



## Evaluating the effectiveness of four campaigns in the BaltInfoHaz project

Final evaluation report

Baltic Environmental Forum, Hamburg, 2015

Layout: Matthias Grätz

Title picture: „Open Soy Paint Can“ by United Soy Bean Board (<https://www.flickr.com/photos/unitedsoybean/10481755764/>)

This report was prepared for the Baltic Environmental Forum Estonia as a part of the project „Baltic Info Campaign on Hazardous Substances“ (BaltInfoHaz, LIFE 10 INF/EE/108). The content of this publication lies within the responsibility of the authors.



**THINK BEFORE YOU BUY**  
CHOOSE PRODUCTS WITH LESS HAZARDOUS SUBSTANCES

# **Evaluating the effectiveness of four campaigns in the BaltInfoHaz project**

Final evaluation report

Matthias Grätz (Baltic Environmental Forum Deutschland)  
with contribution by Valters Toropovs (Baltic Environmental Forum Latvia)

## Table of contents

Chapter 1 - Summary .....	3
Chapter 2 - Introduction.....	4
Chapter 3 - Introduction to the evaluation concept.....	6
Chapter 4 - Campaigns for construction retailers.....	9
4.1 Brief description of the campaign.....	9
4.2 Customer behaviour.....	9
4.3 Training shop assistants .....	10
4.4 Sales data K-Rauta.....	13
4.5 Conclusions for the campaign .....	16
Chapter 5 - Campaign for hairdressers and car-repair shops.....	18
5.1 Brief description of the campaign.....	18
5.2 Questionnaire on the working situation and attitude of hairdressers .....	18
5.2.1 Results from Estonia.....	18
5.2.2 Results from Latvia .....	23
5.2.3 Results from Lithuania .....	30
5.3 Survey after master classes.....	36
5.4 Conclusions about the campaign .....	37
Chapter 6 - Campaign for encouraging hazardous substance-free living environment .....	39
6.1 Brief description of the campaign.....	39
6.2 Analysis .....	39
6.3 Conclusions .....	41
Chapter 7 - Campaign for educational institutions.....	42
7.1 Brief description of the campaign.....	42
7.2 Analysis .....	42
7.3 Results .....	43
Annexes.....	44

## Chapter 1 - Summary

The overall goal of the project BaltInfoHaz was to reduce the emission of a number of hazardous substances into the environment. The philosophy of the project was to address this objective through a change in consumption behaviour and purchase decision. In total, four campaigns were implemented in the project aiming at different target groups:

- School teachers and children in school age,
- Construction retailers and their customers,
- Hairdressers and car repair shops and their clients, and
- Households, in particular those with children.

Many of these campaigns had an experimental character in the sense that such campaigns on hazardous substances have not been carried out in the Baltic States before. In order to verify the success of these campaigns in terms of the influence on consumption behaviour and eventually the impact on the environment, all of the campaigns were monitored, evaluated and assessed. This report summarises the finding from the monitoring, evaluation and assessment. The overall result is that all campaigns have been successful regarding their potential to change behaviour. We can conclude this from the results of our evaluation, however with different degrees of certainty, depending on the type of evaluation method that was possible with the available data.

From the campaign for school children we can see a clear increase in the knowledge of pupils on hazardous substances after they have been taught about hazardous substances using the educational materials developed by the project. The campaign for retailers show a clear significant trend that the sales of products having the price tag “safer choice” which was specially designed in the project to mark products with less hazardous substances have increased more than other products without the price tag. The findings for the first two campaigns are statistically significant, as we had enough quantitative data to verify the findings. The campaigns for hairdressers and households are evaluated as successful; too, however, this finding is based on less data and cannot be verified for significance. Based on questionnaires to hairdressers and participants in info days for the general public, we see that a majority is either ready to change their behaviour to using/buying products with less hazardous substances or has already done so.

The impact on the environment could not be measured “directly in the field” in e.g. in waste water treatment plants or even surface water. It is not have been possible to quantify the potential changes in concentrations and reliably determine all factors causing them due to the large number of potential emission sources and the time span between the project activities and the occurrence of our target substances in the water bodies. The approach to assess the impact of the BaltInfoHaz project on the environment has thus been to use proxies instead. Such proxy data are for example the sales data of a major construction retailer - a partner in the project - which could then be extrapolated and for which corresponding emissions could be estimated.

However, the actual impact to the environment would only occur if the products, producing the hazardous substances would not have been produced in the first place. Thus, in order to have a substantial impact on the environment, the consumption choices need to be changed

on a larger scale. The evaluation can only assess the potential of the different project activities to trigger such a change.

In conclusion, statements about the reduction of the environmental problem can only be of presumptive nature.

As all campaigns are, however, evaluated as positive, we would also conclude that this would positively correlate with a decrease of emission of hazardous substances to the environment. Would it be possible to implement them on a larger scale, e.g. informing more citizens all three countries, addressing more hairdressers and teaching more children, then we assume that the project could contribute to reducing the environmental problem. The project provided information materials for almost all of the campaigns which will outlive the project and will increase the number of citizens or professionals that are part of the target groups of the project. Thus, the contribution to reducing the environmental problem does not end with the end of the project.

## Chapter 2 - Introduction

The project BaltInfoHaz aims at reducing the inflow of a group of hazardous substances into the environment. This is an environmental issue that is of concern to many citizens in Europe, especially in the Baltic States. The most recent Eurobarometer report (#416) on the attitude of European citizens towards the environment of September 2014 states that “the impact on health of chemicals used in everyday products is the issue most people would like more information about.” (page 6 of Eurobarometer #416). The report shows furthermore that as of 2014, 43% of EU citizens are concerned about impact on health of chemicals used in everyday products. In the three Baltic States, the level of concern is even higher. The figures for Lithuania are 63%, in Latvia 53%, and Estonia 48%. In the previous Eurobarometer report of 2011 (#365) only 34% of EU citizens indicated their concern (Lithuania - 51%, Latvia - 44% and Estonia - 35%). While we cannot state, that this increase and larger concern is a direct result of the BaltInfoHaz campaigns, we can conclude that the project BaltInfoHaz addressed an issue which is of concern to many and came just right on time to contribute to the awareness raising.

BaltInfoHaz did however not address the issue in its entirety but focused on a number of substances that are either classified as hazardous to the environment, are not readily degradable and/or pose a human health risk, and/or are considered endocrine disrupting. Based on these criteria, the product groups to work on in the project were further characterised as:

- important for the users every-day life for target groups which are covered by the campaigns of the project;
- available with and without hazardous substances to be sure that alternatives are accessible for the consumer;
- key actors are willing to participate in the project and/or market and product data are available
- having an environmental and/or health impacts that are related to the product.

Based on this the following product groups were chosen:

- Construction materials (chemical products used for indoor renovation, like paints, primer paints, varnishes, sealants).
- Car care products (car shampoos, waxes, window cleaners).
- Cosmetics and hair care products (nail polishes, creams, hair sprays, hair dyes, etc.).
- Toys and baby products (plastic toys, baby bottles, pacifiers, baby care cosmetics).
- Household chemicals (dish washers, detergents, sink and toilet cleaners, etc.).

The project BaltInfoHaz wanted to address the problem of the emission of these hazardous substances to the environment by addressing specific user groups of chemical products, in particular:

- School teachers and children in school age
- Construction retailers and their customers
- Hairdressers and car repair shops and their clients
- Households, in particular those with children

The user groups were approached in tailored campaigns which aimed at reducing the purchase and use of certain products and subsequently emission of hazardous substances. These campaigns cannot forbid the use of products containing problematic substances directly; neither does the project aim at reducing the production of products containing more hazardous substances than others. The project focused on addressing the consumption behaviour and appeal to the user to replace problematic products by others.

Such awareness raising campaigns need an extra effort to monitor and evaluate them as there is often no direct measurable link between the campaign action and the change in emission of certain substances or even the impact on the environment. This report will summarize the efforts made in the BaltInfoHaz project to monitor the different campaigns, evaluate their effectiveness and partially draw conclusions on the impact on the environment.

This report explains our approach to evaluation in chapter two, explaining our principles and evaluation frame. In chapter 3 to 6 we describe the individual campaigns, how they were monitored and what we can conclude from the data gathered. These chapters are split into more descriptive and more technical part. Readers not interested in the technical details of the analysis are invited to skip the analytical part and continue to the section with the results. A summary of the report highlighting the main findings precedes this introduction. All questionnaires used in the project are found in annexes at the end of this report.

## Chapter 3 – Introduction to the monitoring and evaluation concept

The general goal of the monitoring and evaluation concept was to draw conclusions on the effectiveness of the project activities, first of all regarding their potential to trigger a change in behaviour and, second, to deduct the potential to contribute to solving the environmental problem.

The task of the subcontractor was to develop a monitoring and evaluation concept for the BaltInfoHaz project, to instruct the project partners on proper data gathering and to evaluate and interpret the gathered data. The monitoring concept that was developed in the beginning of the project had to be changed for nearly all project activities, since it was either not possible to implement the proposed evaluation method (e.g. distribution a questionnaire in form of a postcard in K-rauta stores), or other methods proved more suitable (before-after survey in school classrooms). The subcontractor reacted thus flexibly to the design of the campaigns and responded to the requests of the main project partners. In particular we provided the project partners with:

- Questionnaires for the target groups of the action,
- Instructions for interviewers etc. and how to code answers into spreadsheets for evaluation.

