



SZENT ISTVÁN UNIVERSITY

Enyedi György Doctoral School of Regional Sciences

**SPATIAL ASPECTS OF SUSTAINABILITY MINDFULNESS  
AND TOURISM**

Theses of doctoral (PhD) dissertation

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# 1. BACKGROUND AND OBJECTIVES

Each of the three topics the dissertation focuses on has been intensively researched in the past decades. However, their relationship and spatial aspects has not been examined either in Hungarian or foreign literature. The choice of topics is unorthodox in a doctoral school of spatial sciences, but at the same time, the challenges posed by the present socio-ecological crisis are unusual too. As there are paradigm level causes of this crisis, outside the box thinking and approaches are justified.

From a global perspective it can be stated that sustainability efforts have been unsuccessful. In spite of local and regional achievements, we have crossed over several planetary boundaries and are still on path to worst case climate scenario. The dissertation strives to emphasize that sustainability is not primarily a scientific and technological challenge but an existential lesson. Out of the many sustainability priorities the dissertation focuses on two: protection of natural environment and a shift in world view.

The fundamentally Buddhist meditation techniques have been gaining popularity under the umbrella term *mindfulness*. Based on earlier research, level of mindfulness is positively correlated with sustainable attitude and behaviour. It is of crucial importance because mindfulness can catalyse the paradigm change which, considering the deepening crisis of consumer societies, seems inevitable.

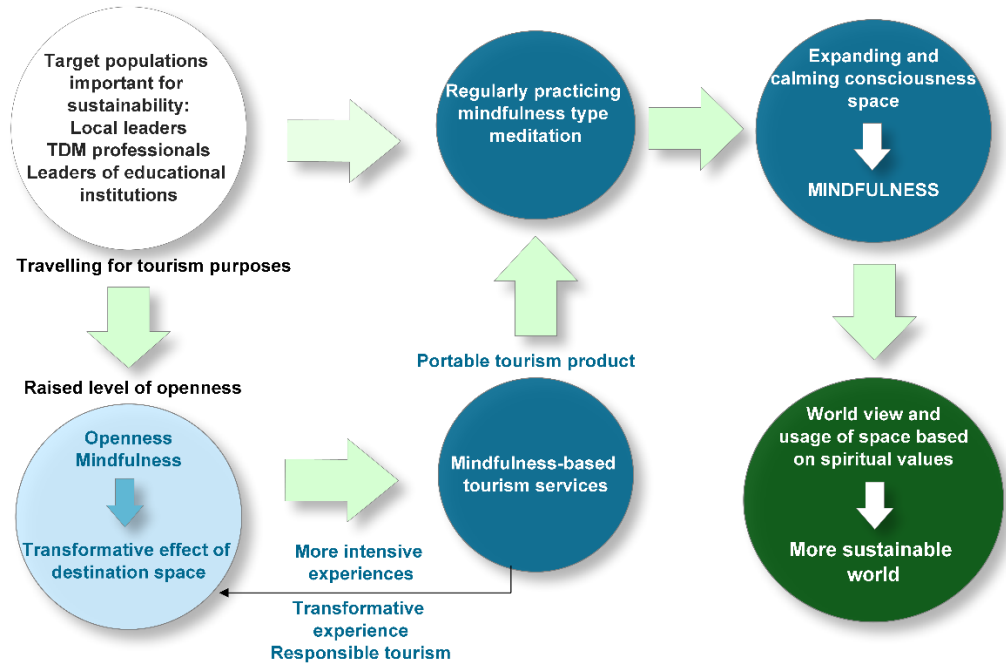
Tourism, as the biggest service sector globally, is one of the most problematic areas of sustainability efforts. According to business as usual forecasts, tourism's share of global greenhouse gas emission might soar to 40% by 2050. Because of this, it is an important question how tourism, apart from the greening effort so far, can significantly contribute to the cause of sustainability.

Space is the dimension that embraces all three research topics. Space, as a basic ontological and epistemological category, has always been one of the central themes of western philosophy and science. At the same time, Hindu, Taoist and Buddhist philosophy, which provide the theoretical background for Mindfulness Type Meditations, has also placed great emphasis on the various aspects of space. As Mindfulness Type Meditations are the epistemological means for the discovery of consciousness, space and consciousness are inseparable notions in my dissertation.

Based on the above, the main research question of my dissertation is the following:

**How can mindfulness, tourism and a different type of spatial view help in a synergistic way to catalyse the shift in world view and value system necessary to solve the deep socio-ecological crisis?**

Figure 1. summarises the hypothetical answer that I will validate through means of primary and secondary research.



**Figure 1: Tourism, mindfulness, spatial view synergy used to move towards sustainability**

*Source: Own editing*

1. Examining whether openness to experience is significantly bigger in Destination Space than in Everyday Spaces.
2. Examining whether Potential Wellness Tourists would like to try Mindfulness-Based Tourism Services and if they did, what type of tourism destination they would prefer to do it in.
3. Examining whether local leaders being key figures in local sustainability efforts and meditators regularly doing Mindfulness Type Meditations differ significantly in terms of mindfulness levels.
4. Uncovering how search intensity of typical mindfulness-related search terms has been changing in recent years.
5. Measuring what importance local leaders, destination management professionals attribute to and how much they discount in space Protecting Natural Environment and Change in World View, the two key sustainability priorities in the dissertation, compared with a control sample of regular

mindfulness meditators.

Based on what has been discussed above and in accordance with the objectives I created the following hypotheses:

**H1:** Openness to experience in Destination Space is significantly higher than in everyday space.

**H2:** Potential Wellness Tourists would like to try mindfulness-based tourism services if they were offered them in the destination.

**H3:** Local leaders and meditators regularly doing Mindfulness Type Meditations differ significantly in terms of mindfulness levels.

**H4:** Interest in Mindfulness Type Meditations has been constantly growing recently globally and in some of the main tourist sending countries of Hungary.

**H5:** Local leaders and destination management professionals attribute less importance to Protecting Natural Environment and Change in World View and discount them in space more than a control sample of regular mindfulness meditators.

## 2. MATERIAL AND METHOD

Figure 2. summarises the methodological structure of the dissertation.

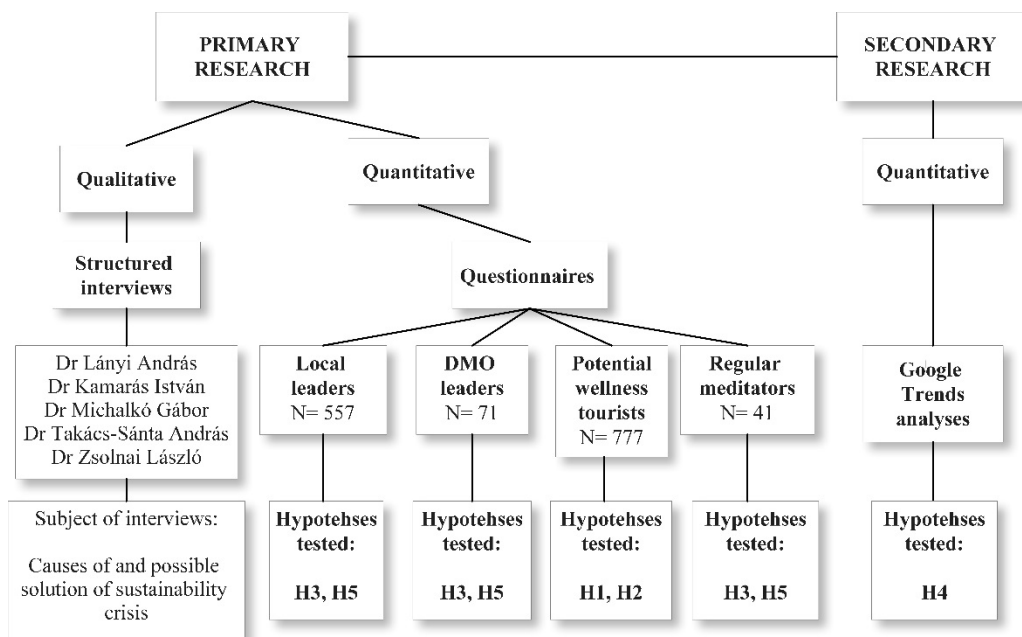


Figure 2: **Structure of methodology**

Source: Own editing

### 2.1 Primary research

#### 2.1.1. Quantitative research

The following is a list of the tested samples (In brackets I present sample size and hypotheses tested on the sample).

