

## ENVIRONMENTAL AND PROENVIRONMENTAL BEHAVIOR

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**Abstract:** *One of important areas of interest in psychology is the so-called environmental or pro-environmental behaviour. The author offers a concept that may facilitate orientation in the many factors that affect our environmental behaviour. He presents a methodological procedure that support environmentally friendly behaviour in practice. He lists five characteristics of personal relationship with nature and explains how important it is to clearly distinguish between them in both professional theory and practice. The author also emphasizes the importance of people forming a personal relationship with nature. In this respect, study of individual personal understanding of general terms of environmental education and the building of a common understanding seem of paramount importance.*

**Keywords:** *environmental behavior, proenvironmental behavior, environmentally friendly behavior, areas of environmental behavior, characteristics of the relationship to nature, the need for contact with nature, abilities for contact with nature, environmental sensitivity, general attitude to nature, environmental concern*

*A walk across a meadow, planting the trees, a ride in a SUV, firing the grass, feeding the gulls or exporting the solvents into the woods... What do all these activities have in common?*

They are examples of human behavior which has a certain influence on the environment – greater or smaller, positive or negative. Nevertheless, as people are in an interaction with their environment almost constantly, almost all human behavior could be called **environmental behavior**. That means, that this term would include all activities regardless the fact, how insignificant their impact on the environment is - e. g. A walk, any human movement, even breathing.<sup>1</sup> This overall interpretation of environmental behavior is, from the logical point of view, correct, nevertheless for the needs of disciplinary communication totally useless.

The meaning of the term “environmental behavior” unwinds from the contemporary conditions in which social studies study environmental behavior. In the period when the society registers changes of the environment, ecosystems, biosphere and climate which

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<sup>1</sup> Person is by his physical nature connected to the environment. On the microscopic level it can be hard to distinguish where the person ends and where his/her environment begins.

proceed in connection with human activity, the attention of professionals is focused mainly on such environmental behavior which is connected with the usage of energy, raw materials, waste production and pollution.

Environmental behavior therefore is, in narrow sense, such a behavior which has a significant impact on the environment.

In this sense, the term “environmentally-relevant behaviors” is also sometimes used (environmentally-relevant behaviors, Bechtel, Churchman 2002, Stern 2000).

*Environmental behavior of an individual may be unintentional and not reflected; in such case the person does not realize the impact of his/her behavior – e.g. many people buy soya products, cut flowers or cigarettes.*

In case the person realizes the environmental impact of his/her action, we speak about so called **intentional environmental behavior** or directly about **environmental behavior** – e.g. exporting the waste into the countryside or feeding the titmice in winter (see table Nr. 1).

## Proenvironmental behavior

Most cases of environmental behavior can be, based on the knowledge of environmental science or ecology, judged according to their impact on the environment, and labeled as environmentally friendly or unfriendly. Some cases can be judged easily, e.g. a bicycle ride is more positive than the ride in a car, holiday located near home are more favorable than travelling to another continent. Nevertheless, evaluation of certain cases is doubtful (is the attendance on a political meeting about climate change in South Africa where travelling by plane is necessary environmentally positive?) or scientifically demanding (buying a new hybrid car instead of ten year old one?). These factors have to be taken into consideration in the following definition:

Proenvironmental behavior is such behavior which is generally (or according to knowledge of environmental science) judged in the context of the considered society as a protective way of environmental behavior or a tribute to the healthy environment.

Environmentally protective option is to write a letter by handwriting instead of using a computer, vegetarian lunch instead of a pork steak originated from mass breeding; a tribute to the healthy environment is e.g. a disposal of illegal dumping (see table Nr. 1).

The following terms can be used as equivalents for proenvironmental behavior “environment-protective behavior”<sup>2</sup>, “environment-preserving behavior”,<sup>3</sup> “environmentally responsible behavior”<sup>4</sup> (Kaiser et al., 1999), “ecological behavior”<sup>5</sup> (Axelrod, Lehman 1993, Kaiser et al., 1999), “sustainable behavior” (Clayton, Myers, 2009). The opposite is “environment-destructive behavior”<sup>6</sup> or Czech “environmentally unfriendly behavior”.

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<sup>2</sup> Geller (Chapter 34: The Challenge of Increasing Proenvironment Behavior) in Bechtel, Churchman (2002).

<sup>3</sup> Ibidem (Geller in Bechtel, Churchman 2002).

<sup>4</sup> Also “responsible environmental behavior” (Hungerford, Volk 1990) and “responsible environmental citizenship” (Činčera, oral statement).

<sup>5</sup> “Ecological behavior is an action which helps to protect and (or) preserve the environment,” writes Axelrod and Lehman (1993). It includes e.g. recycling, composting, energy and water savings, economical consumerism, political activism, cooperation with ecological organizations, eco-agricultural activities etc. (Kaiser et al., 1999).

<sup>6</sup> Ibidem (Geller in Bechtel, Churchman 2002).

Table Nr. 1

	environmentally friendly impacts		environmentally unfriendly impacts
environmentally insignificant impacts	environmentally insignificant behavior		
environmentally significant impacts	proenvironmental behavior	controversially labeled proenvironmental behavior	environmentally unfriendly behavior

## Areas of environmental behavior

Environmental issues nowadays include a wide range of phenomena which are in the area of environment protection generally considered as negative. Among them, we distinguish four areas of environmental issues (comp. Bell, 2001):<sup>7</sup>

Litter, distortion of natural monuments and abuse of countryside are to a great extent **issues of environmental aesthetics**.

**Issue connected with health** is the air pollution, toxic material in environment or the level of radiance enhanced by the human activity.

The core of the **natural resources issue** is the excessive exploitation of unsustainable (mineral resources such as coal or petrol) or sustainable (water, soil) resources.

Mass agricultural breeding, testing the cosmetic products on animals, destruction of natural biotopes and creation of migration barriers may be covered in the issue of **life protection and its dignity**.

Certain environmental issues arise in several other areas. As Bell points out (2001), current extent of motor-vehicle traffic is a serious problem from the point of view of health, environmental aesthetics or natural resources, and because the busy roads often cross habitat corridors and are lined with surprising amount of killed animals<sup>8</sup> it also poses a challenge for the life protection and its dignity.

The mentioned classification of environmental issues can be used in research of human behavior in the environment. According to the structure of behavior linked with different kinds of environmental issues we can distinguish areas of environmental behavior which are analogously connected with health, aesthetics, natural resources and life protection.

<sup>7</sup> There are also other proenvironmental behavior classifications. Činčera (2008, according to Marcinkowski, 1997; Mony, 2002) mentions categories (1) ecomanagement, (2) consumer behavior, (3) persuasion when people influence other people or groups of people, (4) political action, (5) legal action. See more e.g. term "global environmental issues" on EnviWiki, also Moldan (2003), Braniš (2006).

<sup>8</sup> Matter of interest: students of the school in nature monitored the number of killed animals on 40 km distance. They counted for example more than 60 run-over ringsnakes (Kateřina Jančaříková, oral statement, 10.6.2008).

## What are the influences of human behavior on the environment?

*One of the areas of environmental behavior is the traffic. Nowadays, people choose on their way to foreign countries from many different kinds of traffic which differ, apart from price, comfort, speed and safety, also in their impact on the environment. Regarding the CO<sub>2</sub> emission or environmental footprint of different kinds of traffic, it is interesting to ask: what is the reason that some people choose train on their way from Prague to Paris, while the others travel by plane?*

*Let us consider these particular reasons. Factors which do not surprise anybody can play their role; such as price of petrol or air ticket, plentitude of time (or lack of time) or money, fear of flying, indolence, capacity of German highways, low self-confidence in one's own driving abilities or personal liking in car driving. Nevertheless, everybody can be influenced by more "subjective" influences such as friends' ecological attitude to air traffic, colleagues' stories from German lay-bys, nostalgic memory of the first flight Prague-Paris with parents or TV shots showing a plane which has crashed near Madrid a week ago.*

Each person has his/her reasons why they behave the way they do. As we could see on the above example, person's behavior to the environment is influenced by a wide range of influences (factors). Traffic is in this matter only one of the many areas of environmental behavior. If we ask "what are the factors which most influence the overall human behavior to the environment?", we can say: there is no easy answer to such question. Instead of searching the answer, let us try to understand these factors.

