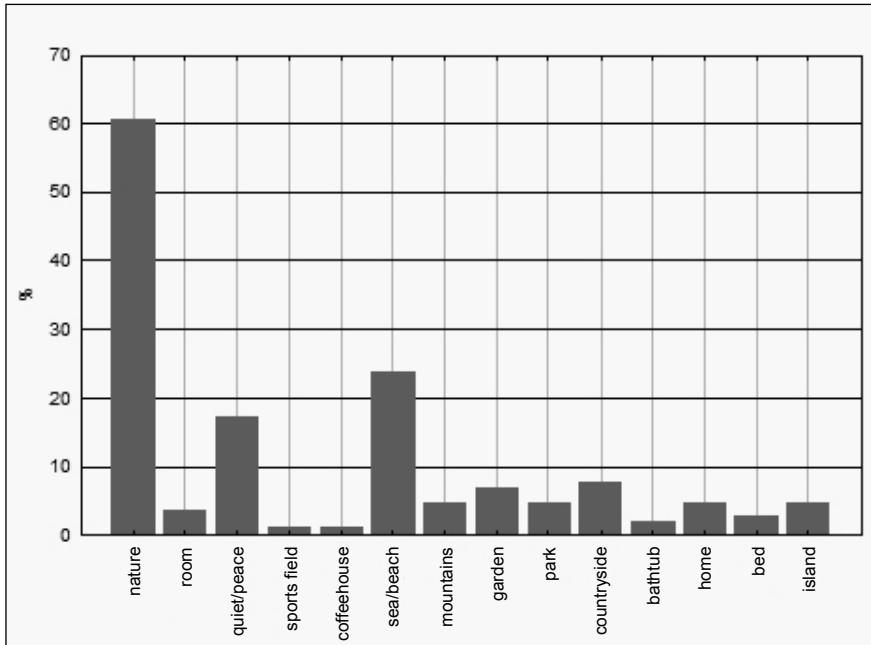
The sample population is composed of the judgement sample of students of the first, second and third year of Education for Primary School Population N = 104 (98 women, 6 men). In regard to the nature of the sample (judgement, not random) and size of the population, its representativeness makes it considerably limited.

2. Descriptive part of the analysis of the survey results

We present the results of the descriptive survey. We assumed that respondents would associate health with relaxation, relaxation with the natural environment, and that they consider a damaged environment as an obstacle to good relaxation.

In item number 3 in the survey we attempted to determine at which kind of place our respondents would most like to relax (the exact wording of the item: “Try to imagine a place (or places) where you would most like to relax and briefly describe this place”). We phrased this as an open item and we placed it at the beginning of the survey so that respondents were not influenced by anything. We then categorized the given answers and thus obtained the following variants: *nature* (natural environment, forest, meadow, etc.); *room*; *quiet/peace*; *sports field*; *coffeehouse*; *sea/beach*; *mountains*; *garden*; *park*; *countryside*; *bathtub*; *home*; *bed*; *island*.

We show the relative frequency for preference of the individual categories in the following graph no. 1:

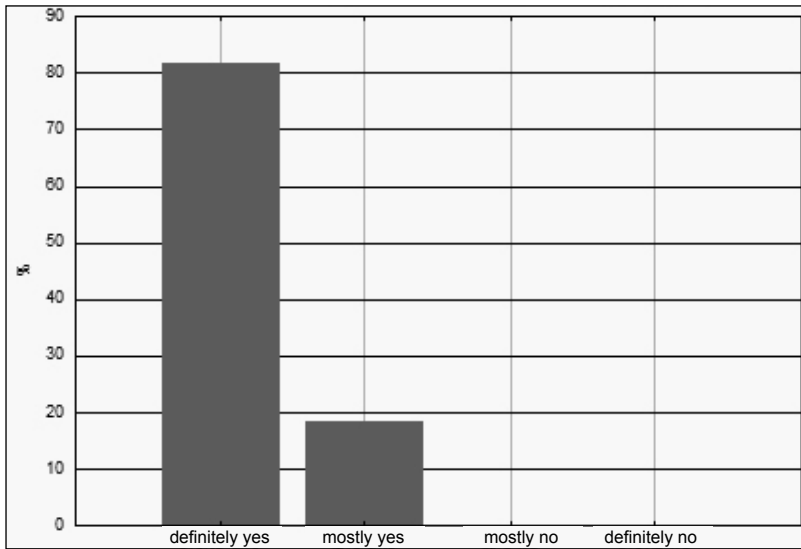


graph no. 1.