#### Samples:

- Mtel** – Sample of Hungarian local leaders (n=557, H3, H5)
- Mtdm** – Sample of DMO professionals (n=71, H5)
- Mpedw** – Subsample derived from the main sample of Hungarian leaders of primary and secondary education institution (n=777 H1, H2, H4)
- Mmed** – Control sample of regular meditators (n=41, H3, H5)
- Melő** – Sample pre-testing surface validity of Attention and Awareness Mindfulness Scale (n=176, H3)

The main target populations were chosen for their crucially important position in

sustainability efforts. Local leaders (Mtel) can greatly influence sustainability at the local level which is considered by many the key level to a sustainable future. DMO (Hungarian: TDM) professionals (Mtdm) are supposed to be managing the destination's tourism in a sustainable way. Leaders of primary and secondary educational institutions (Mped) are important in two ways. On the one hand, they can have a significant influence on children's perception and understanding of socio-ecological problems. On the other hand, this population, especially the subsample (Mpedw) I created from the main one, has a demographic profile which is very similar to the profile of the typical wellness tourist in the literature. The sample containing only meditators regularly doing Mindfulness Type Meditations (Mmed) was needed to serve as a control sample of Mtel for H3, H5.

The questionnaire used for testing Mtel, Mtdm and Mmed had two parts apart from the demographic section. In the first part respondents had to give the three most important priorities needed for long-term local/destination, national and global level sustainability. The second part contained the newly developed Attention and Awareness Mindfulness Scale. Mtel and Mmed respondents were tested with online questionnaires, while the same data from Mtdm professionals was collected through telephone surveys.

### **2.1.2. Qualitative research - Interviews**

As there were problems organising personal interviews, after agreeing to answer interview questions, the interview subjects received the questions in an e-mail. No limit had been set concerning response time or length. All interview questions were open-ended questions. Questions were personalised according to the respondents' main research areas. All interviews had sustainability as their central theme. The following scientists/researchers agreed to do the asynchronous interviews:

**Dr. Michalkó Gábor**, tourismologist; **Dr. Lányi András**, ecologist, philosopher; **Dr. Takács-Sánta András**, ecologist; **Dr. Kamarás István**, religion sociologist; **Dr. Zsolnai László**, economist

### **2.1.3. Theory formation**

Hierarchical Dualistic Consciousness and Space Concept.

## **2.2 Secondary research – Analysis of Google Trends time series data**

I used time series data provided by Google Trends and Google Adwords Keywords. Using regression analysis, I examined search popularity changes of



174 search terms related to the base search terms of „meditate”, „meditation”, "mindful", "mindfulness" between 2014-2017.

### **Statistical analysis methods used**

For the statistical analyses the following applications were used: SPSS 22 statistical software, R open source statistical packages, R-menue 2.0 integrated into SPSS, Factor public domain software.

For testing the hypotheses I used the following statistical methods: Descriptive statistics, Spearman rank order correlation, regressions, trend line estimation, independent samples t-test, Mann-Whitney U test, Cohens-d, Hedges-g és Cliff-d effect size indicators, one-way ANOVA, Kruskal-Wallis test, exploratory factor analysis (EFA) on both Pearson and polychoric matrixes, confirmatory factor analysis (CFA), Parallel analysis (PA), Optimal coordinates (OC), Acceleration factor, Minimum average partial (MAP).

### 3. RESULTS

#### 3.1 Validation of primary research hypotheses

**Openness to experience** – Figure 3. shows changes in the level of openness to experience in the Destination Space compared to Everyday Space.

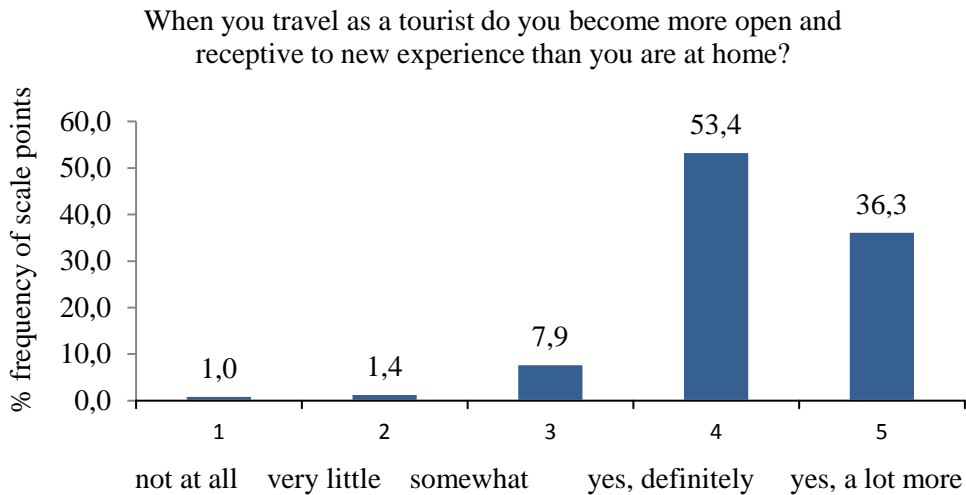


Figure 3: **Level of openness to experience in the destination relative to openness in everyday space in Mpedw sample**

*Source: Own editing*

**H1** – In Destination Space openness to experience is significantly higher than openness characteristic in Everyday Space. **Accepted.**

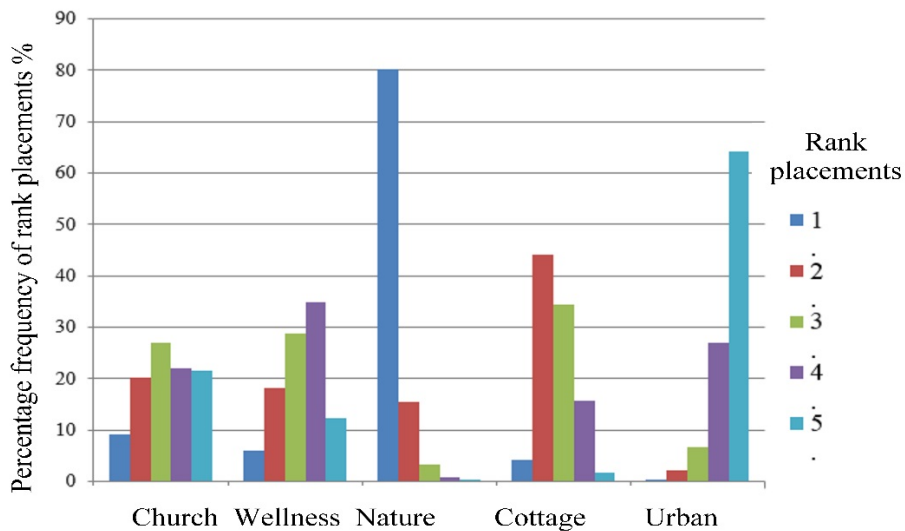
Based on ordinal regression, age, education level and income level are not significant predictors of openness ( $p > 0,05$ ). Results of rank order correlation:  $\rho = 0,108$ ,  $p = 0,003$ ;  $\tau = 0,088$ ,  $p = 0,002$ . Both correlation coefficients show that there is a significant connection between level of openness and the probability of trying out Mindfulness-Based Tourism Services. The mean probability value is  $M = 63,4\%$ .