The human behavior to the environment is influenced by **external factors** (that means the environment of an individual) and **internal factors** (physical and mental aspects of an individual). Some factors influence wide social groups (ecological tax reform, areal introduction of sorting containers) while the others can have an impact only on a couple of individuals (natural poetry of a South Korean poet). From the point of view of environmental education and enlightenment, it is important to take into consideration that personal motivation to protect the environment is for the final environmental behavior of an individual the key factor only in some cases (in the above mentioned example about the journey to Paris a great deal of other – non-environmental – reasons played their roles).

If it was possible to cover all the factors influencing the behavior of an individual to the environment into one model, the graphics processing of such model would resemble a very wide web: the system of factors would include internal and external factors, past experience of the individual, factors currently in process or expectations for the future. Such a complex model would capture not only personal but also group or all-society factors which influence person's behavior to the environment. To express the real condition, the factors could be graphically interconnected by their mutual relationships according to how they are connected with each other (see picture Nr. 1).

The graphics processing of the environmental behavior model should not be

static, on the contrary – ideally, it should change within the time as the factors and their relations dynamically evolve.<sup>9</sup>

The research of the factors influencing the environmental behavior is, considering the complexity of the whole matter, scientifically rather difficult. It requires cross-disciplinary perspective, analytical capability and methodological awareness of professionals who deal with the studied issue. I, personally, see in the gradual mapping and description of factors which predetermine person's behavior to the environment, one of the significant challenges for conservation psychology (called ecopsychology in Czech Republic). Such research would provide an insight why people cause with their behavior harm to the environment, and it will be a good basis for efficient programs of environmental education and enlightenment (see the end of the chapter). To learn the factors which influence the environmental behavior, it is necessary step-by-step:

- 1) Understand the system of factors which influence the environmental behavior of an individual; that means, at the beginning acquire the concepts which improve the orientation in complex issues. Activities such as publishing of abstracts, creation of cross-disciplinary bibliographies, sorting the professional terminology etc. are useful as well.
- 2) Systematically uncover the system of factors influencing the environmental behavior and their mutual relationships, that means create a complex map of these factors. For example by observing, tracking and results of activities analysis or qualitative interviews we can search the answer to the question: What all can play a role in particular examples of environmental behavior?<sup>10</sup>
- 3) Examine qualitatively qualities of the so-called key factors which have a crucial influence on the behavior of wide social groups to the environment, e.g. by using experiments, comparative and correlative studies.

As stated above, the research work starts by the orientation in the issue. Therefore, we outline here the original concept of so-called **orientation map of three areas of factors influencing the environmental behavior of an individual**

<sup>9</sup> It is said that everything is connected with everything. The question is: how? For example ecological tax reform may influence Václav Novák's behavior to the environment as well as other influences which create his behavior, for example environmental attitudes of his friends (anger with the increase in prices of exploitation intensive products), the amount of income or change of occupation (ecological taxes influence also development or stagnation of production branches). Economical factors influence social and environmental ones and vice versa; all-society the personal ones etc. Although a great deal of such relations between the influences is professionally described, I consider the actual creation of the outlined model a scientific utopia. There are many obstacles: lack of brain trust who would be willing to deal with a synthesis of such extent, humanitarian terminology and paradigms seem to be incompatible, humanitarian knowledge is very plural and the whole area is moreover contaminated with different ideologies.

Nevertheless, the mentioned model is worth imagining: it indicates how infinitely various and inexhaustible the amount of influences which influence people's environmental behavior is. The outlined model in its complexity would not be created by anyone, its more or less valid reductions will nevertheless exist. It is possible to study in more detailed parts of the system influences with silent consciousness that easy answers for the question asked in the chapter's title do not exist.

<sup>10</sup> For more detail see Krajhanzl, Zahradníková, Rut (2010).

which gives us a distinction and short definition of three basic areas from which the factors have an impact on the environmental behavior (see diagram Nr. 1):<sup>11</sup>

- 1) factors arising from the conditions of the environment (external conditions),
- 2) factors of the personality of an individual,
- 3) factors of the personal relationship of an individual to nature.

As will be mentioned further, each of the areas consists of certain range of topics. **Conservation psychology deals with all three ranges.** Individual questions are dealt with also in other (below mentioned) scientific disciplines.

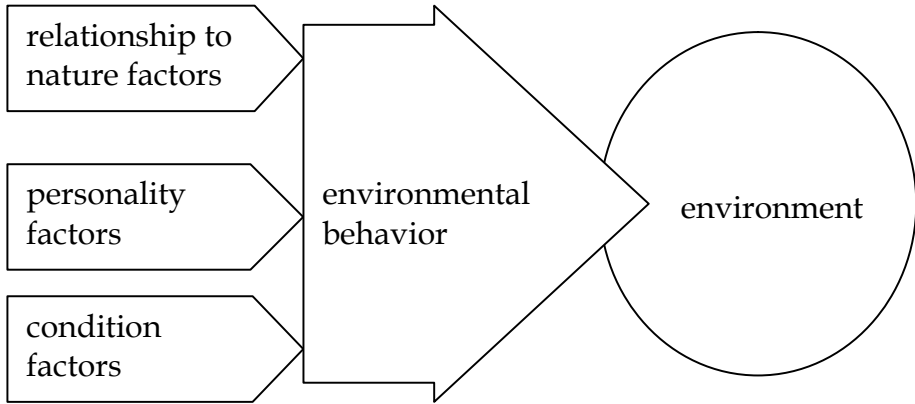
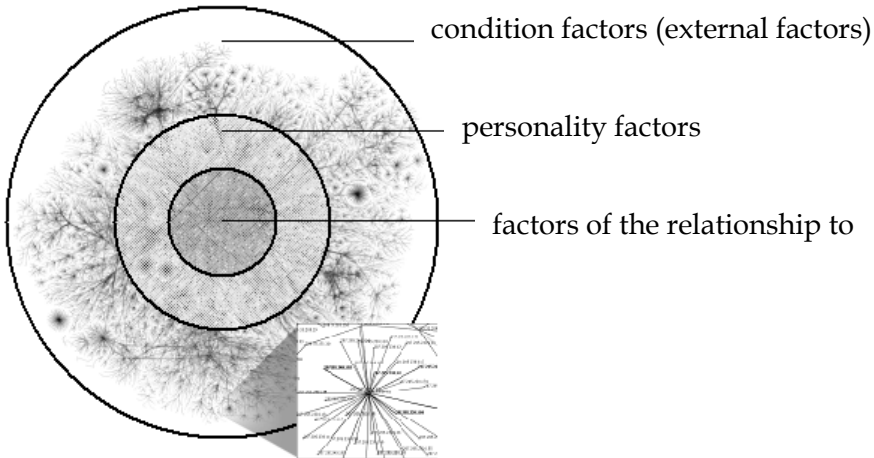


Diagram Nr. 1. What are the influences of human behavior on the environment?



Picture Nr. 1: Orientation map of three factor areas influencing the environmental behavior of an individual<sup>12</sup>

<sup>11</sup> Comp.: Messick distinguishes the strategies of environmental behavior support to individual solution “based on individual’s personal choice” (comp. below mentioned areas of personality influences and relationship to nature and the environment) and structural solution “based on design of social arrangement in groups” (comp. conditions of environment mentioned here). (Messick, Brewer 1983).