At first glance the most significant category is *nature* with 60.6%. The two most significant categories after nature are: *sea/beach* (24 %) and *quiet/peace* (17.3 %). Among our respondents nature is the most popular place for relaxation. Nevertheless, the *nature* category is essentially unspecific. We included in this category a natural environment, forest, meadow and the word nature itself, though we cannot determine exactly what the respondents imagined by these concepts.⁶

By the following item (no. 4) we determined to what extent the respondents associate relaxation with caring for their health (the exact wording of the item: “Do you agree with the statement: Knowing how to properly relax is extremely important for human health.”). The relative frequency of the extent of agreement with the statement can be seen in the following graph no. 2:

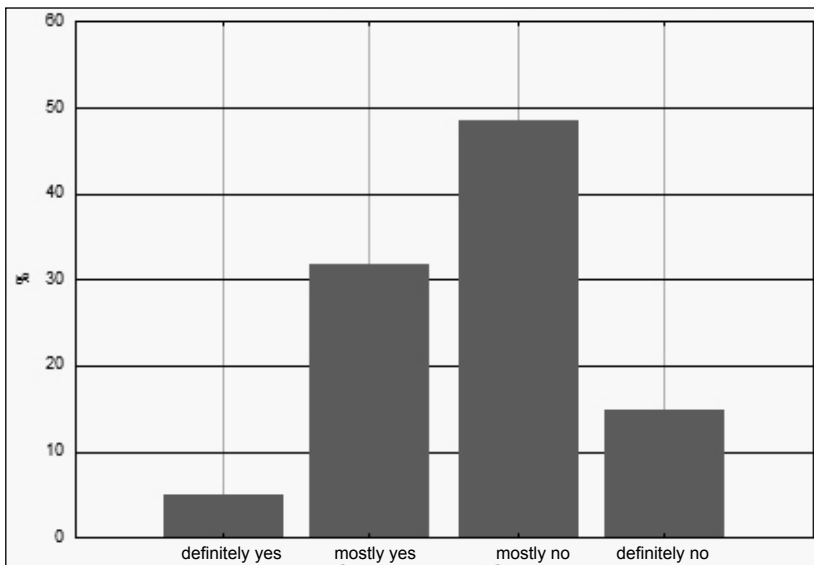
⁶ A stereotypical vacation at the sea can have a dimension that is completely unnatural and of consumer entertainment; mountains can be places for considerate hiking or for skiing in over-technicized mountain centers built at the expense of protected landscape areas and national parks.



graph no. 2

The respondents are unambiguously inclined to the opinion that “knowing how to relax” is connected with human health (definitely yes 81.7 %; mostly yes 18.3 %).