**Mindfulness-Based Tourism Services** – Potential Wellness Tourists of sample Mpedw would like to try Mindfulness-Based Tourism Services at a mean probability of 63,4%. As the 50% probability on the scale suggests an open attitude towards the products, we could derive a binary variable from the original 0-100 rating scale, where those marking between 0-49% would fall into the No group, while those marking between 50-100 would be categorised into

the Yes group. That would yield 557 respondents in the yes group, which is 74,3% of the sample. Proper price-value ratio and good quality marketing communication could greatly help the decision-making process and this percentage could get even higher.

**H2** – Potential Wellness Tourists would like to try mindfulness-based tourism services if they were offered them in the destination. **Accepted.**

My research gives support to earlier studies proving that positive wellbeing effects of vacations erode very quickly after returning home. In the Mpedw sample the mean positive physical effect (Htest) length is M=9,6 (Sd=9,6), while the mean positive psychological effect (Hpszich) length M=16.6 (Sd=17,1). Average positive effect length in literature varies between 2-4 weeks. Compared with sample sizes in earlier literature Mpedw (n=777) is a large sample. Also, I have no knowledge of earlier studies using a nationwide sample.



**Figure 4: Rankings of destination types potentially suitable for trying mindfulness-based tourism products**

*Source: Own editing*

As it is clear from Figure 4. Potential Wellness Tourists would prefer to get introduced to mindfulness in Nature and Cottage (village tourism) locations and not in wellness establishment as I anticipated, based on the fact, that at present only wellness hotels offer Mindfulness-Based Tourism Services.

**Difference in mindfulness levels** – Both the independent sample t-test

(parametric) and the Mann–Whitney U test (non-parametric) yielded similar results and show that mean mindfulness levels of the two samples are significantly different (Table 1.). Mean mindfulness level of local leaders is  $M = 35,86$  ( $SD = 17,71$ ), while mean mindfulness level of regular meditators  $M = 35,86$  ( $SD = 17,71$ ). The effect size is big ( $Cliff-d=0,78$ ).

**Table 1: Results of t-test and Mann–Whitney U test for Mtel and Mmed**

Independent samples t-test results

t	df	p	mean	SD	Cohen-d	Hedges-g
-10,71	47,27	<0,001	-29,56	2,76	3,11	3,10

A Mann–Whitney U test results

rank mean (St)	rank mean (Sm)	p	Z	U	Cliff-d
253,43	457,41	<0,001	-8,091	2443,000	0,780

*Source: Own editing*

**H3.** – Local leaders and meditators regularly doing Mindfulness Type Meditations differ significantly in terms of mindfulness levels. **Accepted.**

I examined Mtel for different age groups and found that there is a significant difference in mean mindfulness levels between under 40s ( $M = 31,64$ ;  $SD = 14,74$ ) and over 40s ( $M = 38,04$ ;  $SD = 14,42$ ). One-way NOVA ( $F(1) = 11,30$ ;  $p < 0,001$ ) and Mann–Whitney U-test ( $U = 16538,5$ ;  $Z = -3,219$ ;  $p < 0,001$ ) warrant the conclusion that local leaders at the age of 40 and over have a higher level of mindfulness than their younger colleagues. Based on One-way ANOVA and the Kruskal–Wallis test it can be stated that there are no differences in mean mindfulness levels by gender, education and settlement size ( $p > 0,05$ ). As I did both EFA and CFA on the same sample, the sample was randomly halved. Out of the two derived samples Mtel1 was tested with CFA while Mtel2 was tested with EFA and results were compared with the original sample. Factor loadings of Mtel and Mtel2 are above the 0,5 cutoff value. Correlation between factors is  $r = 0,40$ ;  $p = 0,05$  for Mtel and  $r = 0,20$ ;  $p = 0,05$  for Mtel 2. VIF values are under 2. For factor retention I accepted results yielded by PA which suggested the retention of two factors for both Mtel and Mtel2. The Kaiser test (eigen value > 1), the optimal coordinates test and the acceleration factor also suggested two factors. Results of Mtel EFA done on the polychoric matrix show that the factor determined by situation specific scale items accounts for the 37,25% of total variability while the factor determined by general scale items account for 13,66%. For Mtel2 it is 40,0% for the specific and 21,8% for general scale items. CFA indexes were within an acceptable range ( $\chi^2(8) = 26,04$ ,  $p < 0,001$ ;

CFI = 0,97; RMSEA = 0,06, SRMR=0,04). In conclusion, situation specific scale items account for a much bigger percentage of variability than general items. Also, there is discounting in psychological space because the farther (general items) we are from the "here-and-now" (specific items) the less significance mindfulness has.

**Spatial discounting of sustainability priorities** – Figure 5. and 6. show relative weight of the two key priorities for the three samples across three spatial scales and the fitted regression curves. Local leaders and destination management professionals at local level give considerably less weight to Protecting Natural Environment and Change in World View, the two key priorities, and discount them much steeper than regular meditators. These results give support to earlier findings which had proved the positive correlation between level of mindfulness and sustainable attitudes.

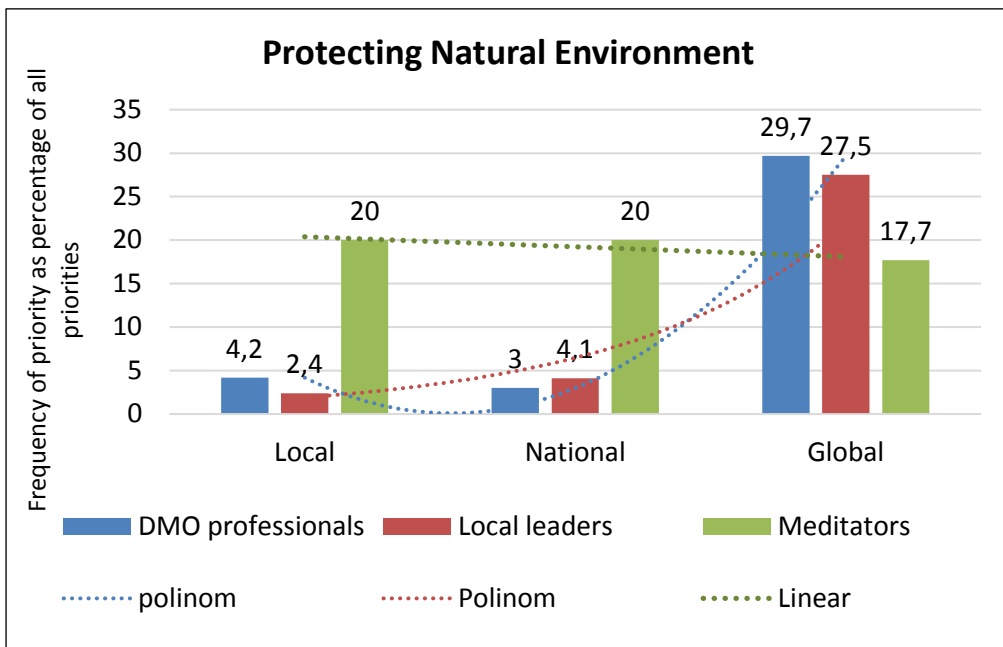


Figure 5: **Relative weight and discounting of protecting natural environment**

Source: Own editing

**H5.** – Local leaders and destination management professionals attribute less importance to Protecting Natural Environment and Change in World View, the two key sustainability priorities in the dissertation and discount them in space more than a control sample of regular mindfulness meditators. **Partly accepted.**