Before moving on to details, we would briefly like to mention the dilemma of monitoring and evaluating so called “soft measures”, i.e. non-investment measures and actions that address a change in behaviour. A change in behaviour is difficult to monitor as there is seldom a linear relationship from information to fossilised action. There two reasons for that:

- First, the so-called environmental behaviour gap is responsible for a difference between attitude and action, i.e. even if someone is aware of the environmental problem and principally agrees that she or he should act differently, it does not mean that this knowledge is always translated into practice. Awareness raising campaigns, however, often make use of such linear arguments and also the evaluation (including this) is based on this. The reason is that the environmental behaviour gap is difficult, i.e. time-and man-power-consuming, to quantify.
- Second, a change in behaviour is not always fossilised, i.e. it can happen that people fall back to their old behaviours or consumption patterns if e.g. the new behaviour is not reinforced. It is impossible to track such effects during a public-funded project which has a fixed lifetime and is expected to deliver a quantification of the results by the end of the project.

An additional problem that we would like to address is the limitation of funds available for monitoring and evaluation in public grants which should be spent effectively and efficiently. It requires the project consortia and donors to make a choice how much attention they would like to direct at the verification of the project results. A simple example will underline the problem: If we assume that a certain campaign has changed the behaviour of 50% of the target group, statistics tells us that we would need to ask around 400 persons to make sure that this result is within the limits of  $50\% \pm 5\%$  with a significance level of 0,05. Assuming that this verification is done over the phone and only every fifth person can be reached or is ready to answer the question, approximately 2000 persons would need to be called – which means a huge input of human resource to implement this, and this is only for one campaign. If this

would be done in practice, it would require lots of worktime and thus financial resources. Keeping the evaluation within reasonable limits in terms of spending public money economically does often require surrendering statistical significance for a statistically weaker qualitative statement.

The principle that we followed in the BaltInfoHaz project was that the different activities should be monitored in a quantitative fashion whenever the available data allowed that and in a qualitative way, when quantification was not easily possible. In some instances, the quantified data could be tested for significance, provided the data set was large enough. In other cases, however, the quantification was not possible due to the relatively low number of data points obtained during the evaluation. This is a common limitation when evaluating activities that could be considered piloting activities for which only limited funds are available to test these new methods. Consequently, only a limited sample of the general target group can be addressed and thus only a limited sample of the population can be asked to evaluate the activity. In such situations, qualitative studies allow drawing conclusions about the effectiveness of the activity.

Table 1 below gives an overview of the different campaigns, the evaluation methods and the strongest statement that could be gained from the evaluation – qualitative or quantitative – whereby a quantitative statement is considered a stronger statement.

Campaign	Evaluation methods	Statement based on the evaluation
Campaign for hairdressers	Attitude survey among hairdressers Ex post survey after masterclasses	Qualitative statement
Campaign for construction retailers	Sales data Surveys at shops Evaluation of staff training	Significant quantitative statement from sales data
Campaign for - School teachers and children in school age	Before-after-tests in schools of pupils in Estonian schools	Significant quantitative statement
Campaign for households, in particular those with children	Questionnaires (phone survey) of household members who participated in info days (or meetings)	Qualitative statement

*Table 1 - Overview on campaigns, evaluation methods and results*

On the following page we illustrate the interrelation of the environmental problem with the project actions and the monitoring, evaluation and assessment.

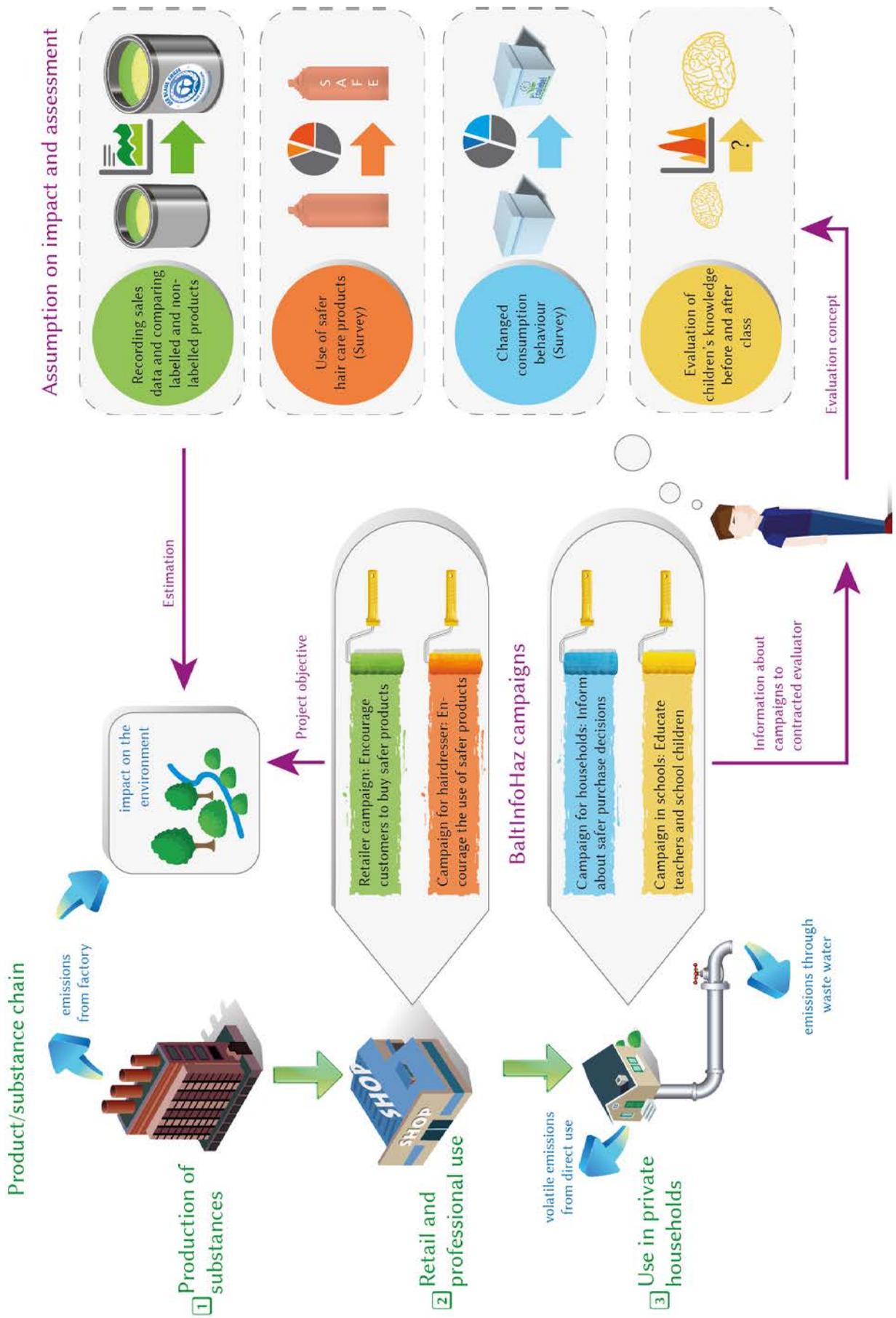


Figure 1: Overview on the project philosophy, the campaigns and the expected impact of the campaigns

## Chapter 4 – Campaigns for construction retailers

### 4.1 Brief description of the campaign

This campaign concentrated on retail stores (K-rauta chain) in Estonia and Latvia. The aim was to bring more attention to environmentally friendly products by training shop assistances, marking relevant products, and educate customers to make a “safer choice”. Together with staff from the retail stores, a product inventory on indoor paints and varnishes was made and suitable products were labelled with the “Safer choice” price tag. In order to educate customers several information leaflets were published in stores as well included into mailings done by K-rauta. This activity was monitored using several approached:

- Surveying customers leaving K-rauta shops about their visit to K-rauta
- Evaluating the training of shop assistants
- Monotoring K-rauta sales data.

In addition to these three approaches, we launched an online questionnaire for K-rauta customers, which was however only filled in completely by a very small number of customers and is therefore not part of this evaluation. We assume that the low answer rate of the electronic questionnaire is due to the fact that the project partner K-rauta was not able to inform their customers about the questionnaire in a more visible manner.

### 4.2 Customer behaviour

#### Background

In order to find out if the price tags are noticed and have an influence on the decision of the K-rauta customers, we undertook a customer survey in front of K-rauta stores in Latvia and Estonia. The customers were interviewed by students in Latvia and a contracted service provider in Estonia. Both used a short questionnaire (see annex 1).

#### Research design

The customer behaviour was evaluated by doing a survey among K-rauta customers in Latvia and Estonia. In Latvia, 110 customers were interviewed in front of three stores in Riga (Maskavas St, Lucavsala and Priedaines St) on 16.05.2014. In Estonia 100 customers were interviewed, 50 in front of the K-rauta store in Tallinn-Haabersti and 50 in front of the store in Tallinn-Tondi, both between 08.-15.06.2015. The questionnaire was kept short so that it could be answered in less than a minute, which should increase the number of respondents and reduce time spent for interviewers. However, financial restrictions did not allow obtaining a larger sample than the 110 and 100 customers, so that the results are only indicative.

#### Results

The survey shows that only a fraction of the customers interviewed have noticed the “safer choice” labels at the shelves. Given that there are only 53 labelled products in Estonia and 59 in Latvia out of thousands of products in the K-rauta stores, this is not that surprising.

Have you noticed the „safer choice label“?	Estonia	Latvia
yes	4%	16%
no	96%	84%

Table 2: Have you noticed the „safer choice label“?

Asking about the actual purchasing decision of the customers, we asked the interviewed shoppers whether they bought a product with an eco-label. In Estonia 5% did so, in Latvia 7%.

Did you buy a product with one of the two eco-labels today? (Nordic swan, blue angel)	Estonia	Latvia
yes	5%	7%
no	92%	80%
cannot say	3%	13%

Table 3: Did you buy a product with one of the two eco-labels today?