<sup>12</sup> The picture is illustrative (the diagram used is not connected with the discussed topic). To show the idea, it

## The external influences on the environmental behavior

*To behave environmentally friendly is easier when the conditions support the sustainable behavior: you have an organic shop with affordable prices nearby your home and you live in a city where everything is at a stone's throw, or the buses go every ten minutes, not only twice a day. On the contrary, sometimes it is very difficult to behave proenvironmentally – e.g. famous difficulties of Prague's cyclists, not to mention the problems of vegetarians living in the environment of rural pig-slaughtering.*

Environmental studies, sociology, economy but also legal sciences, culturology, religious studies and other disciplines also deal with (among other things) the matter how external conditions influence environmental behavior of the public. Attention is paid to **economical environment** with prices, product availability and organic products certification, **legal environment** with pollution and construction standards, waste handling and animal abuse, **cultural and social environment** with traditions, moral rules, religious and value systems and influence of organizations, mass media, social groups and authorities, and the **environment (physical)** with the availability and quality of the environment, environmental conditions, traffic infrastructure, civic amenities and waste management.

The external influences on the environmental behavior is possible to understand as an action of **external factors which influence people's behavior to the environment**. According to legal science, it is possible to distinguish social, cultural, environmental, legal, economical and other **conditions of external factors**.

The conditions of external factors are “alive”- they change and influence each other; e.g. economical factors interact not only within themselves, but they also influence social, environmental or cultural environment. The factors encounter, they empower each other or create synergy.<sup>13</sup> These actions are the domain of study of humanitarian disciplines, whereas the cooperation between the disciplines helps to create complex views on environmental conditions which have an impact on mankind and prognosis of the next development.

While the domain of most psychological disciplines are the factors of the “internal world” to behavior, **social psychology and sociology, economical psychology and economy, environmental psychology and environmental science** have a scientifically uneasy task at the border of “internal” and “external”: they observe how the social, economical and environmental factors influence human experience and behavior – for example:

*How does a picture of “the environmentalists” in newspaper or on TV influence the willingness of people to environmentally friendly behavior? Which price for a liter of petrol could change the traffic formula of the most inhabitants? Are the legal*

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illustrates that in the complex web of factors the borders between the environment – personality – relationship to nature are marked only for the purpose of disciplinary orientation. They do not affect the interaction between the factors. Relationship to nature is part of personality and it is part of the environment. The three bordered spheres nevertheless form thematically autonomous areas which are dealt in different corpora of professional literature. In the research it is possible to pay attention to individual areas (see the detail) and at the same time respect the whole.

<sup>13</sup> Clash between two influences, for example philosophical groups, can in the internal world (individual) result only in neurosis. In the external (society) in a civil war.

*sanctions for plastic waste burning efficient? How does the life in an overpopulated or polluted city influence the environmental behavior?*

All these questions are also dealt with by **conservation psychology**, a cross-disciplinary discipline considered as a platform for interconnecting the knowledge and cooperation of professionals from different disciplines who are moving at the border between “internal” and “external”.<sup>14</sup> Many of these researches of this issue are connected with a so-called **behavioral analysis**.<sup>15</sup> Empirically tested are strategies supporting the environmental behavior which change the external conditions so that it would anticipate environmentally friendly behavior.<sup>16</sup>

## **The influence of personality on the environmental behavior**

Notice sometimes the connections between a person’s temper, his/her personality traits, abilities, values, attitudes, lifestyle on one hand and the environmental behavior on the other. You will see how the environmental behavior of a person is affected by his/her personality.<sup>17</sup>

*Is he a dreamer? He might sometimes burn his lunch or turn over a tank with petrol into a ditch. Is he nervous? Maybe he calms down by drinking a cup of coffee or smoking, visiting a sun parlor, speeding, shopping or going on exotic holiday. He does not? Does he meditate and deepen his experience of presence? He will probably then be calmer, while reducing his mental stress he will use less than other people. And is he interested in technical innovations? Maybe he is already installing a heat pump, plastering the interior with clay or constructing solar water heat pump in his cottage.*

The personality factors which influence person’s behavior to the environment are so-called internal factors influencing the environmental behavior (see above), as well as person’s relation to nature. Although the relationship with nature is *de facto* a part of personality, for the purpose of Factor orientation map influencing the environmental behavior we distinguish two groups of factors – that means personality factors and factors of the relationship to nature. We do so, because in the research area both groups of factors are studied to a certain degree autonomously (different bibliography, different authors, and different design of research studies). Likely, it is worth to differentiate also the interventions realized in environmental practice which are directed to personality factors and factors of relationship to nature (comp. difference between specific and non-specific anti-drug prevention).

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<sup>14</sup> Krajhanzl (2008), Saunders (2003).

<sup>15</sup> Long term and intensive research in this area has been done by Scott E. Geller (in Bechtel, Churchman 2002).

<sup>16</sup> In more details e.g. Gardner, Stern (1997), McKenzie-Mohr, Douglas (1999), Bell (2001), Kušková (2009).

<sup>17</sup> There are many definitions of personality in psychology. Psychological dictionary (Hartl, Harlová 2000: 379) indicates that „most often (personality) is defined as a whole of person’s mental life“. According to Nakonečný (1999: 252) the term personality has a meaning of descriptive or explanatory construct: “it expresses that personality is an interindividually different whole of psycho-physical dispositions of a human individual (descriptive view) and further on, that it is an organized whole of person’s mental life, functionally relatively unified, self-regulating system (explanatory view).” Balcar (1983: 13) writes that psychological term of personality “express internal integrity and structural content of the individual’s mental life, in a given moment and time when the individual is mentally identical with himself in different periods and under different circumstances of his life. Next characteristic of personality is its individual nature, psychological difference of the individual from other members of his race.”



That is why we choose the following definition:

***Personality factors influencing the environmental behavior are influences of characteristic qualities, motivational characteristics (attitudes and values), abilities and mental moods of an individual to his behavior to the environment. With regard to the autonomy of the topic relationship to nature in scientific research or environmental practice it is also differentiated in this concept between both areas of factors and it is done with the awareness that both factor areas are closely connected within person's personality***<sup>18</sup>.

Personality factors often influence the environmental behavior without even being aware of it. They become remarkable mostly in the moment when they get into a conflict with relationship to nature (see further) – for example when an economical environmentalist is possessed by traveler's desire or when an absent-minded plant admirer's pansies fade because of her "constant forgetfulness".

Conservation psychological research deals with the personality factors less than with the environmental conditions and relationship to nature. The attention of empirical studies focuses in their factors study mainly on the fact, how the environmental behavior is affected by **life values** of an individual (value chart,<sup>19</sup> consumerism<sup>20</sup>), **life style** (voluntary modesty<sup>21</sup>) and **personality qualities** (conformity<sup>22</sup>, indolence<sup>23</sup>, place of control<sup>24</sup>).<sup>25</sup>

## **The influence of relationship to nature on the environmental behavior**

The relationship to nature is not an ordinary issue: it plays a major role in the environmental education, education and enlightenment, green philosophers write about it, it is a subject of moralizing appeals and a reason for topical society criticism, it inspires the artists and hopes are placed into the development of relationship to nature as it is one of the keystones of environmental defensibility. Nevertheless, the scientific reflections which describe structure and dynamics of the relationship to nature are rare in the Czech Republic. The foreign professional debate is much greater regarding this topic<sup>26</sup> – nevertheless, up to date it is dominated by studies which deal with the relationship to nature putting an emphasis on one of the partial questions, mostly on the environmental attitudes.<sup>27</sup> There is a lack of professional thesis which would try to describe the relationship to nature in its complexity.