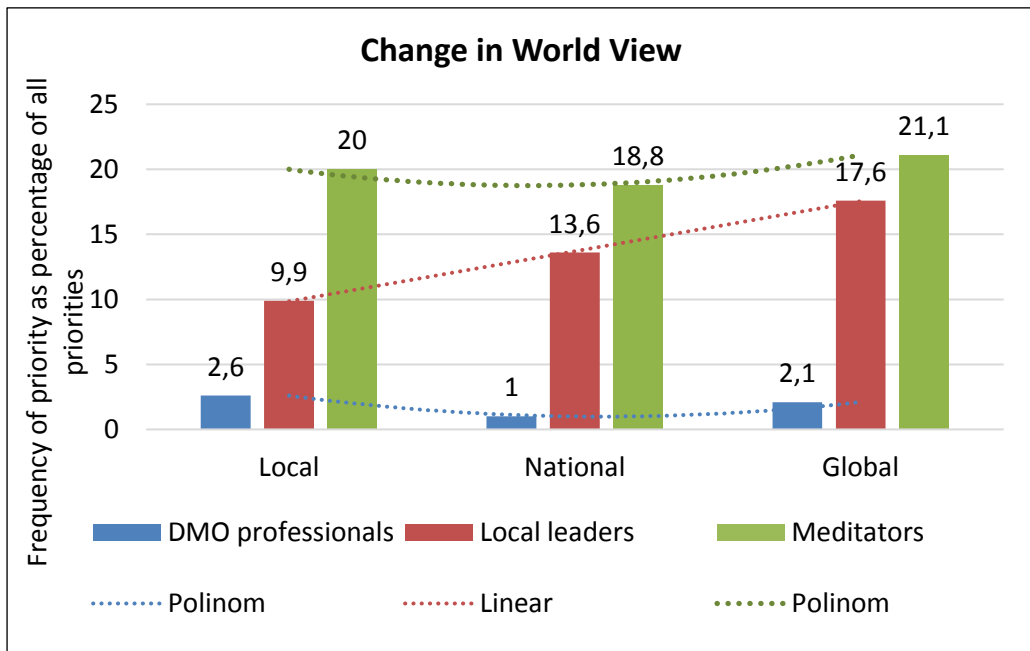


Figure 6: **Relative weight and discounting of Change in World View**

*Source: Own editing*

In Mtdm and Mmed none of the demographic variables proved to be predictors of the two key priorities ( $p > 0,05$ ). One possible explanation of this is the small sample sizes ( $n=71$ ,  $n=41$ ). In Mtel settlement size, education level and age were not significant predictors of the two priorities ( $p > 0,05$ ). Gender, however, was a significant predictor at national ( $p=0,017$ ) and global ( $p=0,001$ ) levels. Female local leaders at local level are 1,5 times more likely ( $\exp(B)=1,551$ ) to choose one of the key priorities and 2,5 times more likely to do the same ( $\exp(B)=2,527$ ) at global level.

The marked difference at global level is even more significant, considering the fact, that this is the level where Protecting Natural Environment and Change in World View were interpreted similarly to the definitions put forward in the dissertation. My results are supported by earlier studies which found that women care more about their environment and discount long-term values and advantages less than men. While one can object to the ecofeminist view stating that the present socio-ecological crisis has its roots in the masculine world view and the resulting patriarchal model of western societies, it might be worth considering how women could have a more significant role in decision making related to sustainability.

### 3.2 Summary of the interviews

I list only the ideas that recurred in all the interviews in connection with

sustainability:

- Emphasis on the importance of the local level
- Emphasis on the role and responsibility of politicians and decision makers
- Emphasis on the need for a different world view
- Importance of the spiritual foundations of sustainable societies

### **3.3 Hierarchical Dualistic Consciousness and Space Concept**

Consciousness, as the potential of reflection on reality, is self-reflexive. Without any content (image, thought etc.) in Consciousness we are aware of our being conscious, we are self-conscious. If Consciousness, as the ontological potential of reflecting on reality was not self-conscious, in other words, if it wasn't able to realise its own existence, it wouldn't be part of reality. As reflection needs an object, Consciousness reflecting on itself can be considered as the simplest and most basic relation of reality. Relation generates space. Consciousness is space-like. Apart from this deductive reasoning Consciousness Space is empirical reality in meditation.

For existence thrown into matter, duality is self-evidential. We live our lives in space stretching between opposing values and qualities. Light-darkness, good-bad, God-human, man-woman, left-right, centre-periphery, ugly-beautiful, spiritual-material, work-leisure, we could go on endlessly. Most of these value pairs are hierarchically ordered (e.g. good-bad). It is important to note, however, that this hierarchical order is not an inherent attribute of the pairs, but a context-dependent value judgements. For instance, the work-leisure pair would mean a different kind of hierarchy for a European and a Japanese. Value pairs in the hierarchical dualistic Consciousness and space concept are inherently hierarchical in a certain way. What does that mean?

The dominant elements of the hierarchy, Consciousness Space and Consciousness, are not bound by the same rules as Physical Space and matter. One might think about phantasies which appear as inner reality during the day, or dreams which appear to be physical reality at night. The pragmatic difference from a mindfulness meditation perspective is the fact that while Individual Consciousness Space can be emptied and expanded, and individual Consciousness can be calmed virtually anywhere and anytime, transforming physical spaces and matter (e.g. built environment, natural environment, body) can be very difficult or even impossible for the individual.

### 3.4 Google Trends data analysis results

In the past three years search popularity of the base search terms „meditate”, „meditation”, „mindful”, „mindfulness” and the related search expressions has been rising. In the "meditate", "meditation" group 89,2% of expressions have had rising search popularity since 2014 while in the „mindful”, „mindfulness” group 100% of the expressions has seen a rising popularity in Google. "Meditation" and "Mindfulness" as basic search terms have been growing in online popularity since 2012 in Germany, Austria, United States, United Kingdom, Italy and the Czech Republic, to mention some of the main tourist sending countries of Hungary. I examined trends for "meditation" in the countries original language. The popularity of the search term "mindfulness" has been rising exponentially in the last few years in Hungary.

**H4.** – Interest in Mindfulness Type Meditations has been constantly growing recently globally and in some of the main tourist sending countries of Hungary.  
**Accepted.**

### 3.5 New and novel scientific results

I summarise the new and novel results of my dissertation based on my research, my theoretical, methodological and empirical results and the processed literature. I will use "for the first time" with results which, to the best of my knowledge, have not been mentioned in earlier studies either in English or Hungarian literature. I will use "for the first time in Hungary" with results which, to the best of my knowledge, have not been mentioned in Hungarian literature before.

#### 3.5.1. Theory

*I examined the relationship of sustainability, mindfulness, tourism and their spatial aspects for the first time together. I highlighted some important causes underlying the failure of sustainability efforts and pointed out that these causes can be positively influenced by Mindfulness Type Meditations. The literature of the causes for failure is rich and so is the literature of the positive effects of mindfulness, however, they were brought together in a scientific work for the first time. I created new definitions for mindfulness, sustainability, spirituality, Change in World View, Hard/Soft Spaces.*

For the first time I described the Hierarchical Dualistic Consciousness and Space Concept, as a pragmatic model of the relationship between Consciousness Space and Physical Space and their influence on sustainability and spiritual growth. The Hierarchical Dualistic Consciousness and Space Concept highlights



the axiomatic statement of the dissertation which says that the way out of the present socio-ecological crises is only possible through a Change in World View and the resulting change in lifestyle. This spatial concept is pragmatic help on the way to spiritual growth.