Those who bought something in K-rauta on that day were further asked whether they bought a product with the safer choice label. In Latvia, one person out of 23 buying something from the relevant labelled product groups bought such a product, in Estonia no one out of 14 potential buyers.

Last but not least, we asked the interviewees if they have heard of the project slogan before. In Latvia, roughly a third had heard about it before, in Estonia 16%. These values are still comparatively high, given that neither a major TV advertisement nor radio or newspaper campaign was part of the project.

Have you heard of the campaign BaltInfoHaz or the slogan "Think before you buy" before today?	Estonia	Latvia
yes	16%	33,6%
no	75%	66,4%
cannot say	9%	-

Table 4: Have you heard of the campaign BaltInfoHaz or the slogan "Think before you buy" before today?

We analysed the data also by demographic factors (age, income, education) but the entries of the cross-tables are too small to be tested for significance with e.g. a  $\chi^2$ -test and deliver reliable conclusions.

## Conclusion

In conclusion, we find that the results from the customer surveys do not give too much information about the influence of the price tags on the purchase decision of the customers. A larger sample would be needed for that which however was not possible to obtain due to the limited possibilities. However, at least concerning the question whether the interviewees have heard of the campaign BaltInfoHaz or the slogan "Think before you buy" before, a quite large share answered positively. This is a positive indication that the project and its results are quite well spread and receive attention.

## 4.3 Training shop assistants

### Background

Several times during the project, shop assistants in K-rauta were trained on the properties and use of product groups relevant to the project, how to read safety data sheets, and on eco-labels. The training was offered to employees that were either new to K-rauta since the last training took place or did not have chance to participate in earlier trainings. The idea behind the training was that well-informed shop assistants are better prepared to give the right advice to customers not only what concerns the use of the products but also environmental and safety aspects.

## Research design

To monitor the results of the training, the shop assistants were asked to fill in a questionnaire before and after the training. We monitored the group of the last training that was held for K-rauta shop assistants in spring 2015 (other trainings were held earlier during the project). Six participants answered the questionnaire. This survey presents the main findings.

## Results

At the moment of the training, the six shop assistants are working at K-Rauta for a duration of 1,5 months up to 3 years, and one person is working for 10 years at the store. They are between 22 and 32 years old and none of them has worked in a DIY store or other place dealing with products like paints, glues and varnishes before.

Before the training, the shop assistants feel “somewhat familiar with most of the topics in the survey. They indicate the lowest knowledge on “safety data sheets” with two persons saying that they are “somewhat familiar” and four having “heard of it”. Only one person estimates him/herself to be “very familiar” with one of the topics (with environmental labels).



Figure 2: Baseline evaluation before the training on hazardous substances in paint, glues and varnishes (n=6)

After the training, the shop assistants were asked again the same questions. The changes are obvious. For every topic, they indicate a higher degree of familiarity. The greatest learning process can be observed on the topics of environmental and hazard class labels with which all six respondents are “very familiar” after the training. Regarding the topic of safety data sheets

where the lowest knowledge existed before the training, all participants fell after the training “somewhat familiar”.

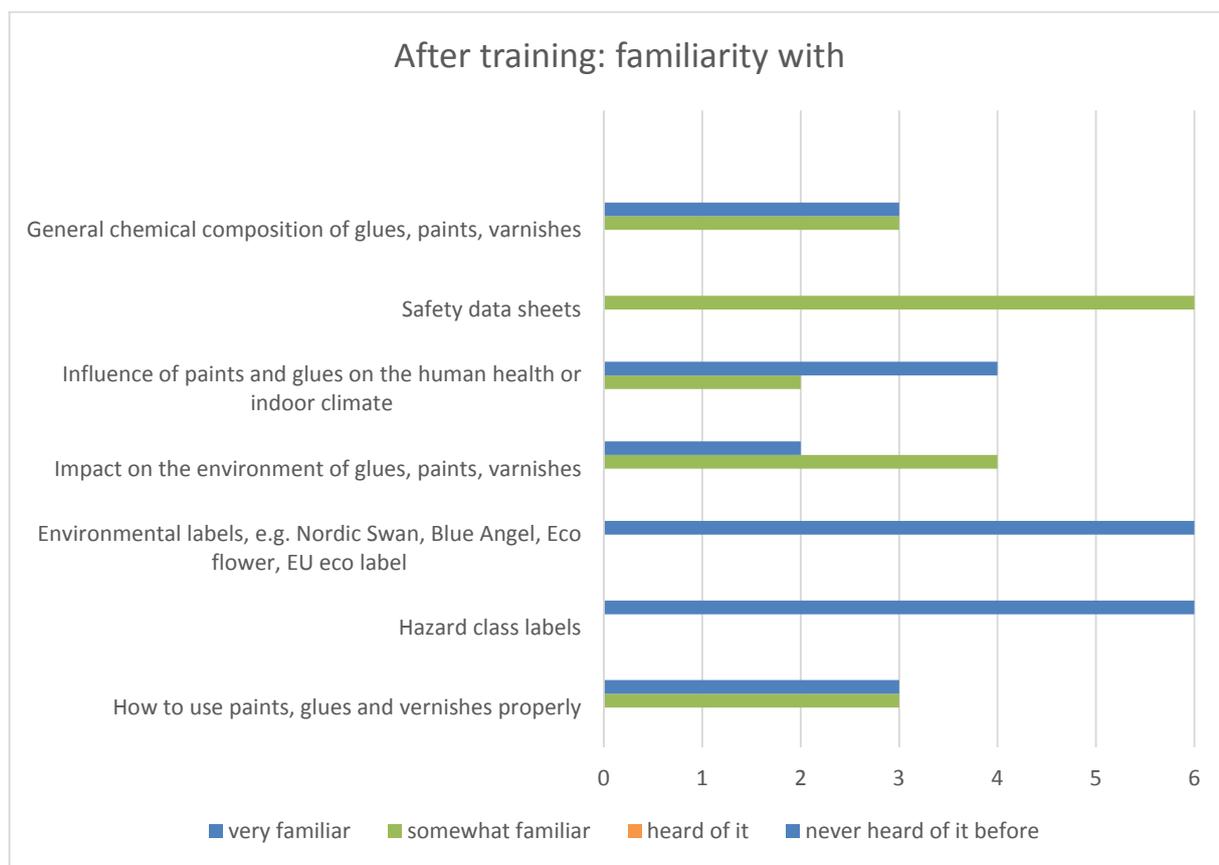


Figure 3: State of knowledge after the training on hazardous substances in paint, glues and varnishes (n=6)

The table below again visualises the learning process initiated through the training. Whereas before the training, only one person indicates to be “very familiar” with one single topic, after the training, the respondents are “very familiar” or “somewhat familiar” with most topics.

	before training			after training		
	Very familiar	Somewhat familiar	Heard of it	Very familiar	Somewhat familiar	Heard of it
General chemical composition of glues, paints, varnishes		5	1	3	3	
Safety data sheets		2	4		6	
Influence of paints and glues on the human health or indoor climate		6		4	2	
Impact on the environment of glues, paints, varnishes		6		2	4	
Environmental labels, e.g. Nordic Swan, Blue Angel, Eco flower, EU eco label	1	4	1	6		
Hazard class labels		5	1	6		
How to use paints, glues and varnishes properly		6		3	3	

Table 5: Results of the questionnaire before and after the training (n=6)

Being asked which has been the most useful information the participants learned during the training, the respondents mention ecolabels in the first place, and hazard labels and pictograms second. All shop assistants confirmed that the training will help in their daily work in the store in general and also when advising customers.

## Conclusion

Even though the number of respondents is small, we can conclude that the training has been effective what concerns knowledge on the use and environmental aspects of product groups relevant to the BaltInfoHaz project. The data show that all topics are either very familiar or somewhat familiar to the shop assistants as we assume that the shop assistants who took part in the training are better qualified to advise customers to make safer product choices.

## 4.4 Sales data K-Rauta

### Sample and background

During the project, the sales data of products designated with the “safer choice” price tag and a control group of non-labelled products was provided by K-rauta. More precisely, these sales data listed the amounts of cans of paints sold in the K-rauta all over Latvia and Estonia respectively. The data are aggregated into two groups – price tagged and non-priced tagged, i.e. they do not allow any conclusion to individual products being sold. The composition of these groups is constant; the products included in these two groups did not change during the observed sales period. A change in sales of the individual groups can thus either be attributed to the fact that few products underwent relatively large changes in sales, or that most of the products show similar sales trends.

### Research design and analysis

The available data have been analysed for the development over time. At first, a linear regression was calculated for the four time series:

- A<sub>1</sub>: Latvia, price tagged
- A<sub>2</sub>: Latvia, not price tagged
- B<sub>1</sub>: Estonia, price tagged
- B<sub>2</sub>: Estonia, not price tagged

A linear regression can be expressed by a linear function of the form  $y := \alpha + \beta x$  where  $\alpha$  is the regression coefficient that determines the slope of the regression line. The regression coefficient was calculated for all four time series as follows:  $\beta = \frac{\text{Cov}(x,y)}{s_{xx}^2}$ ,  $\text{Cov}(x,y)$  denoting the covariance, and  $s_{xx}^2$  the empirical variance. Additionally, the coefficient of determination  $R^2 = \frac{\text{Cov}(x,y)^2}{s_{xx}^2 s_{yy}^2}$  is calculated which indicates how well data are explained by the regression line. The coefficient of determination is a value between 0 and 1. The closer the value is to 1, the better the data are explained by the regression.