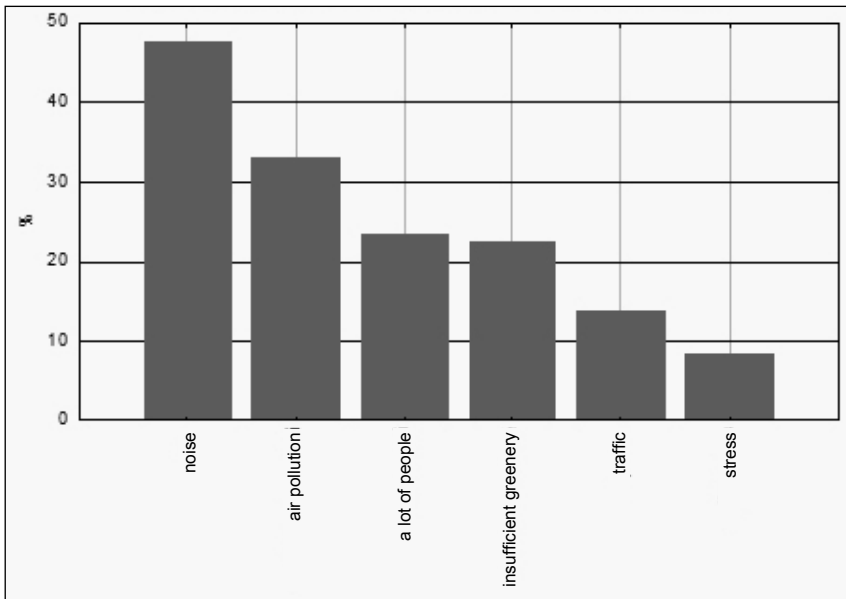
We were also interested in whether respondents saw life in the town as an obstacle to relaxation (the exact wording of item no. 6: “Do you agree with the statement: There aren’t suitable conditions for relaxation in a town). The relative frequency of the extent of agreement with the statement can be seen in the following graph no. 3:



graph no. 3

From this graph it can be seen that more than half of the respondents do not agree with the statement (definitely yes 5.0 %; mostly yes 31.7 %; mostly no 48.5 %; definitely no 14.8 %). For most of the respondents a town does not present a barrier to good relaxation.

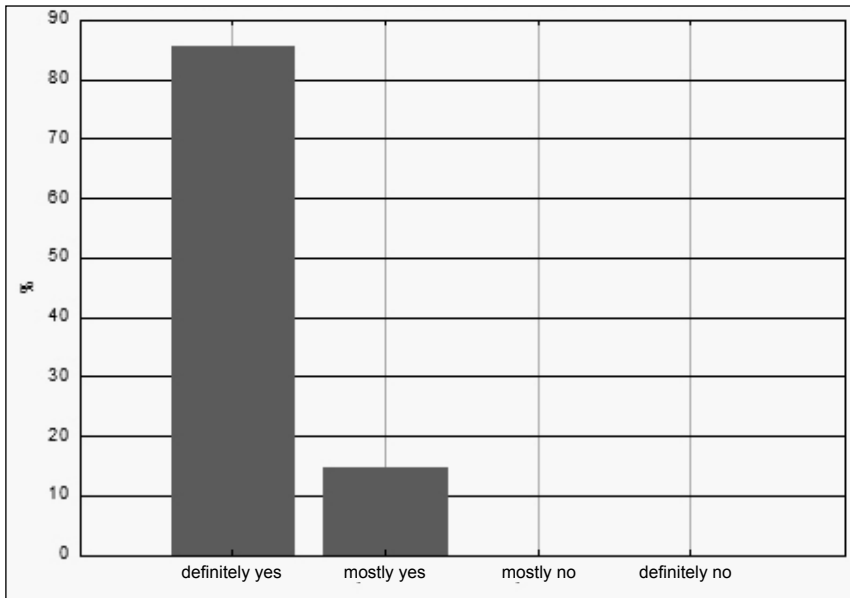
But if respondents do see any obstacles to relaxation in a town, we are interested in what kind. We identified it with the help of an open item (the exact wording of item no. 9: “If you think that life in a town presents obstacles to good relaxation, write down what obstacles you encounter”). We then categorized the given answers and thus obtained the following variants: *air pollution*; *noise*; *insufficient greenery*; *a lot of people*; *rush/stress*; *traffic*. If any of the obstacles that appeared among the answers were unable to be classified among these categories, their frequency was insignificant. We show the relative frequency of the “obstacles” in the defined categories in the following graph no. 4:



graph no. 4

Most of the obstacles given to good relaxation are closely connected to problems of a spoiled living environment in a town. In first place is *noise* with 47.6 %, and in second place is *air pollution* with 33 %; third place is concerned more with the social category *a lot of people* with 23.3 %, followed by *insufficient greenery* with 22.3 %.