**The relationship to nature** cannot be narrowed to a question of the often studied environmental attitudes: the environmental behavior is also influenced by other *mental events, phenomena, person's qualities and conditions which are directly oriented*

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<sup>18</sup> Although the border line between the person and the environment can be drawn easily, the person is connected with it inseparably as the relationship with nature with person's personality.

<sup>19</sup> Schwartz (1992).

<sup>20</sup> Nickerson (2003).

<sup>21</sup> Fabiánová (2004).

<sup>22</sup> Nickerson (2003).

<sup>23</sup> Leonard, Barton (1981).

<sup>24</sup> Nickerson (2003).

<sup>25</sup> Pavel Skála (2009) deals with deep reflection of personality character's influence on environmental behavior.

<sup>26</sup> Comp. Bell (2001).

<sup>27</sup> See e.g. Gardner, Stern (1996), Gifford (1997), Bell (2001), Bechtel, Churchman (2002), Nickerson (2003).

to nature (out of human world) and the environment and which are labeled here as the relationship to nature.<sup>28</sup> They are various, e.g. the experience of relief in a natural park, the skill to grow potatoes or skin a rabbit, existential anxiety face to face to ecological crisis, expanded conditions of consciousness related with experience in nature, animistic perception of nature in pre-school age, anger with the originator of clear cutting in the forest or consumer's dilemma connected with ideals of eco-consumerism.

The relationship between people and nature are predicate of the so-called **personal relationship to nature characteristics**: it shows, what are people's attitudes to nature and the environment (environmental needs and attitudes) and what are their mental abilities<sup>29</sup> in those attitudes.

The relationship to nature evidently influences the environmental behavior<sup>30</sup>. But those who believe that "a good relationship to nature" is a guarantee of environmentally friendly behavior are wrong. It is influenced by the already mentioned environmental conditions and personality factors, so the influence of the relationship to nature is not absolute:

*When recycling the waste, following aspects can play their role: availability of the rubbish bin (environment), discipline and studiousness of a person (his/her personality) and attitude to recycling the waste (relationship to nature and the environment). When burning the meadow, other things play their role: the neighbor who joyfully grasses the burner at the office (the environment), nostalgic memories of firing the meadow with grandfather (personality) and compassion with meadow insect (relationship to nature).*

## Interaction in the system

As we already mentioned, the factor system influencing the environmental behavior of an individual is dynamic in its character and therefore undergoes constant development. The factor action on the environmental behavior is possible to characterize as following:<sup>31</sup>

- d) Different intensity of factor action on certain environmental behavior of an individual** – some factors are weaker, other have greater action. The intensity of factor action is then influenced by other factors which are in action in the given moment.

*Example: The school teacher of one provincial school knows that animals in the mass breeding often suffer. She would like to take the children to visit the slaughterhouse but because of the tense relationship between the school and the parents she is afraid of what would it bring. Because her anxiety is now greater than her eco-pedagogical belief, she postponed the excursion to sometime later.*

- e) Positive or negative action towards environmentally friendly behavior-** the factors are e.g. "added" or "subtracted" ("intensified" or "distracted") and they result in certain kind of behavior.

*Example: Mrs. Teacher tells George at school that good children recycle and he likes the colorful bins more than the tinned ones. But at home his Dad keeps*

<sup>28</sup> In more details about the definition Krajhanzl (2007).

<sup>29</sup> For more detail see chapter Brief introduction of characteristics of personal relationship to nature.

<sup>30</sup> E.g. Gardner, Stern (1996), Gifford (1997), Nickerson (2003), Clayton, Opatow (2003), Bell (2001).

<sup>31</sup> Comp. with topological psychology or Kurt Lewin's vector analysis.

*repeating that recycling is a nonsense and that he should think about something useful. The result can be that George recycles at school but not at home – nevertheless, his conscience is not clear at either place.*

- f) The factors function specifically, that means with certain intensity to certain behavior** – strength and orientation of the factors changes within time, according to the individual or behavior.

*Example: Bjørn Lomborg's book The Skeptical Environmentalist was the reason why George's father has picked on everything ecological. For other people getting angry with the author while reading a provocative title can be the moment they decide to actively support ecological organizations. Nevertheless, such book influences one person dramatically, the other a little and the third not at all.*

## **Application: The support of proenvironmental behavior**

The mentioned concept *Orientation map of three areas of factors influencing the environmental behavior of an individual* enables complex view on the issue. It can be applied also in programs of environmental practice which deal with support of proenvironmental behavior. Complex view on the factors which influence people's behavior to the environment increases the qualification of decisions in environmental practice and efficiency of support of the proenvironmental behavior, for example:

*Buy more recycling containers for the village or start off a pro-recycling campaign? Refresh the school garden or send the classes to an intensive school program in the countryside or environmental education programs? Lob at government subsidy for ecological products, promote organic groceries on billboards or support the cooperation between organic products suppliers to the hypermarkets?*

How to use the complex view on the factors which influence this behavior in practical support of proenvironmental behavior? The procedure can be briefly described in four steps (for more details see Krajhanzl, Zahradníková, Rut, 2010):<sup>32</sup>

### **1) The choice of environmental behavior on which the program is focus**

We choose which environmental behavior the program is going to be focused on – is it going to be grass burning, car driving in a city or buying tomatoes in January? The criterion for behavior determination, on which the program in the chosen aimed group is aimed, may be the overall ecological footprint of such behavior or, more specifically, the CO<sub>2</sub> production.

It is important, not to mix the aims and the methods of the project – distribute three hundred recycling information leaflets into classes is not an aim but a method. The aim may be to increase the amount of recycled waste at the local elementary school.

### **2) Mapping the factors which influence the environmental behavior**

By observing, focus group, inquiry or quantitatively processed questionnaire it is possible to investigate which factors predetermine the environmental

<sup>32</sup> Further McKenzie-Mohr, Smith (1999), Schmuck, Schultz (2002: 28-32), Gifford (1997: 54), Bechtel, Churchman (2002: 525).

behavior, that means: what acts FOR (benefits) and AGAINST the chosen proenvironmental behavior (barriers)?<sup>33</sup>

*In class 8.A, a class with a low amount of recycled waste, the factors AGAINST recycling can be the lack of bins, teachers' opposition affecting the students or wrong labels on the garbage bins as well as students' weak motivation or anti-ecological attitudes to "leaders" of the classes. FOR recycling the factor can be the example of 8.B, the class which recycles "as nothing would happen", local dump case which whirls public meaning, director's willingness to support the recycling and six pupils who are conspicuously interested in the issue and in their free time help in the local environmental centre.*

### 3) Mapping the potential change of environmental behavior

Some factors can be changed easily (easy to understand labels on the dust bins) and some much more difficult (anti environmental attitudes of class leaders). The important step therefore is to consider the potential change of action of the individual factors: in what ways can the proenvironmental behavior be supported?

The general rule is that influencing the behavior by **changing the environmental conditions** is rather easy (adjustment of new dust bins, information boards). Nevertheless, environmentally friendly behavior often disappears<sup>34</sup> after the return to the original condition.

**Supporting the change of personality factors which influence the environmental behavior** is professionally very demanding (systematic work with personality change by the adults resembles the psychotherapy). From the ethical point of view the question is what form of cooperation can bring such intervention, as work with personality change should be done with the consensus of the studied person. Slightly different is the situation in case of children's education when certain formation of child's personality by the educator during his work with children in pre-school or school age is expected by the society.