*For the first time I pointed out that the transformative (liminal/Spielraum) potential of Destination Space is its most important quality from a sustainability perspective and called attention to the fact that this potential is an inherent attribute of Destination Space and can actualise without any religious context. Inner transformation as it is interpreted in the context of Mindfulness Type Meditations requires letting go of any preconceptions. While religious rituals usually have a fixed form that has to be followed by every believer, Mindfulness Type Meditations have a lot of varieties so everybody can find the one that is the most suitable transformative tool for them. For the first time in Hungary I emphasized the importance of retreat type destinations in the context of inner transformation induced by Mindfulness Type Meditations. For the first time I established connection between the heideggerian "Spielraum" concept and transformative (liminal) potential of Destination Space and emphasized that the synergy of openness to experience and mindfulness is crucial in order for the transformative potential of the Destination Space to actualise. For the first time I explained that meditative mindfulness is the basis of socio-cognitive mindfulness.*

### **3.5.2. Methodology**

*For the first time I used Google Trends time series data to examine changes in the search popularity of the base terms "mindfulness" and "meditation" and the most frequently used search expressions related to them globally and in some of the main tourist sending countries of Hungary.*

*For the first time I used open-ended questions to examine sustainability priorities of local leaders, DMO professionals and regular meditators and also the spatial discounting of two key priorities by these groups.*

*For the first time in Hungary I used new, alternative statistical analytical methodology for testing the Attention and Awareness Mindfulness Scale, a newly developed mindfulness measuring instrument. In the literature of mindfulness there are some statistical analytical problems that have cast doubt on some of the survey results of previous studies. Such problems include: sample size, wording of scale items, application of parametric statistical methods to ordinal level data, exclusive an many times false interpretation of Cronbach alpha. For the first time I used R-Menue 2.0 for carrying out ordinal factor analysis on a mindfulness scale and packages of R to test scale reliability with other coefficients than Cronbach alpha. For the first time I pilot tested a short mindfulness scale in which there was an equal distribution of general and situation specific questions.*

### 3.5.3. Results

*For the first time I supplied empirical evidence that in Destination Space openness to experience grows significantly compared to openness in Everyday Space. This is important because in order for the transformative potential of Destination Space to actualise one needs to have a high level of openness.*

*For the first time I empirically proved that the majority of Potential Wellness Tourists would like to try Mindfulness-Based Tourism Services if they were offered them and also examined what tourism locations they would prefer for getting introduced to mindfulness for the first time.*

*For the first time, using a nation-wide sample I managed to prove that the mean mindfulness level of regular meditators is significantly higher than that of local leaders. In connection with this for the first time I showed that regular meditators discount Protecting Natural Environment and Change in World View across the three spatial scales much less than local leaders and DMO professionals. Also, as part of this research project, I found evidence that female local leaders are more likely to choose either of the two key priorities at national and global level.*

*For the first time in mindfulness research I managed to prove that with data considered ordinal level by statistical orthodox ordinal factor analysis done on the polychoric matrix yields a model with bigger explanatory power than factor analysis done on the Pearson matrix.*

*For the first time, in the piloting testing of the Awareness and Attention Mindfulness Scale, I managed to prove that situation specific scale items, that is, items closer in psychological space explain variability more than generally worded items. When moving away from the "here-and-now" in psychological space significance of mindfulness is discounted.*

*With a secondary analysis involving Local Agenda 21 programs of Hungarian settlements, for the first time, I demonstrated that stakeholders' sustainability value system and priorities are not surveyed before setting indicators.*

## 4. CONCLUSIONS AND SUGGESTIONS

*"The greatest discovery of my generation is that a human being can alter his life by altering his attitudes."*

William James – Psychologist

### 4.1 Conclusions

At the beginning of my dissertation I summarised the main aim of my research in the following question:

**How can mindfulness, tourism and a different type of spatial view help in a synergistic way to catalyse the shift in world view and value system necessary to solve the deep socio-ecological crisis?**

I summarise the answer in the sentence below:

**The synergistic effects of the Recognition of the hierarchical priority of Consciousness and Consciousness Space, mindfulness level heightened by using Mindfulness-Based Tourism Services and a high level of openness to experience increase the probability of inner transformation happening within the destination and even if no such transformation occurs in Destination Space, Mindfulness Type Meditations taken home as portable tourism products, through practice, can change the meditator's world view so that it becomes easier to transform the unsustainable way of living into a lifestyle based on spiritual values.**

Here is the list of the most important conclusions:

*During the past centuries consumer societies have provided plenty of evidence of not being sustainable from a socio-ecological point of view. My empirical research concerning sustainability priorities and their discounting in psychological space have given support to this statement. At local scale Protecting Natural Environment and Change in World View are given minimal weight in the sustainability value systems of local leaders, the stakeholders who can have great influence on local sustainability. It is even more characteristic of DMO professionals who are supposed to guard tourism sustainability in the destination.*

*Sustainability efforts of the past sixty years are unsuccessful. It is not primarily a scientific or technological failure, but the result of deep psychological mechanisms which cause the extended reproduction of the consumer system, that is, unsustainability.*

*Mindfulness Type Meditations are clinically proven tools to fight psychological barriers working in the depth of psychological space. Local leaders, as key figures of local sustainability, have significantly lower mindfulness levels than regular meditators and discount Protecting Natural Environment and Change in World View steeper than the latter. It gives support to earlier studies proving positive correlation between mindfulness levels and sustainable attitudes. Local leaders could be a target population of a mindfulness-based attitude changing program. In the case of DMO professionals the same steep discounting pattern is observable concernin protecting natural environmnet as one key priority. Although the other key priority, Change in World View, is discounted lightly and positively in this sample, the relative weight given to this priority is so small that it neutralises positive discounting.*

*Research of Mindfulness Type Meditations is in its infancy in Hungary compared to countries such as the United States or United Kingdom.*

*Mindfulness level measured by the Awareness and Attention Mindfulness Scale is an indirect indicator of the spaciousness and quietness of Individual Consciousness Space. Looking at the results it can be stated that Consciousness Space of regular meditators is more extended and more quiet than that of local leaders. Contraction or shrinking of Individual Consciousness Space is a typical side effect of the psychological problems which are growingly characteristic of*

*21. century consumers living mostly in Hard Spaces. Mindfulness Type Meditations have the opposite side effect as they calm Consciousness and extend Consciousness Space. The psychologically triggered shrinkage of Individual Consciousness Space is accompanied by the constriction of certain segments of Physical Inner Spaces (e.g. constriction of blood vessels and stomach can be typical psychosomatic symptoms).*

*One major cause for the failure of ssustainability efforts apart from the above mentioned psychological barriers is the lack of surveying sustainability preferences of decision makers and professionals playing important parts in sustainability efforts. It is suprising but no nation-wide survey has been conducted to find out about these preferences. I hope that the results of my dissertation will have an inspiring effect on researchers to carry out such explorations.*

*Destination Space has a significant transformational potential. It is supported by my empirical results of a significantly and markedly higher openness to experience in Destination Space. High level of openness, high level of mindfulness and a different spatial view in a syergistic interaction can be the most effective combination to bring out the transformative potential of Destination Space. Every destination is a space of initiation (liminal space). It is true even for destinations with almost exclusively Hard Spaces and a mass tourism profile. The explanation of this lies in the fact*

*that liminality and Spielraum character appears relative to Everyday Spaces, that is, leaving routine behind, regardless of the specific destination, is always an initiation to a lesser or greater extent. Destination Space can be the space of authentic existence (Spielraum). This is another aspect of the transformational potential of Destination Space. The transformation can be only minor, even unnoticed. However, a high level of mindfulness and openness to experience can result in profound and lasting inner changes.*

*In the present socio-ecological crisis it is the transformative (liminal/Spielraum) potential of the destination that is the most important aspect. Mindfulness-Based Tourism Services consumed in the destination raise mindfulness levels and it doesn't only increase the probability of transformative experiences but makes the hedonic part of the holiday even more enjoyable as well. It can happen that the synergistic effect of high mindfulness and openness can turn an originally hedonic activity into a transformative experience.*