In the last item dealt with in the descriptive analysis we determined to what extent respondents regard nature as a suitable place for relaxation. The exact wording of item no. 9: “Do you agree with this statement: Nature (greenery, park, forest, etc.) is an appropriate place for good relaxation.”



graph no. 5

Respondents, as is seen in graph no. 5 (definitely yes 85.4 %; mostly yes 14.6 %), are unambiguously inclined to the opinion that a natural environment is an appropriate place for “good relaxation”.

Conclusion of the descriptive analysis of the survey’s results

It is evident that relaxation represents an important component for respondents in caring for one’s health. Respondents often associate relaxation with nature and the outdoors. They often state that, to a significant extent, attributes of a damaged living environment are a threat to good relaxation. As it has been shown that nature and a natural environment present, aside from the value they have in and of themselves, also a value in the form of a service for people and their health. From this pragmatic, anthropocentric point of view, taking care of nature and the natural environment appears to be the most meaningful, without regard to the biocentric and ecocentric ideas and ideology looked at with doubt by technocrats.

3. Relational part of the analysis of the survey’s results

Our inquiry originates from a survey question whose wording for our population group is:

What is the connection like between a place of residence, the value of relaxation conditions in a town and the choice of the form of relaxation; between the subjective value of one’s relaxation and the subjective value of caring for one’s health; between the choice of relaxation environment and the choice of the form of relaxation and between the choice of relaxation environment and an attitude to environmental protection?

Definition of concepts:

Relaxation: “the process or state of easing mental and physical tension” (Linhart 2003 pg. 319).

Place of residence: not the actual place of residence, but the place the respondent spends most of his life (a variable *place of residence* is dichotomic and gathers value: *town/village*)

Choice in the form of relaxation: type of relaxation (e.g. a walk, television, trip on a bike, etc.).

Choice of relaxation environment: we are interested in whether this is a natural environment (forest, meadow, etc.) or another environment.

Attitude to environmental protection: in this case we understand attitude to be a “learned disposition to react positively or negatively to any object” (Jandourek 2001 pg. 189). It is not possible to observe “attitudes” directly, but it is possible to judge them indirectly from stated opinions. In our case we judge an attitude from the extent of agreement (disagreement) with a statement representing the object.

Pragmatic (working) hypotheses for our population:

h1: There is a relationship between the place of residence and the evaluation of the relaxation conditions in a town.

h2: There is a relationship between the place of residence and the choice of relaxation environment.

h3: There is a relationship between the choice of relaxation environment and one’s attitude to environmental protection.

h4: There is a positive relationship between the subjective evaluation of one’s relaxation and the subjective evaluation of caring for one’s health.

h5: There is a positive relationship between a fondness for bike rides as relaxation and a fondness for relaxing in nature.

To test hypothesis h1 we tried to find an association between the two variables represented in the survey by the following items:

1. You have spent most of your life: a) in a town; b) in a village.
6. “How much do you agree with the statement: There aren’t suitable conditions for relaxation in a town.”

The correlation analysis did not establish a relationship between the variables *place of residence* and the value of *conditions for relaxation in town*, and we have therefore accepted a null hypothesis.

To test hypothesis h2 we tried to find an association between the two variables represented in the survey by the following items:

1. You have spent most of your life: a) in a town; b) in a village.
7. Decide on a scale of how popular the given form of relaxation is for you (in this case *staying in the forest*).

We looked for the strength of a relationship between the dichotomic variable and

the ordinal scale variable. If the nominal scale variable has a dichotomic character, we can use a correlation coefficient for the ordinal scale. We used the Kendall's T correlation coefficient for a rectangular table; $t = -0.29$. This association is low⁷, but significant, we therefore refuse the null hypothesis and accept the alternative statistical hypothesis:

There is a correlation between the variables *place of residence* and the *extent of preference of a forest for the purpose of relaxation*. The minus sign indicates the direction of correlation: it is more probable that a respondent from a village will prefer a forest as an environment for relaxation.