We can encounter **the activities supporting the change in relationship to nature** mostly in the environmental education and enlightenment. Although these interventions do not reach such a deep level as the personality studies, certain methodological preparedness is necessary here as well. As the personality studies, the activities supporting the change in individual's relationship to nature are a promise of long-term proenvironmental behavior.<sup>35</sup>

### 4) Establishing the procedure for the support of proenvironmental program

How to realize the support of proenvironmental behavior? Establishing the efficacious procedure results from the previous steps: the factors which influence chosen environmental behavior the most and which are at the same time most easily influenced are for the program directed to the support of proenvironmental behavior the most interesting.

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<sup>33</sup> Comp. Kollmus, Agyeman (2002).

<sup>34</sup> Person for example recycles at work where everybody recycles and bins for plastic or paper are in each office. After getting into a new job where bins are only at the reception desk and colleagues' attitude to recycling is much colder, many people stop recycling.

<sup>35</sup> Bechtel, Churchman (2002: 525).

*For example when the wrong labeled bins from the mentioned class really influence their usage, there is nothing easier than print out clear and attractive labels. When the bin labels are not that important but it will be easy to explain to teachers why recycle also aluminum or organic waste, it will be wise to begin right here.*

## Summary

Environmental behavior of people is influenced by countless factors. The introduced concept *orientation map of three areas of factors influencing the environmental behavior of an individual* offers basic orientation in complex and dynamically evolving issue. It may serve as a guide which makes the bibliography research easier, enables well-arranged and complex mapping of environmental behavior in different areas and contributes to systematization, efficacious aim and cooperation between the organizations during the environmental educational and enlightenment activities.

Four steps leading to quality preparation of environmental educational program may be summed up in following words: aim, map the condition, map the potential and establish the procedure (for more details see Krajhanzl, Zahradníková, Rut, 2010). Hyperbolically, we can refer to use of general and unwritten principles which are often kept in environmental practice:

Consider the whole. Learn the relations in the (environmental) system.

Act there where it is needed and possible.

Act responsibly and with respect to all who are concerned.

## A BRIEF ACCOUNT

### *Characteristics of personal relationship to nature*

*Many people enjoy talking about their good relationship with nature. A gardener, tourist, nature scientist, forester, landscape painter, outdoor athlete, ecological activist and a wildlife traveller. It only takes a minute to find out that each of them is talking about something else.<sup>36</sup>*

It is quite surprising that in the Czech Republic there is no technical dictionary in this field that would enable clear communication about the issues associated with the relationship to nature. I consider functional terminology essential for the development of any field and therefore in the course of last seven years I have created a concept of the description of personal relationship to nature which provides terminology for this topic. Using this terminology it is possible to describe and compare personal relationships of people with nature, it includes the original concept of five basic **characteristics of personal relationship to nature**, which reflect various areas of relationship to

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<sup>36</sup> Krajhanzl (2007).

nature and name them in the following way: the need for contact with nature, abilities for contact with nature, environmental sensitivity, general attitude towards nature and environmental concern.

## The need for contact with nature

A person with a greater **need for contact with nature** seeks ways how to spend as much time as possible in the open air. Nature attracts and lures them, from time to time they feel an urge to go to the country. They go out whenever they can, they go on trips, travel and make excursions, they are probably building some kind of a shelter in the country or even moving out of the city.<sup>37</sup> There are certain natural objects in their home, topics associated with nature in the books in their library and landscapes on the walls or on the screen of their computer<sup>38</sup>. If such a person has insufficient contact with nature they tend to lose concentration,<sup>39</sup> they become restless and in their plans or fantasies they envision the moments when they will be out again or they remember previous experiences. A person with a greater need for contact with nature might be an owner of a country cottage as well as a hiker, pilgrim of the type of the writer Henry Thoreau as well as a cross-country cyclist, mushroom picker using a car for the trips to the forest, landscape painter or a huntsman.

A person with a lesser need for the contact is indifferent to staying in the open air. Nature does not attract them and if they spend some time there it is merely because of their husband/wife, friends, money or physical condition.

The need for contact with nature is also entailed (among others) in tourist or sport activities in the open air, weekend cottage activities, moving away from cities, hunting or e.g. the Club of Czech tourists.

## The abilities for contact with nature

Encountering nature is also associated with certain abilities that people have to a lesser or greater extent. The people with a higher level of **abilities for contact with nature** are able to cope outdoors. They can find their way in a woodland area (which is nowhere near common in people nowadays), they can spend a few days in the open air, set fire, they know what is and what is not edible, how to behave in a storm and where to seek shelter. They are used to various types of weather and common outdoor temperatures. They are equipped for staying outdoors both physically (as concerns skeletal-muscular system, senses, physiology), emotionally and intellectually – by their abilities, skills and knowledge. In the open air they feel adequately calm and relaxed as they are experienced. They can relax there and they know what to look out for. They have mastered the essentials of growing crops and breeding animals.

A person with a lower ability of contact with nature is not adapted to the environment of forests, mountains and meadows. In the open air they are stressed by unreal

<sup>37</sup> On psychological benefits of staying in the open air Kaplan, Talbot (1983).

<sup>38</sup> Various types of contact with nature see Kahn (1999).

<sup>39</sup> Why do people seek contact with the environment? Cp. Theories of overload, theories of “arousal“, theories of exhaustion and recovery, see Bell (2001), Bechtel, Churchman (2002), Gifford (1997).

dangers, feel nauseated by various things and staying outdoors brings on an unpleasant loss of comfort. They can compensate these drawbacks by sophisticated outdoor clothing and other equipment, which helps to cope in common situations that would otherwise be too challenging.

The high level of abilities for contact with nature is ideal for scouting, Woodcraft, outdoor training of military enthusiasts or practical courses and guidebooks of combat bodies on how to survive in wilderness.

## Environmental sensitivity

The abilities for contact with nature are focused on performance and associated with abilities and stamina, on the other hand, environmental sensitivity defines the difference among people in the extent of their experience when in contact with nature. This feature expresses the varying extent of human perception of the surrounding environment. A person with a higher **environmental sensitivity**<sup>40</sup> is attracted by the nature around them, interested in it, sometimes even absorbed by it<sup>41</sup>. They can see and hear what the others miss, they can feel and perceive what the others have no idea about. A tree can be simply a tree for an environmentally less sensitive person, while for an environmentally sensitive person it represents a whole range of stimuli and sensations: they notice a number of scientific details, they enjoy the range of colours and lights, they get absorbed by the symphony of trees rustling and the flow of energy gives them the shivers. They are able to feel harmony with nature, it captures their attention and provides them with many experiences – for some they are intellectual, for others aesthetic or spiritual, and the people are able to recall them later. They notice nature in an artificial environment too, e.g. in a city. They perceive the beauty of nature as well as its damage.

A person with a lower environmental sensitivity is able to visualise only few environmental details in their neighbourhood. They have trouble when concentrating on nature – thoughts and feelings distract them.

Environmental sensitivity has prevailed in natural mysticism and art (landscape painting, nature lyric poetry), at present it is expressed in the growing interest in countryside, pilgrims, bioregionalism and geomancy.

## Environmental concern

Not all the people who are sensitive to their close environment also behave in an environmentally-friendly way, locally and globally. A person with a **greater concern**<sup>42</sup> is motivated to preserve nature and the environment. They seek ways how to behave more responsibly towards the environment<sup>43</sup> and acquire a whole range of proenvironmental habits – e.g. they separate waste, cut down the consumption of water and ener-

<sup>40</sup> We can find many different definitions of environmental sensitivity in literature. Here it is defined as the ability of perception and attention to the natural world, which arises from the tendency of an individual to feel attracted to this world.

<sup>41</sup> Cp. Metzger, McEwan (1999).

<sup>42</sup> Cp. Takala (1991), Bechtel (1997), Schmuck, Schultz (2002).