The following regression coefficients and coefficients of determination are calculated:

Group	Regression coefficients $\beta$	Coefficient of determination $R^2$
A <sub>1</sub> : Latvia, price tagged	18,742	0,154
A <sub>2</sub> : Latvia, not price tagged	-12,885	0,074
B <sub>1</sub> : Estonia, price tagged	17,742	0,073
B <sub>2</sub> : Estonia, not price tagged	-5,712	0,015

Table 6: Regression of price tagged and not price tagged product groups

The coefficients of determination are relatively small, which is not surprising as the linear regression model explains the long term trend but does not explain the seasonality, i.e. the differences between summer and winter are not taken into account. The derivations from the regression line are approximately wavelike and adding a seasonality term in form of a simple trigonometric term  $y := \alpha + \beta x + \gamma \sin(k(x + c))$  would increase the coefficient of determination drastically (a test for the group  $B_1$  yielded a new  $R^2 = 0,62$ ). We would however not gain additional explanatory value for the long-term trend.

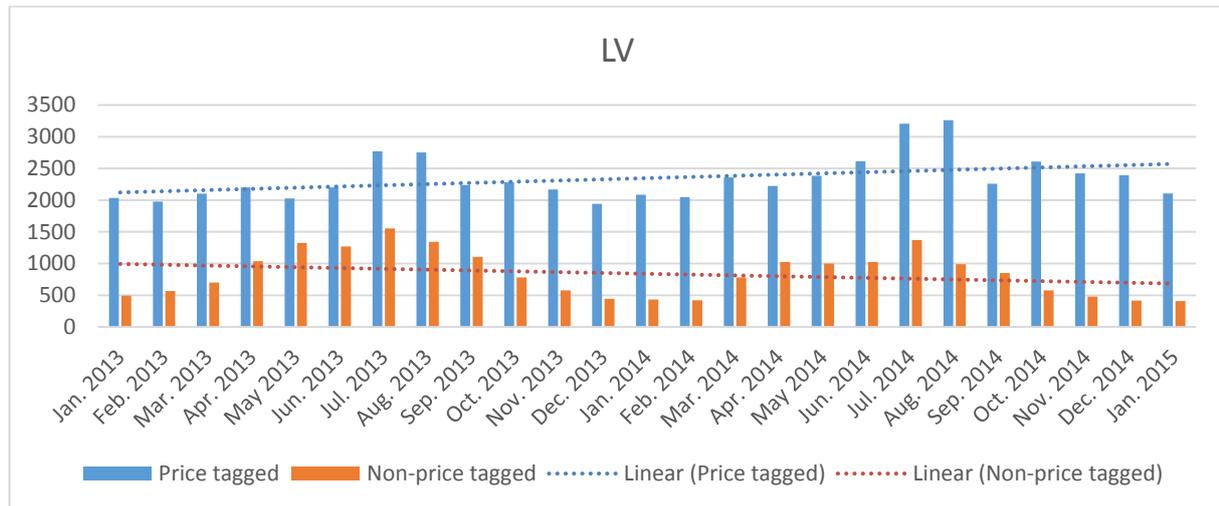


Figure 5: Sales of price tagged and not price tagged paints in Latvia



Figure 6: Sales of price tagged and not price tagged products in Estonia

In a second step, the time series of the price tagged and non-price tagged series were tested if they are significantly different. To compare the series better, we introduce a new set  $M^{(j)}$  for each sales time series. The sets  $M^{(j)}$  include the sales data for each month  $x_i$  in relation to a fixed reference month  $x_j$ :  $M^{(j)} = \{m_i^{(j)} \in M^{(j)} \mid m_i^{(j)} = \frac{x_i}{x_j} \text{ for all } i \neq j\}$ . The construction of the sets  $M^{(j)}$  depends on the choice of  $j$  from the index set  $I = \{1, \dots, \max i\}$ , thus we will calculate the absolute of the average of the all  $|\overline{M^{(j)}}| = \frac{1}{j} \sum_j |T^{(j)}|$ .

The data sets  $M^{(j)}$  for the price tagged (in the statistics below referred to as  $X$  with  $\#X = n$ ) and non-price tagged (in the statistics below referred to as  $Y$  with  $\#Y = m$ ) are tested with an unpaired two-sided t-test if they belong to the same population. We choose a significance level of  $\alpha = 0,05$ . The following table gives an overview of the two-sided t-test statistics:

Null hypothesis	$H_0: \mu_X - \mu_Y = \omega_0 = 0$
Alternative hypothesis	$H_1: \mu_X - \mu_Y \neq \omega_0 = 0$
Test statistics	$T^{(j)} = \frac{\sqrt{nm} \frac{\bar{x} - \bar{y} - \omega_0}{S}}{\sqrt{\frac{(n-1)s_x^2 + (m-1)s_y^2}{n+m-2}}} \sim t_{n+m-2}$ with $S = \sqrt{\frac{(n-1)s_x^2 + (m-1)s_y^2}{n+m-2}}$ and $s_x^2 = \frac{1}{i_1-1} \sum_{i=1}^n (x_i - \bar{x})^2$ ; $s_y^2 = \frac{1}{i_1-1} \sum_{i=1}^n (y_i - \bar{y})^2$ and $j$ fixed
Rejection region	$\left\{ t \mid  t  > \left  t_{1-\frac{\alpha}{2}; n+m-2} \right  \right\}$ ; in our case $\left\{ t \mid  t  > \left  t_{0,0975;46} \right  \right\}$ Note: the t-distribution is symmetric, using absolute values is valid

Table 7: Overview of the two-sided t-test statistics (the summary based on the overview provided by the following Wikipedia article <https://de.wikipedia.org/wiki/Zweistichproben-t-Test>)

The t-test was calculated for each  $T^{(j)}$ . The following table compares the average of the absolute values  $T^{(j)}$  with the positive border of the rejection region of the t-distribution.

	$\frac{1}{j} \sum_j  T^{(j)} $	$t_{0,0975;46}$	Conclusion
Latvia	3,6201	2,0123	$H_0$ is rejected
Estonia	2,7008	2,0123	$H_0$ is rejected

Table 8: Results t-test of sales price tagged vs. not price tagged

In conclusion, it is recommended to reject the null hypothesis and accept the alternative hypothesis which implies that two data series do not belong to the same population.

### Impact on the environment (Contribution by Valters Toropovs, BEF Latvia)

Initially, the sales trends were analysed over a period of two years. The starting period (beginning of 2013) characterizes the sales before the project campaign was launched (special price tags, info stands, etc.) while in the ending period of analysis the campaign was actively running for over a year. The calculation of the reduction of hazardous substances put onto the market was done in several steps:

- 1) The amounts of sold paints, both price-tagged and without price tags were quantified by volume. In the sales analysis the evaluation is based on units of cans sold, however, they are of various volumes. For each article code the amount of sold cans was multiplied by its net weight.
- 2) After that, a sample of six months sales volume was taken at the beginning of period of analysis and a second one, at the end of analysis. Total volumes of price tagged and non-price tagged volumes realized were compared.
- 3) The substances of concern were picked out to be assessed. Hazardous substances were chosen on basis of their occurrence in the non-price tagged products and both environmental and health properties, as already described in the Action B1 Assessment Report. The chosen substances were:
  - i) 2-butanone oxime (methyl ethyl ketoxime, MEK, CAS 96-29-7) – cat. 2 carcinogenic, skin and eye sensitizer. Serves as an antiskinning agent in paints
  - ii) Cobalt bis(2-ethylhexanoate) (CAS 136-52-7) – harmful, skin sensitizing, dangerous to the environment. Used as a dry agent.

- iii) *Methylchloroisothiazolinone (MCI, CAS 26172-55-4)* – toxic by inhalation, skin and eye irritant, dangerous to the environment. Used as antibacterial and antifungal preservative in paints
  - iv) *Benzisothiazolinone (BIT, CAS 2634-33-5)* - toxic by inhalation, immune system toxicant, skin and eye irritant, dangerous to the environment. Used as antibacterial and antifungal preservative in paints
- 4) A volume of mass of chosen substances was determined in non-price tagged paints. This was done by multiplying the amount of total volume of each paint sold with the percentage of particular hazardous substance found in it. The content of hazardous substances was obtained from mSDS.
  - 5) Reduction of sales of non-price tagged goods were calculated, taking in account a period of several months to avoid seasonal fluctuations and overall trends over 2 years. Based on this, also reduction of amounts of hazardous substances found in non-price tagged paints could be calculated.
  - 6) All steps were done separately for Latvia and Estonia – overall assortment in shops in both countries was very similar but the sales figures differed.

The results of the calculations are summarized in the table below.

Substance	Reduction in LV kg/y	Reduction in EE kg/y	Reduction in LV project total kg	Reduction in EE project total kg
MEK	25,8	25	54,2	52,5
Cobalt bis(2-ethylhexanoate)	25,8	25	54,2	52,5
MCI	0,14	0,12	0,3	0,3
BIT	0,26	0,25	0,5	0,5

Table 9: Substance reductions

As it can be seen, most of the figures are in the area of kilograms per year, which might not seem large volumes. However, it must be pointed out, that these substances are typically added to paints in very low concentrations – anti-skinning and drying agents are added in concentrations below 0,5% and antifouling and antifungal additives even at 100 times lower levels, which, in quantitative terms, constitute to fractions of grams per paint can. Therefore, a reduction rate of kilograms for these substances can be considered as significant, especially, if achieved only by “soft” measures, such as information campaigns and specially designed price tags.

## Results

We can conclude that there is a significant difference in the increase of sales between the price-tagged and non-price tagged product groups. A reduction of concrete hazardous substances can be derived from the change in sales. If this increase is fully attributable to the BaltInfoHaz campaign cannot be determined or if there are other underlying causes cannot be deducted from the sales figures alone.