To test hypothesis h3 we tried to find an association between the two variables represented in the survey by the following items:

3. "Try to imagine a place (or places) where you would like to relax and briefly describe this place".
14. "Do you agree with the statement: I would like to take part in environmental protection."

A correlation analysis did not establish a relationship between the variables *choice of relaxation environment* and the *extent of agreement with the statement: "I would like to take part in environmental protection"*, and we therefore accept the null hypothesis.

To test hypothesis h4 we tried to find an association between the two variables represented in the survey by the following items:

4. "Do you agree with this statement: I try to relax sufficiently."
5. "Do you agree with this statement: I try to take care of my health responsibly."

We looked for the strength of the relationship between two variables of ordinal scale with the same number of variants. We used the Kendall's T correlation coefficient for a square table: $t = 0.30$. This association is low, but significant. We therefore reject the null hypothesis and accept the alternative statistical hypothesis:

There is a positive correlation between the ordinal variables *extent of agreement with the statement: "I try to relax sufficiently"* and the *extent of agreement with the statement: "I try to take care of my health responsibly."*

To test hypothesis h5 we tried to find an association between the two variables represented in the survey by the following items:

7. Decide on a scale of how popular the given form of relaxation is for you (in this case *a trip to the outdoors*).
7. Decide on a scale of how popular the given form of relaxation is for you (in this case *a bicycle ride*).

We looked for the strength of the relationship between two variables of ordinal scale with the same number of variants. We used the Kendall's T correlation coefficient

7 Chráska (2007) separates the interpretation of values of the correlation's coefficients (in absolute values) in the following method: 1 - absolute association; $<1 - 0.90>$ - very high association; $<0.90 - 0.70>$ - high association; $<0.70 - 0.40>$ medium (considerable) association; $<0.40 - 0.20>$ - low association; $<0.20 - 0>$ - very weak association; 0 - absolute non-associative.

for a square table: $t = 0.39$. This association is (nearly) medium and significant. We therefore reject the null hypothesis and accept the alternative statistical hypothesis:

There is a positive correlation between variables the *extent of preference for a trip to the outdoors for the purpose of relaxation* and the *extent of preference for a bicycle ride for the purpose of relaxation*.

Conclusion of the relational part of the analysis of the survey's results

It has been shown that the place of residence can have an influence on the choice of relaxation environment. It is also evident that the extent of relaxation is connected to the extent of caring for one's health. It has not been confirmed that the place of residence has an influence on the evaluation of conditions for relaxation in a town. A relationship between the choice of relaxation environment and attitude to environmental protection has also not been established, which means that if someone prefers the outdoors for the purpose of relaxation, that does not mean that he has a more positive attitude toward environmental protection than someone who does not prefer the outdoors for the purpose of relaxation. The popularity of active forms of relaxation (specifically bicycle rides) is connected to the popularity of the outdoors for relaxation.

EKOTERAPEUTICKÝ POTENCIÁL PŘÍRODY A PÉČE O ZDRAVÍ

Abstrakt: Autoři se zabývají zvyšováním kvality lidského života aktualizací vztahu člověka k přírodě z hlediska jejího ekoterapeutického potenciálu. Pozitivní vliv přírody na fyzické i psychické zdraví sledují v kontextu environmentální výchovy a výchovy ke zdraví. Jednotlivé úrovně ekoterapie dávají do souvislostí s rozvojem ekologického cítění, ekologického myšlení a výchovou k hledání smyslu života. Pro ilustraci uvádějí výsledky šetření ke zjištění toho, jak studenti oboru učitelství pro 1. stupeň základní školy spojují péči o zdraví s relaxací v přírodním prostředí.

Klíčová slova: Kvalita života, environmentální výchova, ekoterapie, formy ekoterapie, ekoterapeutický potenciál přírody, vnímání přírody, relaxace v přírodě, péče o zdraví, výchova ke zdraví