*From the empirical findings of the research it became evident that Potential Wellness Tourists show significant interest in Mindfulness-Based Tourism Services. Also, interest in Mindfulness Type Meditations has been increasing globally and in some of the the main tourist sending countries of Hungary. Comparing it with neighbouring countries, Hungary has seen the biggest increase in the online popularity of mindfulness. All these findings suggest that there is market potential in Mindfulness-Based Tourism Services. Extending the market for Mindfulness-Based Tourism Services is supported by the empirical results concerning the preferred tourism locations for trying Mindfulness-Based Tourism Services. Potential Wellness Tourists would prefer to try such services in nature or village tourism locations. At the moment only a few wellness service providers offer Mindfulness-Based Tourism Services.*

*Mindfulness-Based Tourism Services are portable tourism services that can be taken home and practiced cost-free. As portable services, they are special tourism products. Mass tourism products, focusing only on hedonic experiences are unlikely to bring lasting changes in the physical and psychological wellbeing of the Hungarian population as it is envisioned by Curing Hungary Health Industry Program (Gyógyító Magyarország Egészségipari Program). However, the Hungarian population badly needs improvement of its poor physical and psychological health. Table 2. shows indicators of public health. In brackets there is the number of the countries involved in the survey and the number before the bracket means the placement of Hungary in the list of surveyed countries between 2003-2014. These were the latest figures I was able to find. It is unlikely that there has been a dramatic change in the past three years. The sad figures of the table further underline the importance of Mindfulness-Based Tourism Services as portable tourism products in Hungary.*

**Table 2: Some indicators of the physical and psychological helath of the Hungarian population**

Indicators	2003	2011	2014
Life expectancy	29. (30)	33. (40)	23. (28)
Iaschemic heart disease/100.000 persons	2. (26)	4. (34)	5. (28)
Cancer deaths/100.000 persons	1. (26)	1. (34)	1. (28)
Suicide/100.000 persons	1. (26)	3. (34)	2. (28)
Low birth weight infants %	2. (26)	7. (40)	5. (28)
Early deaths/100.000 persons	1. (26)	3. (34)	6. (28)
Self reported health %	23. (26)	29. (34)	23. (28)
Drug consumption/fperson/year	9. (22)	16. (32)	5. (28)

*Source: Based on Health at a glance 2003, 2011, 2014 data own editing (In brackets there is the number of the countries involved in the survey and the number before the bracket means the placement of Hungary in the list of surveyed countries.)*

*The importance of the portable character is underlined by the empirical reults of the dissertation supporting earlier findings about the quick fadeout of the positive vacation effects.*

*The Hierarchical Dualistic Consciousness and Space Concept can be pragmatic help on the road to inner transformation and it is my firm conviction that sustainability strategies should be based on this concept on the individual and the community level as well. Reflecting upon works of recent years on spatial theory, especially in connection with constructivism, I emphasized that these theories can be helpful in finding a way out of the present sustainability crisis, but they need to be revised to see which of their aspects are really usable in a strategy where the Hierarchical Dualistic Consciousness and Space Concept or a Space and Consciousness concept based on spiritual values forms the basis of decisions made in connection with space and sustainability. The hierarchical primacy of Individual Consciousness Space and Consciousness is supported by*

*a growing number of physicists and quantum physicists who state that Consciousness is the most basic reality of the universe.*

*After millenia of male dominance, masculine world view and patriarchal social systems a feminine turn might be beneficial. The receptive, feminine attitude is the prerequisite of efficiently practicing mindfulness type meditations. From a feminin perspective the world is likely to appear more holistic and in greater unity with nature. This claim is supported by literature I referred to earlier, pointing out that women discount less steeply than men and also by my empirical results according to which female local leaders are more likely to choose Protecting Natural Environment and Change in World View as important sustainability criteria than men.*

*The Change in World View cannot be avoided. The "technofix" that many hope to result in a situation of "have your cake and ea it" is on the one hand has not been happening in the last sixty years, on the other hand, even if it did, as I pointed out earlier, it would not solve the problem of overconsumption and would conserve the consumer system. The consumer paradigm is unsustainable (e.g. wealth distribution, information overload) even if there is no environmental crisis because it is not based on spiritual values. Democracies in consumer societies in their present form are not suitable for leading us out of the crisis as the players of the democracy game are conditioned to be consumers, they are prisoners of the system. A paradigm level problem cannot be solved within the paradigm.*

As there is little chance that great numbers of people will undergo a Change in World View and value system in time as the crisis escalates, *if there is a solution at all, this solution is probably a top-down one.* It is true that decision makers are also creations of the system, yet it seems that they might reach the critical mass easier than hundereds of millions of people. A good example of this is the Mindful Nation UK program or the nationwide sustainability project of the Kingdom of Buthan. At the local level in Hungary we can mention Rozsály or Poroszló where the mayors' (local leader) role was instrumental in bringing about the changes towards a more sustainable future. Taking all that has been said into consideration, Mindfulness Type Meditations would first of all be important for decisionmakers.

## **4.2 Suggestions**

In the light of the results of my empirical research and based on what was mentioned in the previous section of conclusions I will summarise my suggestions. Apart from my general suggestions in connection with sustainability, I will devote separate sections for suggestions in connection with mindfulness, tourism and spatial science.

We should take advantage of the various media (Tv, radio, internet, newspapers etc.) *people should be informed that the present socio-ecological crisis is primarily an existential challenge concerning our world view and lifestyle.* As two negative messages about the crisis have many times proved to be counter productive it is important to emphasize that replacing some or a bigger part of material goals with spiritual ambitions doesn't at all have to mean giving up happiness, quite on the contrary, instead of the easily vanishing hedonic wellbeing we could have a more lasting and more fulfilling eudaimonic type of wellbeing.

*People have to be made aware that, while extending local autonomies, improving self sufficiency of local communities and the sustainability efforts of these local communities are extremely important, certain problems of the crisis (e.g. global warming) resulting from their global nature, can only be managed in a top-down fashion. Seeing Nationally Determined Contributions so far it is very unlikely that they will be sufficient. Global agreement is needed about the fair share each country should contribute.*

*If the obligatory fair shares are known, they can be broken down into fair shares of various industries and in this way we might calculate the fair share of tourism in Hungary. Once this figure is present, we can meaningfully talk about what is sustainable tourism and what isn't. Until it is done, virtually anybody can proclaim themselves sustainable even if they are really not.*

*We should map the sustainability value system of various stakeholder groups especially those that can have a major influence on the future of communities through their decisions and also examine how they discount sustainability priorities in time, space, social units and probability. Based on this knowledge communication, education and any kind of action in connection with sustainability could be more efficient.*

People have to be made aware that while individual responsibility is undeniable for all of us, *responsibility is proportionate to the decision making power and the potential to act.* The responsibility of leaders of China, the USA, India or the EU is much bigger than that of an ordinary citizen.

*The scientific community has to review its research paradigms and bring into focus research projects that have direct relevance for the solution of the socio-ecological crisis.*

*People have to be made aware that sustainability efforts can only succeed if done with systems thinking, holistically and using transdisciplinary principles and methodology. Education should be organised based on these principles*



*from the primary level and once and for all we should stop trying to instill huge amounts of lexical knowledge, which is absolutely inefficient.*

#### **4.2.1 Mindfulness**

I suggest that apart from the Awareness and Attention Mindfulness Scale new mindfulness scales should be developed, piloted and validated using various populations and representative sampling methods. It might be worth laying down the foundations of a longitudinal study as well.

*In quantitative mindfulness research researchers should use non-parametric statistical methods with ordinal level data.* It presupposes that usage of open source applications that are equipped to do ordinal analyses should be taught among students or as a minimum option among teachers. Applications of this kind include R packages, R-Menu 2.0 or Factor.