## 4.5 Conclusions for the campaign

We observed that the sales of products with the special price tags increased significantly stronger compared to non-tagged products. Based on the amount of sales increase of the ecologically safer products and the associated number of problematic products sold less, we can calculate the amount of substances that would not enter the environment if the

difference in substances would not have been produced. The attempt to link the increased sales to the price tag and the project campaign remains inconclusive. On the one hand, almost none of the interviewed people bought a product because of the price tag; on the other hand, the number of people recognising the campaign is relatively large.

## Chapter 5 – Campaign for hairdressers and car-repair shops

### 5.1 Brief description of the campaign

This campaign had two target groups, hairdressers and car-repair shops. Due to the fact that the project consortium had large difficulties to spark the interest of car-repair shops (or related retailers), the activities for this half of the campaign took place only in the very last months of the project on short notice. This made it impossible to develop a monitoring concept, so that we will only focus on the campaign for hairdressers in the following section. The campaign for hairdressers had the goal to inform as many hairdressers as possible about hazardous substances in professional products they use and to give advice how to make a safer product choice (both regarding the health and the environment). To help hairdressers to understand the problem and choose products with less hazardous substances, a guidebook for hairdressers was compiled as well as shorter information for clients. For young hairdressers trainings were organised together with professional schools (over 150 students attended). For active hairdressers master classes on principles of hair-dyeing using natural hair dyes were held both in Riga and in Tallinn. In preparation of these classes, hairdressers in all three countries were asked about their work practices environment, their readiness to apply and learn more about less hazardous products. We evaluated the results of these questionnaires. We decided to also evaluate the impact of the masterclasses. This is the most relevant event, as the participants were working professionals who have the possibility to apply what they have learned directly in their professional live. We contact the hair dressers over the phone and asked them about the impact of the training.

### 5.2 Questionnaire on the working situation and attitude of hairdressers

#### 5.2.1 Results from Estonia

##### Sample and background

In the context of the project “Think before you buy” 52 Estonian hairdressers were surveyed about their awareness of hazardous substances in hair care products and their exposure to these substances. The respondents were selected in a random fashion. The survey collected answers from hairdressers living mostly in Tallinn. Data collection happened in November 2014. The interviewer asked the questions and marking the respondents’ answers in the questionnaire. The questionnaire was composed and analysed by BEF Estonia and BEF Germany, the data was collected and translated from Estonian into English by BEF Estonia.

This chapter will present the results of the Estonian survey. The first part presents some personal characteristics of the respondents. The second part asks about the products the hairdressers use and why they choose them. The third part presents health considerations and the final part discusses the environmental awareness of the hairdressers.

##### Contextual characteristics

The surveyed hairdressers are from 20 up to 70 years old. The table below illustrates the age distribution:

Age in years	20-29	30-39	40-49	50-59	more than 60
% of respondents	56%	21%	10%	12%	2%

Table 10: Age distribution of the sample (n=52)

The 52 respondents work in their profession from half a year to over 50 years. The majority of the selected hairdressers (58%) work between 0-5 years in their profession at the moment of the interview. The second largest group with 15% of the respondents is practising their profession more than 21 years.

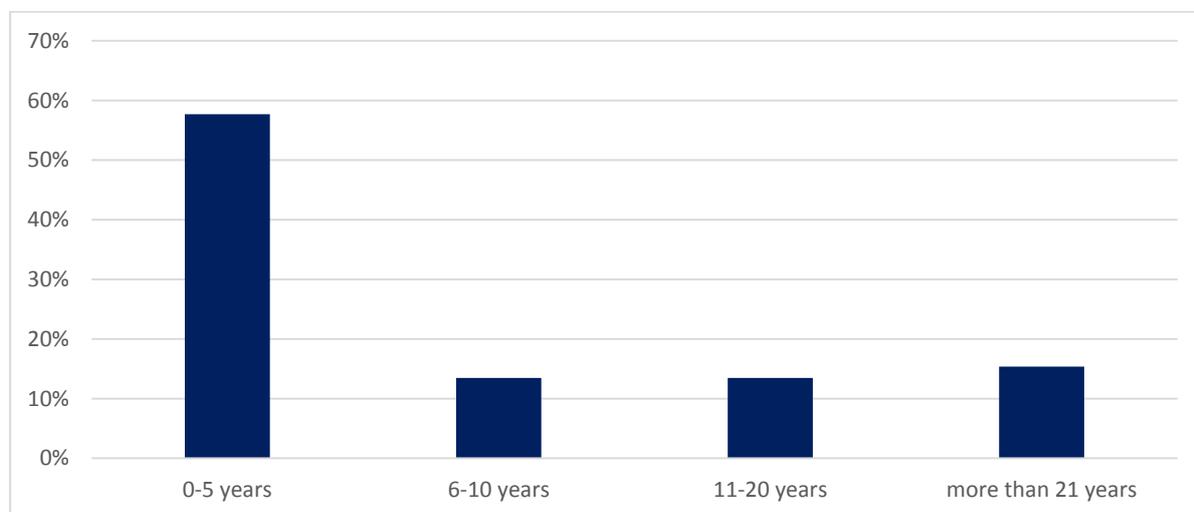


Figure 7: Number of years the respondents work as a hairdresser at the time of the survey (n=52)

The majority (56%) of the respondents are employees, 29% are owners or in a managing position and 6% are self-employed. 8% describe themselves as “practitioner” and 4% work self-employed.

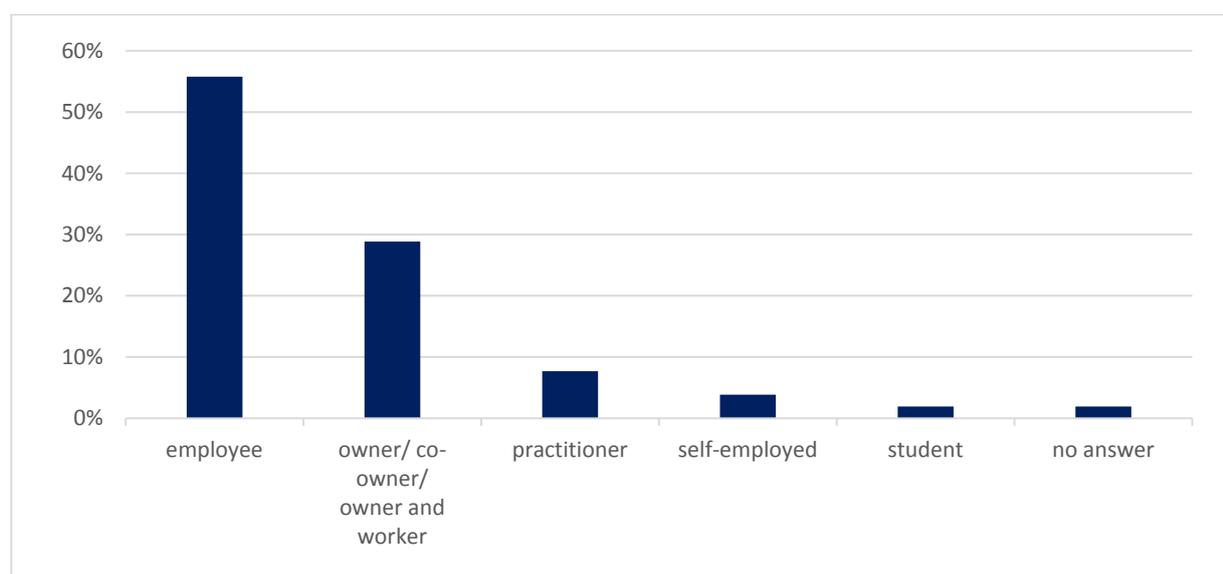


Figure 8: Occupational status of the interviewed hairdressers (n=52)

### Products used at work

The majority of the interviewed hairdressers (63%) decides autonomously which products they use in their salon. Of those not being able to choose the products (37%), most respondents say that the owner of the salon takes this decision, or all employees agree collectively on certain products. 54% of the salons have a frame contract with a certain producer or brand, whereas 46% buy their products independently.

The survey asks the hairdressers about decision criteria when purchasing hair care products (shampoos, colours, conditioners, hair spray, hair gel etc.). The answers show that by far the most influential factors are the customers' satisfaction and personal experience with a product. The next important selection criteria are a product's sensitivity, i.e. how the hair and skin react to a certain product, and the contents and substances of a product. These two factors are especially interesting regarding the question of hazardous substances in hair care products, as it shows that a product's ingredients are important for the hairdressers. Next comes the brand of a product, which is not surprising considering the fact that the majority of the hairdressers have frame contracts with certain producers. Only in sixth rank comes the price, which means that all other criteria around personal experience and ingredients are more important than the price for decision making. On the other hand, ecological considerations do not seem to be important for the selection. Neither natural ingredients nor eco-certification or environmental-friendly disposals are criteria that influence the hairdressers' choice.