<sup>43</sup> I.e. environmental identity, e.g.. Susan Clayton „Environmental Identity: A conceptual and an Operational Definition“, in Clayton, Opatow (2003).

gy and purchase environment-friendly products. A person with a greater environmental concern probably will not speak disparagingly of the growing environmental damage.<sup>44</sup> The person is aware of the relationship between their behavior and the state of the environment. They see pollution, extinction of species and the disturbance of the natural cycles of the planet as undesirable. They make effort to contribute to the solution of these problems rather than create them.<sup>45</sup>

Preservation of the environment is not only a question of intellectual interest for a person with a greater environmental concern but it is also an emotional issue<sup>46</sup> – they feel sadness over the damage of the environment, they feel sympathy with the suffering nature and at the moment they probably experience certain concern about the environmental future. They are willing to reduce their needs for the preservation of the environment. Sometimes they get involved in public activities for environmental preservation or support political programs aiming at greater environmental preservation.<sup>47</sup>

A person with a lesser environmental concern is indifferent towards the preservation of the environment. They have no restraints in environmentally unfriendly activities, they may even be negative towards the issue of environmental preservation.

The environmental concern in public space is expressed in the form of organised environmental preservation, ecological activism and environmentalism.

## General attitude towards nature

The fifth basic characteristic in the relationship to nature is more general than the previous ones. It concerns **the general attitude towards nature**, which can be classified as e.g. the one of a master, manager, partner, then as religious, hostile etc.<sup>48</sup> Each of these types of attitudes to nature can be described by two characteristics – dominance or submission relating to nature, and affiliation or hostility to nature.<sup>49</sup> The general attitude towards nature is expressed as a general belief about the role of nature in the relationship to humans and the position of a human in the relationship to nature. In the social sphere it is possible to come across the topics of general attitudes towards nature primarily in the academic debate – in the area of environmental philosophy, ethics and sociology. In everyday life such issues are rarely explicitly reflected.

The last characteristic is related to the previous four and the relationship is more complicated than it seems. Certainly there is no direct proportion between the general attitude towards nature and other characteristics – many people feel certain sympathy to nature, however, it is only rarely associated with an increased need for contact with nature or even more rarely with a greater environmental concern. The general attitude towards nature rather expresses how a particular person thinks about nature and how they relate to it in their lives in general.

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<sup>44</sup> Cp. „Human reactions to environmental Hazards: perceptual and cognitive processes“, in: Gardner, Stern (1996).

<sup>45</sup> I.e. environmental responsibility, see e.g.. Kals, Montada (1994).

<sup>46</sup> Cp. Kals, Maes „Sustainable Development and Emotions“, in: Schmuck, Schultz, 2002.

<sup>47</sup> Clayton, Opatow (2003).

<sup>48</sup> See e.g. Franěk (2003).

<sup>49</sup> Krajhanzl (2004).



## The diversity and contradiction in human relationships to nature

It is obvious at the first sight that among people there exist differences in their relationships to nature. There are two significant conclusions drawn from the five basic characteristics mentioned above:

Firstly, the relationship of a person to nature can not be expressed in a word, using only one dimension, e.g. we can not say that someone is “estranged from nature“ or “is not estranged“ or “has a close relationship to nature“ or “is not close to nature“. The reality is more complicated, but also more interesting – in the description of a relationship of an individual to nature it is necessary to reflect more dimensions, e.g. those mentioned above.

Secondly, it is obvious that not everyone who feels a need to spend their leisure in the open air is also active in the preservation of the environment. So what are the relationships among other characteristics?

To illustrate, let us imagine that people mentioned in the examples of individual characteristics above met:

*An owner of a country cottage as an example of a person who wants to spend time in the open air, that is an example of a need for contact with nature.*

*A soldier trained to survive in challenging physical conditions as an example of a person who is able to survive outdoors, that is an example of abilities for the contact with nature.*

*A poet writing about nature as an example of a person who experiences nature intensively, that is an example of environmental sensitivity.*

*A person who preserves the environment, that is an example of environmental concern.<sup>50</sup>*

It is apparent that these people differ in their relationship to nature. Therefore, we can ask:

*Does each poet writing about nature have abilities for the contact with nature comparable with a trained soldier? Is a soldier trained for survival in wilderness as sensitive to nature as a person who preserves the environment? Does a person who preserves the environment feel a need to spend their time in the open air just as often as an owner of a country cottage? Etc.*

The given characteristics of a personal relationship to nature are often in mutual disproportion, on the other hand, extreme cases are rare, that is the cases where all five characteristics are highly developed (a kind of a natural ideal?) or where all of them are on a minimal level. The disproportion among the characteristics of relationship to

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<sup>50</sup> The fifth characteristic is two-dimensional and thus it would be difficult to use it.

nature, which can be defined as the contradiction in the relationship to nature, is very interesting from the point of view of environmental sustainability and environmental education.

To illustrate, we will present several examples created by the students of psychology.<sup>51</sup>

### **Example one**<sup>52</sup>

Composed for the relationship of an individual to nature which can be characterised in this way: a strong need for contact with nature, rather lower abilities for contact with nature, lower environmental sensitivity, middle level of environmental concern.

*The person passionately loves nature and often speaks about it, can not do without it, if they are forced to live in a city their flat is full of flowers and other products of nature (that they do not understand very well, therefore from time to time some of these plants wither or rot away), on their desk there is a calendar with landscape photos, they have a pet/pets but it is similar to plants – the pet may die because of lack of food or unsuitable food.*

*They always go on holiday to the country, but they do not sleep in a tent or rough, they prefer a small hotel or guesthouse with particular services – to be able to enjoy the beauty of nature and not to have to bother with trifles, such as where to dry clothes when they get wet, where to take a shower, what to eat etc.*

*They travel mostly with travel agencies or book guides as they are not very attentive. If they were not told what to look for and what to see they would not even notice it and would undertake a trip in vain. Therefore, they have others to tell them what to focus on, what is important and beautiful (or what seems important and beautiful to someone else).*

*As concerns their behaviour outdoors – they behave well unless it restricts them somehow, that is, e.g. they separate waste only unless they have to transport it too far etc., their motivation for the preservation of the environment is rather anthropocentric, i.e. they defend the rights of the environment for humans – to preserve nature's beauty for humans rather than for nature itself.*

### **Example two**<sup>53</sup>

Composed for the relationship of an individual to nature which can be characterised in this way: the need for the contact with nature not so strong, rather better

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<sup>51</sup> Students of the department of psychology at the Faculty of Arts Charles University were given an assignment within the course *Personal relationship of a human to nature*. In the assignment they learned about an imaginary person who is described exclusively by a certain level of four basic characteristics of the relationship to nature. For each characteristic there was a five-point scale (high, rather high, middle, rather low and a low level). Subsequently the students made up what kind of a person would correspond with the characteristic of a relationship to nature (see the following three examples).

<sup>52</sup> By Petra Průchová.

<sup>53</sup> By Petr Balous.

abilities for the contact with nature, rather lower environmental sensitivity, high environmental concern.

*The screensaver of their PC is a photo of demonstrators in front of a power plant. They do not go to the country – they feel they can do plenty of interesting things in the city too. They are doing a course on survival in wilderness, where they have learned how to use the knife. They have quite a good sense of direction, they would not get lost easily. They have a small survival box on them at all times – it may come in useful. They enjoy indoor bouldering. When they are travelling by train, they notice the landscape and they prefer natural landscapes to those created by humans, however, they are not able to describe a detail they noticed on the way. Somehow it all blends together. They do not travel by car nor by plane, if they have to they go by public transport or train, they enjoy cycling, walking and they often rely on themselves. They separate waste both at home and at work. They go to ecological meetings where they express their support for the actions they find beneficial.*

### **Example three<sup>54</sup>**

Composed for the relationship of an individual to nature which can be characterised in this way: rather stronger need for contact with nature, worse abilities for contact with nature, high environmental sensitivity, rather lower environmental concern.