*Following in the footsteps of the British parliament the Hungarian parliament could also initiate the creation of an all-party working group which could, with the help of outside experts, analyse how Mindfulness Type Meditations might be utilised.* Independent of government action, educational institutions could launch their own mindfulness training programs and give the student background information about these meditations. *Considering the fact that Mindfulness Type Meditations can be practiced cost-free virtually anywhere, they have clinically proven positive physical and psychological effects and can catalyse the transition from the consumer lifestyle to an existence which is based on spiritual values, in accordance with the preventive health care slogans, they should be advertised from government money through different marketing communication channels.*

#### **4.2.2 Tourism**

*There should be targeted government and/or local government support of those destinations which offer good quality Mindfulness-Based Tourism Services or would like to offer such services in the future. Especially nature locations (e.g. national parks, arboreta) and village tourism locations because they were chosen as the most suitable for trying Mindfulness-Based Tourism Services by Potential Wellness Tourists in the empirical research.*

*In tourism strategy and development we should take into account the fact that vacations focusing only on hedonic experience, considering average length and frequency of vacations in the Hungarian population, cannot significantly improve the presently bad health quality of the Hungarian population. Longer and more frequent vacations might result in improvement, but looking at income*

*levels in Hungary there is little chance of this.*

Learned in the destination and practiced at home, Mindfulness Type Meditations could significantly improve the quality of health of the Hungarian population, especially, if those making decisions about the distribution of financial resources flowing into tourism realised the importance of all this and supported service providers and destinations who offer Mindfulness-Based Tourism Services. This resonates with what I said in connection with the transformative potential of destinations and the role that this transformation plays in sustainability. Supporting Mindfulness-Based Tourism Services the slogan "curing Hungary" in time might take on real meaning. At the moment I consider this slogan a very contradictory message. How can a place call itself "curing" if its inhabitants are unhealthy? "Doctor, cure yourself.", before you try to cure others.

*It is important, in accordance with the main message of the dissertation, that a Change in World View should happen in tourism management at the national level and also at the local level in DMO organisations and among local leaders who can have great influence on local tourism development. The overoptimistic forecasts of the UNWTO about the growth of the tourism industry and the government attitude (including the Hungarian Tourism Agency) which views tourism only as a tool for more economic output need urgent revision. Forecasts done on a business as usual basis ignore the seriousness of the situation. Tourism based on long distance air travel is unsustainable. The same is true for long distance car travel based on fossil fuels. Tourism has to undergo a major transformation in the next decades.*

*As the the most important aspect of the destination from a sustainability perspective is its transformative potential, empirical research is needed to quantitatively and qualitatively validate the destination's liminal/Spielraum qualities. Furthermore, statistically analysable data is needed to validate connections between tourists' mindfulness levels, openness level, intensity of experience and transformative effects of experiences.*

*I suggest that certain destinations rich in natural, medical and other tourism resources and areas that don't yet operate as destinations but have the potential, should be developed to become retreat type of destinations. This suggestion is in harmony with the opinion which states that tourism, presently being one of the flagships of global capitalism, in the transition towards sustainability, should become a social-economic segment that is embedded in public wealth and primarily contributes to public welfare.*

*Mass tourism is unsustainable and harmful. It is underlined not only by the degradation of natural resources but also the growing number of destinations (Amsterdam, Mallorca, San Sebastian, Venice, Barcelona, Roma, etc.) where*

locals demonstrate against tourists.

### **4.2.3 Spatial science**

*Future strategies should be built on spatial concepts in which relativity isn't the dominant element (in Constructivism it is). The Hierarchical Dualistic Consciousness and Space Concept is one such concept. The socio-ecological crisis is a value crisis hence clear principles about values are inevitable. After many centuries of focusing outside on the objective world it is time to turn inward. Soft Spaces encouraging meditation are hierarchically higher from a sustainability perspective than crowded Hard Spaces overloaded with information. This principle should be taken into account in urban planning but in regional development in general too.*

*The transdisciplinary nature of spatial science research should be strengthened. In the dissertation, disciplinarity, multidisciplinary, interdisciplinarity and transdisciplinarity constitute a scale of scientific evolution on which transdisciplinarity is the hierarchically most important phase from a sustainability perspective.*

*The present day socio-ecological crisis, which is threatening the foundations of human existence is the most serious and most complex challenge humanity has ever had to face. Because of this spatial research should be focused on contributing to finding solutions to this crisis. It is my conviction that all sciences should do the same.*

## 5. SUMMARY

*The main aim of my thesis was the theoretical and empirical demonstration of how Mindfulness Type Meditations, Destination Space and an altered view of space can separately, but most of all in a synergistic way together catalyse the paradigm-shift in world view and lifestyle needed to turn the presently environmentally socially and economically unsustainable consumer societies into societies which are based on eudaimonic wellbeing and spiritual growth. According to this aim I set out the five hypotheses of my thesis in the **Introduction** chapter.*

My **first hypothesis** concerned openness to experience. I hypothesized that compared to Everyday Spaces openness to experience changes markedly in Destination Space when being a tourist. Finding empirical evidence of this was necessary because mindfulness as well as the above-mentioned paradigm-shift in world view and lifestyle presupposes a high level of openness.

In my **second hypothesis** I predicted that Potential Wellness Tourists would be willing to try Mindfulness-Based Tourism Services in the destination, if such services were available. Potential Wellness Tourists were tested because only wellness facilities offer mindfulness-based services in Hungary at the moment. The sample was also tested to find out what type of destinations or accommodations were preferred for consuming Mindfulness-Based Tourism Services.

The target populations of my **third hypothesis** were local government leaders as a group crucially important for sustainability and meditators regularly practicing mindfulness type meditations. I hypothesized that there is a significant and big difference in the mindfulness levels of the two samples. I also examined the samples in terms of how mindfulness was discounted in psychological space.

My **fourth hypothesis** predicted that there is a growing popularity of mindfulness in Hungary and its main tourist sending countries. This demand side analysis was performed using time series data provided by Google Trends.

My **fifth hypotheses** concerned two sustainability priorities considered the most important for sustainability. They are Protecting Natural Environment and Change in World View. I predicted that local government leaders and destination managers value these priorities much less at local, national and global scale than meditators regularly practicing mindfulness type meditations.

The **Literary review** covered the four main areas of my research.

In the **first subchapter** I approached **sustainability issues** from many

perspectives based on literature and emphasized the axiomatic notion of the thesis stating that *sustainability is not primarily a scientific and technological challenge, but rather a challenge concerning our world view and lifestyle*. I created a new definition of sustainability emphasizing the need for a spiritual basis and analysed the psychological mechanisms that form an obstacle in the way of transition towards sustainability. Out of these psychological obstacles for spatial discounting, denial and also for the lack of proper initial assessment I analysed empirical data.

In the **second subchapter** I gave a short description about **mindfulness** and created a new definition of it. I highlighted the difference between meditative and socio-cognitive mindfulness and the striking similarity between the methodology of modern science and mindfulness type meditations. To my best knowledge, it is the first-time mindfulness has appeared in a doctoral thesis in Hungary as one of the central research themes. I summarized clinically proved effects of mindfulness that positively influences transition towards a sustainable society and mentioned examples of empirical research validating positive effects of mindfulness on the psychological mechanisms hindering efforts taken for sustainability.

In the **third subchapter** about **tourism** I underlined the fact that tourism based on long-distance air and road travel is environmentally unsustainable. In connection with sustainable tourism I analysed bottom-up and top-down management methods, typical sustainability models used in tourism literature and highlighted the importance of retreat type destinations.