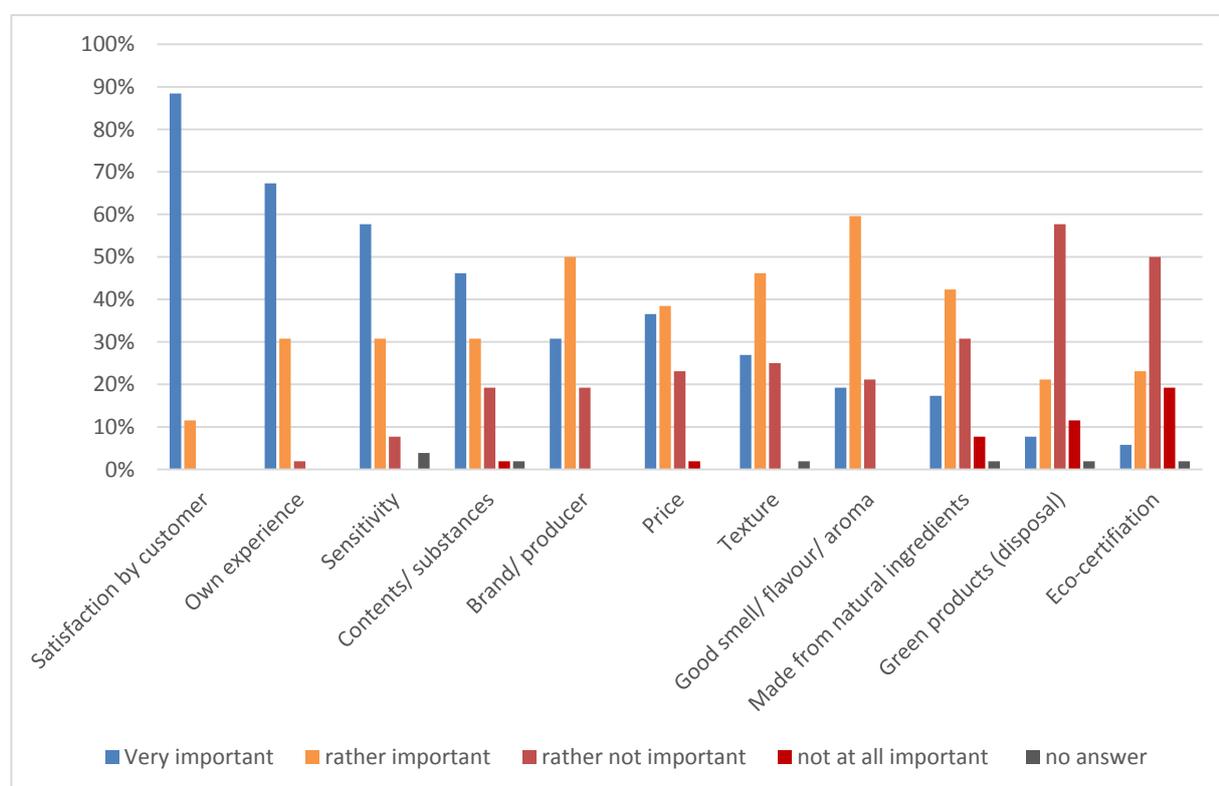


Figure 9: Criteria for purchase of hair care products (n=52)

### Eco-certified products

Following the results of the graph above, the survey investigates the question why the hairdressers rank eco-certification as a very weak selection criterion. The majority of the respondents (87%) does not use any kind of eco-certified products.

Being asked why, they mention the higher price of these products compared to conventional ones. Some hairdressers also state that they are not satisfied with the quality of the eco-certified products, or they are used to the familiar products and do not want to change. Others have not considered this option so far or have not yet investigated these products. Some respondents doubt if the clients will be interested in eco-certified alternatives.

Those hairdressers who use eco-certified products (6 persons) use ECOCERT, the Goldwell green series and a product with carbon neutral packaging. Asked why they use eco-certified products, the clients' demands are the most commonly mentioned factor. Further reasons are environmental and health aspects. The products with an eco-label in use are mostly hair care products (shampoos, conditioners), one person mentions colours.

## Work and health

As exposure to hazardous substances might cause health problems, the questionnaire asks the hairdressers about their estimation of their general health, and about some specific health impairments typical for their occupation.

The majority of the hairdressers assess their general health status to be "very good" (19%) or "good" (46%). 25% of the respondents say they have a "few health problems" and 8% report that their health status is "not very good". No responded answered with a "bad" health condition. The most common impairment is coughing affecting in total 42% of the respondents. 19% of the hairdressers mention that they suffer from shortness of breath. Skin eczema affect 33%, and skin dermatitis 13% of the surveyed hairdressers.

Shortness of breath, coughing, skin eczema and skin dermatitis are distributed common in all the group, with even the lowest number of people in the group with "not very good" health condition. Interestingly, also people who estimate their overall health status to be "very good" suffer from these impairments. Therefore, the estimation of the general health status is only to a limited amount influenced by these impairments and not necessarily connected to their occupation.

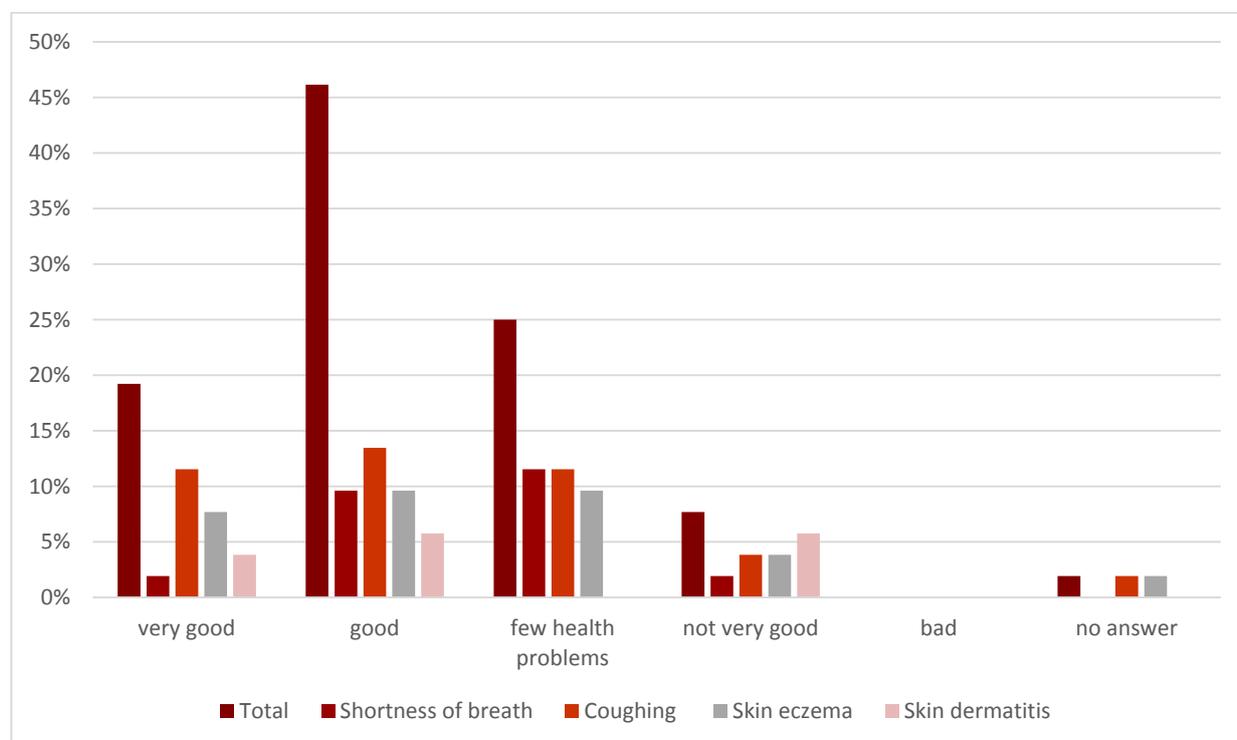


Figure 10: Overall health status and specific health impairments (n=52)

Of those respondents indicating that they suffer from one or more of these symptoms, 25% affirm that they appeared or got more acute after contact with products used in the salon, 75%

do not think so. As shown in the graph below, about half of those people suffering from shortness of breath and coughing think that their health status is related to their professional activities. The other half thinks that it has nothing to do with their work. In contrast, almost all respondents affected by skin eczema or skin dermatitis think that these impairments are related to their work.

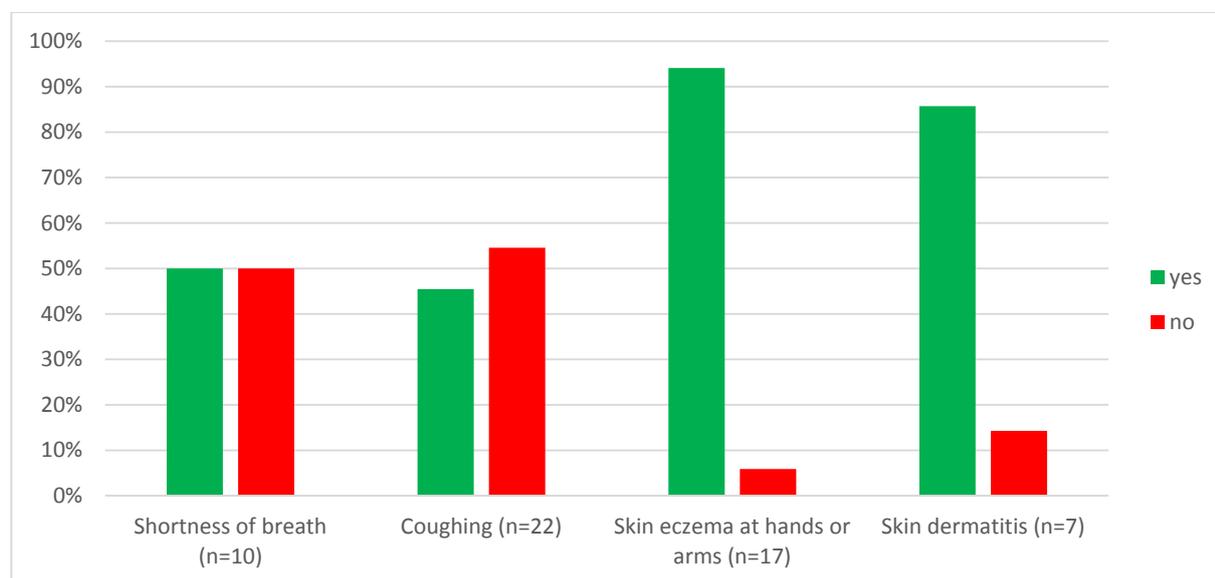


Figure 11: Percentages of respondents affected by health problems who think these are related to their work

A factor that might reinforce health problems in professional context might be the air ventilation of the workplace. 25% of the respondents say their workplace is “not so well” ventilated, and for 4% it is even badly aired. 10% of the hairdressers (5 persons) report that it happened that customers complained about health issues after their visit. They mention respiration problems due to lack of fresh air and bad ventilation. One customer had irritated skin after the treatment; another one was allergic to nuts and reacted to a shampoo with almond oil. 15% of the hairdressers (8 persons) indicated that they experienced customers having health problems with a product used in a salon. The most common issue was sensitivity or an allergic reaction to hair colours and shampoos.