*The third example could be a painter. They need contact with nature, but not excessively. They go to the country when summer is in the air, they want to capture the moment at any price and so they set off. They need very little. They “take a picture“ of the image, the impression and the spirit of the place in their mind and they are off to their painting. If they should stay in the open air without cans, compass or tent they would not cope... simply saying they have never been scouts, they would not be able to set fire without a lighter and they suppose the Sun sets in the west...An absent-minded artist, a combination of Exupery’s Little Prince and a kind of fairy who lives on air. The artist’s soul is able to capture the slightest detail of the scenery. The toadstool is depicted as a polka-dot scarf of a fairy-tale character Ferda the Ant, a cone reminds an armadillo etc. Everything means something, everything has its place. There is not enough space for environmental concern in the stream of associations, images and sudden thoughts. Turpentine wrap should be disposed of for a new idea to end up on canvas. And so, if an ecological effort is successful, they won’t be cross... *Panta rhei.**

The given examples illustrate the diversity of human relationships to nature. Indirectly they demonstrate how distorting a one-dimensional conception of this relationship can be (e.g. closeness vs. alienation). This one-dimensional conception in their generality blur the indicated dimensions in the relationship to nature and pay little regard to the widespread contradiction in many people’s relationship to nature. The principal shortcoming of this conception is that they fail to describe common relationships of people to nature – e.g. many people are motivated to stay in the open air nowadays (a stron-

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<sup>54</sup> By Ivana Rýparová.

ger need of contact with nature) but at the same time they do not take the preservation of the environment into consideration very much (lower environmental concern).<sup>55</sup> How should we express this contradiction on an axis between closeness and alienation ?

In the technical debate it is necessary to speak about personal relationships of humans to nature particularly – i.e. with specification how the speaker understands general terms such as “positive relationship to nature“ or “alienation“ and what particular attitudes, abilities or characteristics they are talking about. The precise definition and general understanding of key terms is a prerequisite for productive work as well as for meaningful technical communication.

What implies from the above mentioned for environmental education are a few questions:

What methodology, teaching technique or aids develop each of the characteristics?

Will a particular game in the open air develop environmental sensitivity or rather environmental concern?

Is it really the characteristic that the authors of the program aim at that is developed?

How can we evaluate effectivity of the program, how can we judge if it develops what the authors intended?

And finally, what methodology is most efficient for the development of individual characteristics of the relationship to nature?

If we did not ask these questions one day we could find out that the programs aimed at the promotion of environmentally sustainable behaviour actually bring up a different kind of admirers and lovers of nature than we probably intended – families building houses in overspill towns “for the sake of the children“, forest cyclists and fans of outdoor adrenaline, tourists searching for the “real wilderness“ on the other hemisphere.

What we would achieve in this case is in a sense a return to nature, however, it is not likely to lead to environmental sustainability.

## Literature

AXELROD, Lawrence J., LEHMAN, Darring R. Responding to Environmental Concern: What factors guide individual action?. *Environment and Behavior*. 1993, no. 13, pp. 149-159.

BECHTEL, Robert B., CHURCHMAN, Arza (Eds.), *The New Handbook of Environmental Psychology*. New York : John Wiley, 2002.

BELL, Paul A., et al. *Environmental Psychology*. 5th edition. [s.l.] : [s.n.], 2001. 634 s.

BRANIŠ, Martin. Globální problémy životního prostředí. In: Dlouhá, J., Dlouhý, J.,

<sup>55</sup> Cp. *Výzkum odcizování člověka přírodě: Závěrečná zpráva (Research on the alienation of humans from nature. Final report.)* (Strejčková a kol., 2006).

- Mezřický, V. (eds.) (2006) *Globalizace a globální problémy*. Sborník textů k celouniverzitnímu kurzu 2005 – 2007. pp 207 – 220. Univerzita Karlova v Praze, COŽP.
- CLAYTON, Susan, MYERS, Gene. *Conservation Psychology: Understanding and Promoting Human Care for Nature*. Wiley-Blackwell, 2009.
- ČINČERA, Jan. *Evaluace programů environmentální výchovy*. [Habilitationní práce] Brno: Masarykova univerzita, 2009 (v řízení).
- HUNGERFORD, Harold R.; VOLK, Trudi L. Changing Learner Behavior Through Environmental Education. *The Journal of Environmental Education*, 1990, vol. 21, is. 3, pp. 8-21.
- KAISER, Florian G., et al. Ecological Behavior, Environmental Attitude, and Feelings of Responsibility for the Environment. *European Psychologist*. 1999, vol. 4, no. 2, pp. 59-74.
- MOLDAN, Bedřich. *Globální problémy životního prostředí*. Centrum pro otázky životního prostředí UK, 2003. Dostupný z WWW: <<http://www.czp.cuni.cz/knihovna/Publikace/global/default.htm>>.
- STERN, Paul C. Toward a Coherent Theory of Environmentally Significant Behavior. *Journal of Social Issues*. 2000, vol. 56, no. 3, pp. 407-424.
- Globální environmentální problémy [online]. EnWiki, 2008 [cit. 2008-10-05]. Dostupný z WWW: <[http://www.enwiki.cz/wiki/Glob%C3%A1ln%C3%AD\\_environment%C3%A1ln%C3%AD\\_prob%C3%A9my](http://www.enwiki.cz/wiki/Glob%C3%A1ln%C3%AD_environment%C3%A1ln%C3%AD_prob%C3%A9my)>.
- BALCAR, Karel. *Úvod do studia psychologie osobnosti*. Praha: SPN, 1983. 232 s.
- BELL, Paul A., et al. *Environmental Psychology*. 5th edition. [s.l.] : [s.n.], 2001. 634 s.
- BECHTEL, Robert B., CHURCHMAN, Arza (Eds.), *The New Handbook of Environmental Psychology*. New York : John Wiley, 2002.
- CLAYTON, Susan, OPOTOW, Susan (Eds.). *Identity and the natural environment*. Cambridge, MA: MIT Press, 2003.
- ČINČERA, Jan. *Environmentální výchova: od cílů k prostředkům*. Brno: Paido 2007.
- FABIÁNOVÁ, Hana. *Psychologické aspekty dobrovolné skromnosti*. [s.l.], 2004. 99 s. Filozofická fakulta Univerzity Karlovy v Praze, Diplomová práce.
- FRANĚK, Marek. Postoje ke třídění a recyklaci odpadu u vysokoškolských studentů: Souvislosti s pohledem na postavení člověka v přírodě a některými osobnostními rysy. *Psychologie v ekonomické praxi*. 2008, č. 1-2, s. nn. Dostupný z WWW: <<http://www.vztahkprirode.cz/soubory/mftrideni.pdf>>.
- GARDNER, Gerald T., STERN, Paul C. *Environmental Problems and Human Behavior*. [s.l.] : Allyn and Bacon, 1996. 369 s.
- GIFFORD, Robert. *Environmental Psychology : Principles and Practice*. 2nd edition. Allyn and Bacon : [s.n.], 1997. 506 s.
- HARTL, Pavel, HARTLOVÁ, Helena. *Psychologický slovník*. 2000. vyd. Praha : [s.n.], 2002. 774 s. , 774.
- KOLLMUS, Anja, AGYEMAN, Julian. Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*. 2002, vol. 8, no. 3, pp. 239-260.