In the **fourth** subchapter dealing with **spatial aspects** I critically examined constructivism from a sustainability point of view. Constructivism is one of the most popular theoretical currents of the postmodern era trying to break ground for itself in spatial sciences too. I analysed the psychological background of spatial discounting and underlined the connection between Construct Level Theory and mindfulness. I elaborated on the relationship between notions of space and Consciousness and pointed out that they were the manifestations of the same ontological reality. I examined interaction between physically overcrowded modern urban spaces burdened with information overload and Individual Consciousness Space. I pointed out that socio-cognitive mindfulness, which positively affects tourism experience, is predetermined by meditative mindfulness. As the level of mindfulness is positively correlated with openness to experience, for the transformative potential of the destination meditative mindfulness is the most important factor. The most important conclusion drawn in connection with the Destination Space was that from a sustainability perspective its most relevant aspect is its transformative potential. This transformative (liminal/Spielraum) potential is an inherent attribute of destinations, being present regardless of the religious context, however,

transformation is not automatic. Inner transformation is greatly helped by the synergy between high mindfulness level, high level of openness and an altered view of space and Consciousness.

In the **Material and method** chapter I gave a detailed description of the mixed method primary and secondary research, the samples and statistical methods used for analysing primary and secondary research data. I also gave reason, why I chose the target populations of the samples. Out of the statistical and analytical methods I want to emphasize the text coding technique of Grounded Theory, R-menu 2.0 an open source software which can be integrated with SPSS and used for ordinal factor analysis and the newly developed Attention and Awareness Mindfulness Scale used for measuring the level of mindfulness.

In the **Results** chapter I summarised the findings of the primary and secondary research and in the light of the findings gave an assessment of my initial hypotheses.

In connection with **hypothesis H1** I found that 89,7% of Potential Wellness Tourists has a markedly higher level of openness to experience in the Destination Space than in Everyday Spaces.

Tests performed in connection with **hypothesis H2** showed that 74,3 % of Potential Wellness Tourists would be willing to try a Mindfulness-Based Tourism Service, if such services were available in the destination. I also discovered that in contrast to my initial prediction the most preferred location for using such services is not wellness facilities but nature and village tourism destinations and locations. My findings support earlier research results in the literature concerning the fast fade-out of the vacations' positive effects. Positive psychological effects last for 16,6 days (mean value), while positive physical effects last for 9,6 days (mean value). This finding is important because it calls attention to the fact that considering the typical travelling habits of the Hungarian population, vacations cannot be expected to improve public health and wellbeing significantly.

Tests carried out in connection with **hypothesis H3** proved the initial prediction which anticipated a significant difference between the mindfulness levels of local government leaders and meditators practicing Mindfulness Type Meditations on a regular basis. The difference is almost double (Cliff-d=0,78,  $p < 0,001$ ). The prediction that mindfulness is discounted in psychological space was also verified.

Google Trends analyses performed in connection with **hypothesis H4** showed that 95% of the examined 174 search terms connected with mindfulness have had rising popularity globally in the last three years. It is also true for the words

mindfulness and meditation in some of the most important tourist sending countries of Hungary both in Google and YouTube.

Statistical tests performed in connection with **hypothesis H5** showed that meditators practicing Mindfulness Type Meditations on a regular basis consider the two key sustainability priorities much more important at local level and discount them much less spatially than local government leaders and tourism destination managers. Protecting Natural Environment priority had a relative frequency of 20% among regular meditators while it was 2,4% for local government leaders and 4,2% for destination managers. Change in World View priority had a relative frequency of 20% among regular meditators while it was 2,6% for destination managers. It had a value of 9,9% for local government leaders but if we only consider cases meaning an ecological world view change, it is under 2%. While local government leaders and destination managers discount the two priorities steeply and negatively, regular meditators discount them insignificantly. It is empirical evidence that regularly practiced Mindfulness Type Meditations can change the individual's world view and sustainability value system. It was also established from the data that female local government leaders are more likely to choose the two key priorities than their male colleagues. Lastly, it was discovered that weighting of sustainability pillars in the models used in tourism literature is very different from the way tourism destination managers weight these pillars at local and national scales.

From the analysis of the **structured asynchronous interviews** it turned out that the interviewed scientists and researchers think that the sustainability crisis is serious and decision makers, especially local decision makers and local communities have strong responsibility. it was also articulated that spirituality played an important role in sustainability.

With the **Hierarchical Dualistic Consciousness and Space Concept** I created a model which can be significant help on the road to spiritual growth. What is the most important about this model is the hierarchy which considers Consciousness Space and Consciousness a higher level of reality than matter and physical spaces. This hierarchy was defined pragmatically with long-term sustainability considerations in view.

In the **Conclusions and suggestions** chapter I drew the most important conclusions based on the research and gave suggestions accordingly.

The following two-sentence answer to the one-sentence research question in the Introduction chapter and at the beginning of this chapter is a compact summary of the conclusions:

Recognising the primary importance of Consciousness Space and

Consciousness, the transformative potential of Destination Space and the significantly higher level of openness create an opportunity for trying out Mindfulness-Based Tourism Services. These services raise mindfulness levels which, synergising with the higher openness to experience, can increase the possibility of inner transformation within the destination and as portable tourism products taken home and practiced regularly can alter the individual's world view making way for the transition from a consumer lifestyle to a spiritually-based life.

Out of the suggestions I would like to emphasize the following:

Instead of lexical hammering, great importance should be given to teaching systems thinking, holistic perspectives, transdisciplinary approaches and religion-free spiritual basics at all levels of education.

Following the example of the United Kingdom, in Hungary there could also be an all-party cooperation to map exploitation possibilities of the potentials of Mindfulness Type Meditations.

Based on growing demand and for the sake of long-term sustainability it would be useful to transform certain destinations or areas into transformative, retreat-type places.

As for spatial sciences, there should be more emphasis on transdisciplinary approaches. Research agendas should be revised and the most energies given to solving sustainability challenges.

Overall, I feel I managed to accomplish what I set as main goals of the thesis. I hope that the unorthodox choice of thesis topic and the new approaches used in connection with it will inspire researchers interested in the areas covered by the dissertation. I also hope the scientific community will let its voice be heard, more and more forcefully to call the decision makers and the public's attention to the importance of the shift in world view and lifestyle urgently needed for long term sustainability.



## 6. LIST OF PUBLICATIONS RELEVANT TO DISSERTATION

- LENGYEL, A (2017a): A fenntarthatósági prioritások térbeli diszkontálása *Területi statisztika*, 57(2) p. 184-204.
- LENGYEL, A (2017b): A Figyelem és Tudatosság Mindfulness Skála (FTMS) pilot tesztelése. *Mentálhigiéné és pszichoszomatika*, (4), Megjelenés alatt
- LENGYEL, A (2017c): A turisztikai fenntarthatóság néhány aszinkronitási problémája magyar TDM vezetők empirikus vizsgálatának tükrében. *Turisztikai és vidékfejlesztési tanulmányok*. 3(2), Megjelenés alatt
- LENGYEL, A (2016): Tourism, meditation, sustainability. *Apstract*, 10(1) p. 81-92.
- LENGYEL, A (2015a): Mindfulness and sustainability: utilizing the tourism context. *Journal of sustainable development*, 8(9) p. 35-51.
- LENGYEL, A (2015b): Magyarország egészségturisztikai desztinációként való márkázása: aszinkronitási problémák. *Economica*, 8(1) p. 68-73.
- LENGYEL, A (2015c): Extending tourism's role in the tourism - meditation - creativity - innovation - sustainability trajectory. In: Dunay Anna (Ed.) *Proceedings of the 5th International Conference on Management 2015: Management, Leadership and Strategy for SMEs' Competitiveness*. 578 p. Gödöllő, Magyarország, Szent István Egyetemi Kiadó, p. 543-548.
- LENGYEL, A (2015d): Spiritualitás és a fenntartható fejlődés In: Tiner T, Tóth T (szerk.) *A falutipológiától a marketingföldrajzig: tanulmányok Sikos T. Tamás tiszteletére*. 247 p. Gödöllő: Szent István Egyetem Gazdaság- és Társadalomtudományi Kar Regionális Gazdaságtani és Vidékfejlesztési Intézet, p. 83-96.