### Work attitude and environmental attitudes

The majority of the interviewed hairdressers are well familiar with work safety regulations and requirements, know about the effects of the used products on the body and hair, feel well informed about the hair products in use and protect themselves when working with colours, dyes and hair bleach products. However, the number of people who say that they usually read the ingredients lists of the used products is significantly lower. The hairdressers can offer different care products and provide alternatives according to the customer’s needs and wishes, and give advice which products to use at home.

The interviewed hairdressers show high awareness for environmental topics. However, they tend to locate efforts for environmental protection within their private life, not in their professional life. As much as 98% of the respondents rather agree or agree totally that their private behaviour can protect the environment. In the professional context, 80% believe that their action are related environmental protection. On the other hand, the hairdressers do not think that their customers would be ready to pay more for natural hair care products.

## 5.2.2 Results from Latvia

### Sample and background

In the context of the project “Think before you buy” 93 Latvian hairdressers were surveyed about their awareness of hazardous substances in hair care products and their exposure to these substances. All respondents live and work in Riga and were selected in a random fashion. Data collection happened during May 2014. The interviewer asked the questions and marked the respondents’ answers in the questionnaire. The questionnaire was composed and analysed by BEF Latvia and BEF Germany, the data was collected and translated from Latvian into English by BEF Latvia.

This report will present the results of the Latvian survey. The first part presents some personal characteristics of the respondents. The second part asks about the products the hairdressers use and why they choose them. The third part presents health considerations and the final part discusses the environmental awareness of the hairdressers.

### Contextual characteristics

The surveyed hairdressers are from 18 to more than 60 years old. The following table shows the age structure of the respondents:

Age in years	18-29	30-39	40-49	50-59	≥60	No answer
% of respondents	34%	30%	25%	4%	5%	1%

Table 11: Age distribution of the sample (n=93)

The 93 responding hairdressers work in their profession from 1 to over 40 years. 31% of the respondents work between 1-5 years in their profession at the moment of the interview. The second largest group with 26% of the respondents is practising their profession between 11-20 years.

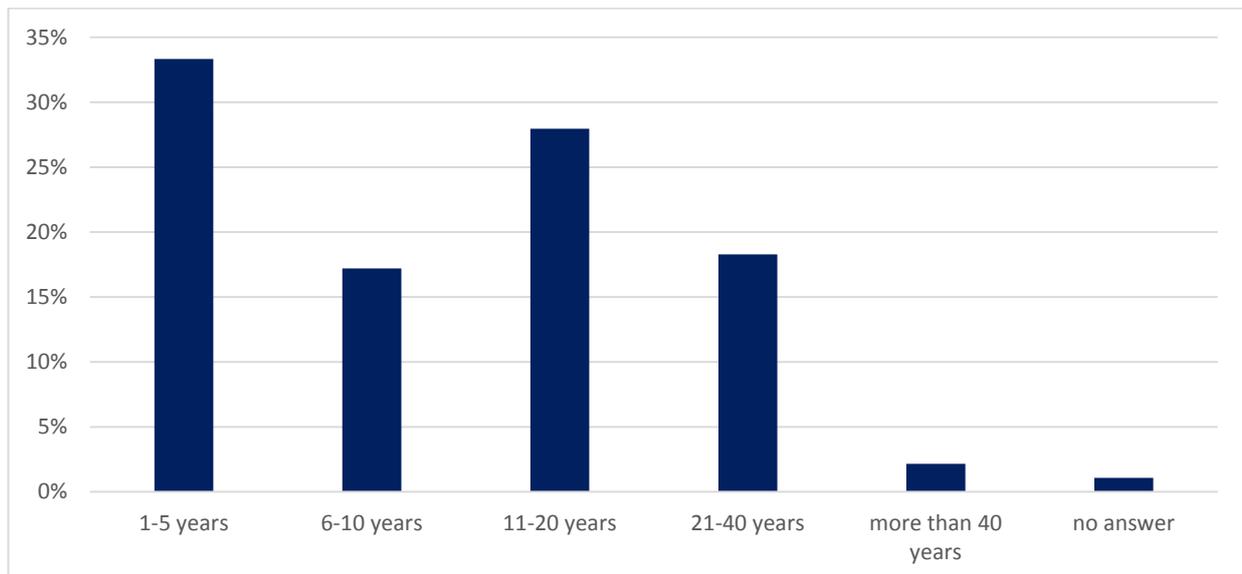


Figure 12: Number of years the respondents work as a hairdresser at the time of the survey (n=93)

The majority (53%) of the respondents are employees, 12% are owners or in a managing position and 6% are self-employed. From one third (28%) of the respondents, detailed

information about their occupational status missing, they describe themselves either as “hairdresser” or as “stylist”.

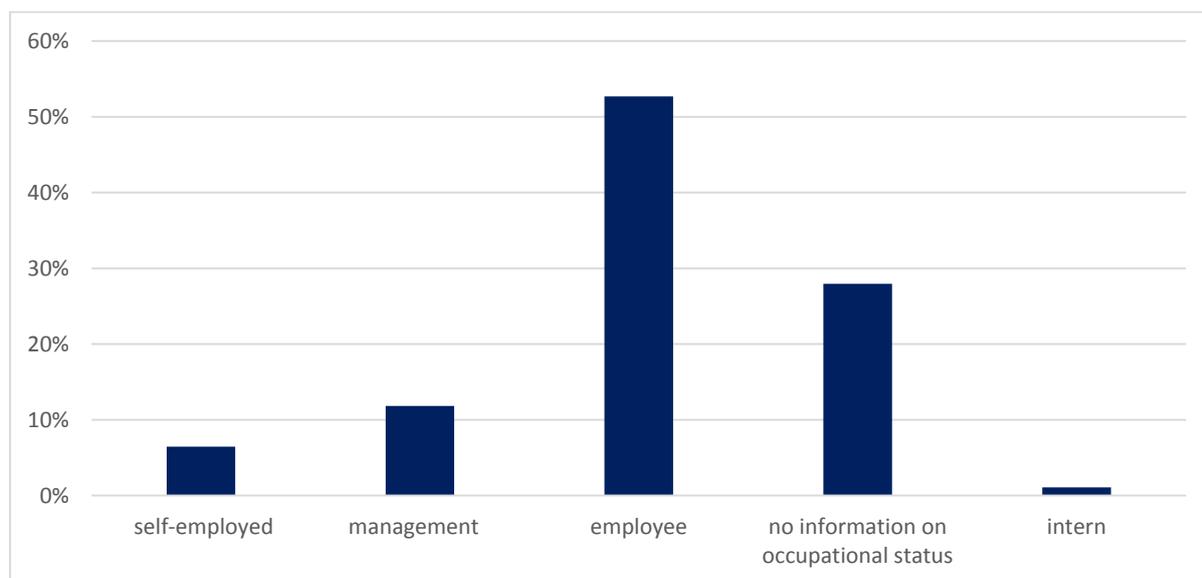


Figure 13: Occupational status of the interviewed hairdressers (n=93)

### Products used at work

The majority of the interviewed hairdressers (59%) decides autonomously which products they use in their salon. Of those not being able to choose the products (40%), most respondents say that the owner of the salon takes this decision, or all employees agree collectively on certain products. The majority of the salons (68%) also have a frame contract with a certain producer or brand, whereas 31% buy their products independently.

The survey asks the hairdressers about decision criteria when purchasing hair care products (shampoos, colours, conditioners, hair spray, hair gel etc.). The answers show that personal experience with a product is important, and so is the customer’s opinion. Regarding the question of hazardous substances in hair care products, it is striking that the most important selection criterion is a product’s sensitivity, i.e. how the hair and skin react to a certain product. The hairdressers also indicate that they strongly consider the substances a specific product contains. All these four criteria are more important than the price for decision making. On the other hand, ecological considerations do not seem to be important for the selection of a product. Neither natural ingredients nor eco-certification or environmental-friendly disposals are criteria that influence the hairdressers’ choice, with these two last criteria being even the most unimportant ones of all possible criteria.