- KRAJHANZL, Jan. Psychologie ve službách Země. In Heller, Daniel, Mertin, Václav, Sobotková, Irena. *Psychologické dny 2006 : Prožívání sebe a měnicího se světa*. Praha: Univerzita Karlova v Praze, 2007. s. 35.
- KRAJHANZL, Jan. Ekopsychologie a environmentální chování. In: Dlouhá, Jana (ed.) *Vědění a participace*. Praha: Karolinum, 2009.
- KRAJHANZL, Jan, ZAHRADNÍKOVÁ, Šárka, RUT, Ondřej. *Možnosti spolupráce s veřejností (nejen) při ochraně životního prostředí*. Praha: Zelený kruh, 2010.
- KUŠKOVÁ, Petra. Strategie osvětových kampaní při práci se širokou veřejností a jejich účinnost. In: kol. *Člověk + příroda = udržitelnost? : Texty o proměně vztahů lidí k přírodě, environmentální výchově a udržitelnosti*. Praha: Zelený kruh, 2009. Dostupný z WWW: <<http://www.zelenykruh.cz/dokumenty/300409-clovek-priroda-fin.pdf>>.
- LEONARD-BARTON, Dorothy. Voluntary simplicity lifestyles and energy conservation, *Journal of Consumer Research*, 1981, vol. 8, pp. 243-252.
- McKENZIE, Doug et al. Determinants of responsible environmental behavior. *Journal of Social Issues*. 1995, vol. 51, no. 4, pp. 139-156.
- McKENZIE-MOHR, Doug, SMITH, William. *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing*. [s.l.] : New Society Publishers, 1999. 160 s.
- MESSICK, David M., & BREWER, Marilyn B. Solving social dilemmas: A review. *Review of Personality and Social Psychology*. 1983, vol. 4, pp. 11-44.
- NAKONEČNÝ, Milan. *Sociální psychologie*. 1. vyd. Praha : Academia, 1999. 287 s.
- NICKERSON, Raymond S. *Psychology of Environmental Change*. New Jersey, London : Lawrence Erlbaum Associates, Publishers, 2003. 318 s.
- SAUNDERS, Carol D. The emerging field of conservation psychology. *Human Ecology Review*. 2003, vol. 10, no. 2, pp. 137-149. Dostupný z WWW: <<http://www.humanecologyreview.org/pastissues/her102/102saunders.pdf>>.
- SCHMUCK, Peter, SCHULTZ, Wesley. *Psychology of sustainable development*. Boston: Kluwer Academic Publishers, 2002. 344 s.
- SCHULTZ, P. Wesley, ZELEZNY, Lynnette. Values as predictors of environmental attitudes: Evidence for consistency across 14 countries. *Journal of Environmental Psychology*. 1999, vol. 19, no. 3, pp. 255-265.
- SCHWARTZ, Shalom H. Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, M. Zanna, San Diego: Academic Press, 1992.
- SKÁLA, Pavel. Vývoj lidské bytosti jako posloupanost environmentalisticky relevantních možností výchovy z hlediska dynamické ekopsychologie. In: kol. *Člověk + příroda = udržitelnost? : Texty o proměně vztahů lidí k přírodě, environmentální výchově a udržitelnosti*. Praha: Zelený kruh, 2009. Dostupný z WWW:<<http://www.zelenykruh.cz/dokumenty/300409-clovek-priroda-fin.pdf>>.
- WILSON, Edward O. *Konsilience: Jednota vědění*. 1. vyd. Praha: Lidové noviny, 1999. 363 s.
- LOMBORG, Bjørn. *Skeptický ekolog : Jaký je skutečný stav světa?*. Redakce Marie Černá ; přeložil Petr Holčák. 1. vyd. Praha : Dokořan, 2006. 587 s.
- P.E.S. aneb Páteční ekopsychologická setkání [online]*. 2007 [cit. 2008-11-14]. Do-

- stupný z WWW: <<http://www.vztahkprirode.cz/view.php?cislocianku=2007030004>>.
- BECHTEL, Robert B., CHURCHMAN, Arza (Eds.), *The New Handbook of Environmental Psychology*. New York: John Wiley, 2002.
- BECHTEL, Robert B. *Environment & Behavior: An Introduction*. Thousand Oaks, CA, 1997.
- BELL, Paul A., et al. *Environmental Psychology*. 5th edition. [s.l.] : [s.n.], 2001. 634 s.
- BIXLER, Robert D., FLOYD, Myron E. Nature is scary, disgusting and uncomfortable. *Environment and Behaviour*. 1997, vol.29, no. 4, pp. 443-467.
- CLAYTON, Susan, OPOTOW, Susan (Eds.). *Identity and the natural environment*. Cambridge, MA: MIT Press, 2003.
- FRANĚK, Marek. Změny postojů ve vztahu k přírodě ve vyspělých zemích a jejich vztah k praktickému chování. *EKO-ekologie a společnost*. 2003. Dostupný na WWW: <[www.ceu.cz/EDU/vyzkum/clanky/postoje.htm](http://www.ceu.cz/EDU/vyzkum/clanky/postoje.htm)>.
- GARDNER, Gerald T., STERN, Paul C. *Environmental Problems and Human Behavior*. [s.l.] : Allyn and Bacon, 1996. 369 s.
- KAHN, Peter H., Jr. *The Human Relationship with Nature: Development and Culture*. [s.l.] : The MIT Press, 1999. 295 s.
- KAPLAN, Stephan, TALBOT, Jane. Psychological benefits of a wilderness experience. In ALTMAN, Irvine, Wohlwill, Joachin F. *Behavior and the natural environment*. New York: Plenum, 1983. s. 362.
- KRAJHANZL, Jan. *Osobní vztah člověka k přírodě*. [s.l.], 2004. 135 s. Diplomová práce. Univerzita Karlova v Praze, Filozofická fakulta.
- KRAJHANZL, Jan. Rozmanitost, a společné motivy v odpovědích ankety „pojem vztah k přírodě“. *Envigogika*. 2007, roč. 1, č. 1. Dostupný na WWW: <<http://envigogika.cuni.cz/index.php/cs/inspirace/20071/64-rozmanitost-a-spolene-motivy-v-odpovdich-ankety-pojem-vztah-k-piroad>>.
- METZGER, Tina, McEWEN, Douglas. Measurement of environmental sensitivity. *Journal of Environmental Education*. 1999, vol. 30, no. 4, pp. 38-40.
- SCHMUCK, Peter, SCHULTZ, Wesley. *Psychology of sustainable development*. Boston: Kluwer Academic Publishers, 2002. 344 s.
- STREJČKOVÁ, Emilie a kol. *Výzkum odcizování člověka přírodě: Závěrečná zpráva* [online]. Děti a město, 2006 [cit. 29. 9. 2008]. Dříve dostupný na WWW: <<http://www.detiamesto.cz>>.
- TAKALA, M. Environmental Awareness and human activity. *International Journal of Psychology*. 1991, vol. 26, pp. 565-597.

## ENVIRONMENTÁLNÍ A PROENVIRONMENTÁLNÍ CHOVÁNÍ

**Abstrakt:** Jednou z významných oblastí zájmu psychologie je tzv. environmentální chování a proenvironmentální chování. Autor nabízí koncept, s jehož pomocí se lze snadněji orientovat ve značně širší faktorů, které působí na chování k životnímu prostředí. Představuje metodický postup, který prakticky podporuje chování šetrné k životnímu

prostředí. Předkládá pět charakteristik osobního vztahu k přírodě a objasňuje důležitost jejich rozlišování v oborové teorii i praxi. Autor rovněž zdůrazňuje důležitost budování osobních vztahů lidí k přírodě. Jako nosné se v této souvislosti ukazuje zkoumání individuálního porozumění obecným termínům environmentálního vzdělávání a budování porozumění společného.

**Klíčová slova:** environmentální chování, proenvironmentální chování, chování šetrné k životnímu prostředí, oblasti environmentálního chování, charakteristiky vztahu k přírodě, potřeba kontaktu s přírodou, schopnosti pro kontakt s přírodou, environmentální senzitivita, obecný postoj k přírodě, environmentální vědomí