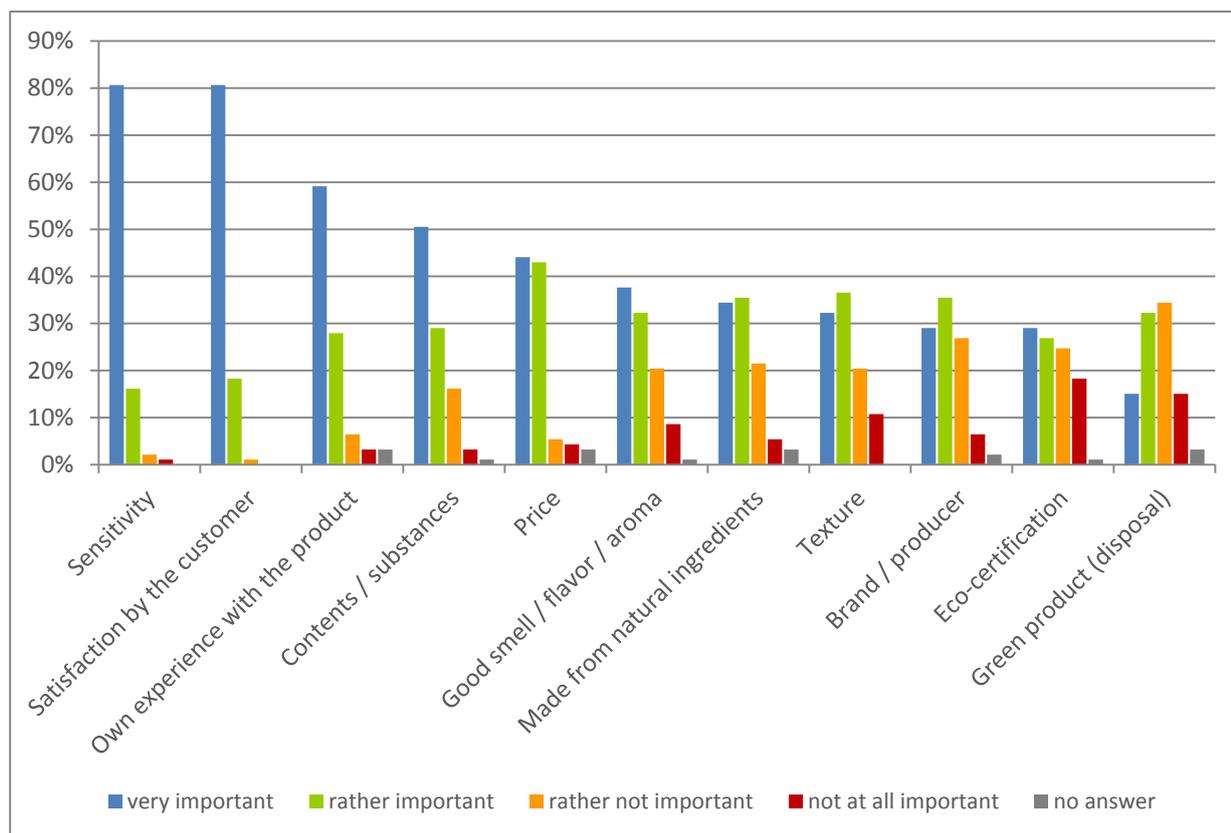


Figure 14: Criteria for purchase of hair care products (n=93)

## Eco-certified products

In a next step, the survey investigates the question why the hairdressers rank eco-certification as a very weak selection criterion. The majority of the respondents (83%) does not use any kind of eco-certified products. Being asked why, they mention the higher price of these products compared to conventional ones. Familiarity and satisfaction with the conventional products in use is a reason not to change. Some hairdressers also say that they lack information about eco-certified products or did not know about them before the survey. Some respondents mistrust eco-certified products. They say that there are only a few natural ingredients anyway in products with an eco-label, and that the conventional products work better.

Those hairdressers who use eco-certified products mainly use ECOCERT, one respondent uses a product labelled Bio, another one a vegan product. Asked why they use eco-certified products, seven hairdressers mentioned their own and their customers' health, three persons refer to environmental concerns (but those three also name health reasons) and five give other, diverse answers. The products with an eco-label in use are mostly hair care and hair styling products (shampoos, hair sprays, colour), one person also mentions disinfectants.

## Work and health

As exposure to hazardous substances might cause health problems, the questionnaire asks the hairdressers about their estimation of their general health and about some specific health impairments typical for their occupation. The majority of the hairdressers assess their general health status to be "very good" or "good". 15% of the respondents report a "few health

problems” and 13% say their health condition is “not very good”. No respondent indicated a bad health status.

The most common impairment is coughing affecting in total 23% of the respondents. 20% of the hairdressers mention that they suffer from shortness of breath. Skin eczema affect 8%, and skin dermatitis 3% of the surveyed hairdressers.

Shortness of breath, coughing, skin eczema and skin dermatitis are distributed almost equally between the groups indicating a “good”, “a few health problems” and “not very good” health status. Therefore, the estimation of the general health status is only to a limited amount influenced by these problems.

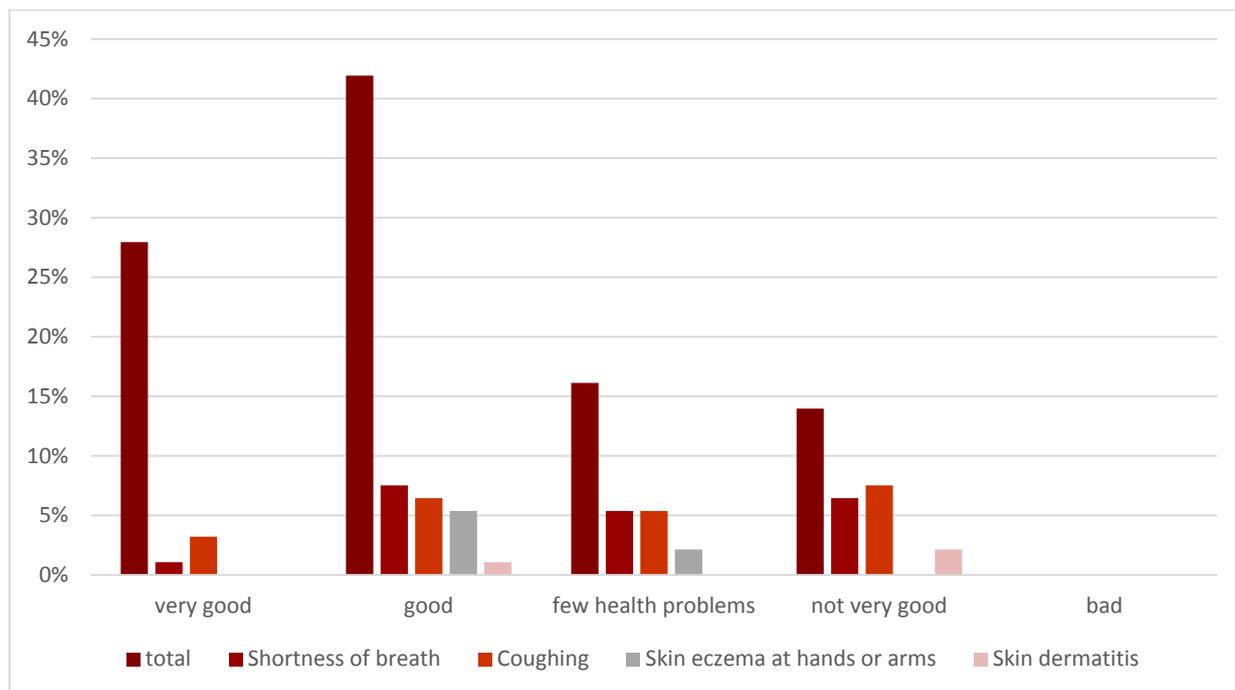


Figure 15: Overall health status and specific health impairments (n=93)

Of those respondents indicating that they suffer from one or more of these symptoms, a slight majority affirms that they appeared or got more acute after contact with products used in the salon. This might indicate an influence of hazardous substances on the hairdressers’ health problems. Further, those respondents who suffer from specific health impairments clearly think that these are related to their occupation (see graph below). The only exception is coughing, for this health issue the respondents do not see a connection with their work.

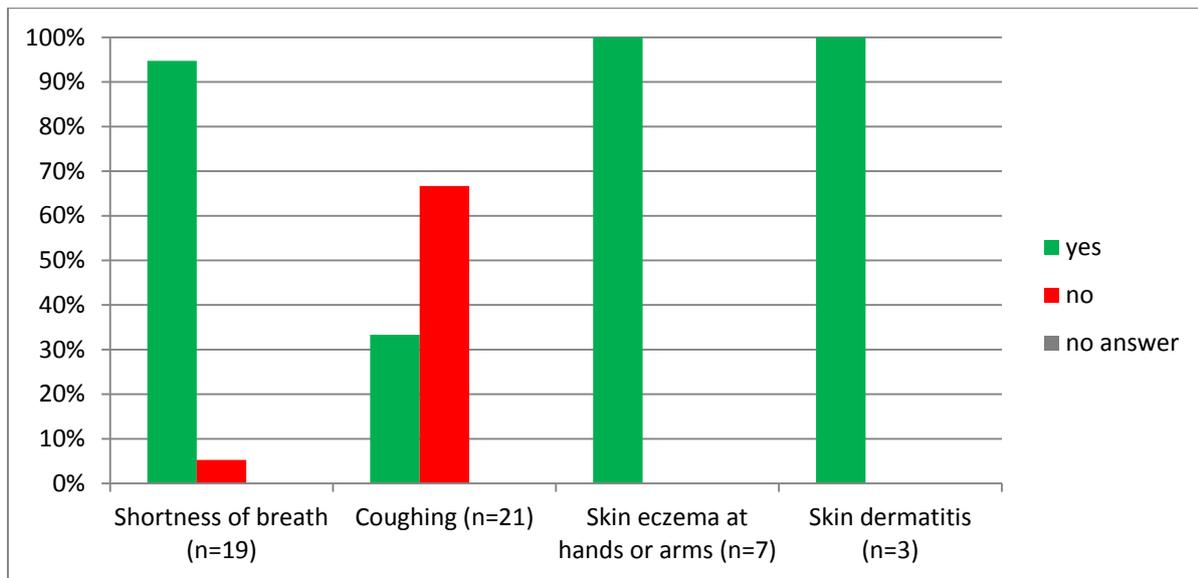


Figure 15: Percentages of respondents affected by health problems who think that these are related to their work

A factor that might reinforce health problems in professional context might be the air ventilation of the workplace. 16% of the respondents say their workplace is “not so well” ventilated, and for 14% it is even badly aired. 10% of the hairdressers report that it happened that customers complained about health issues after their visit. The examples, however, show mostly colds due to a fan or air temperature changes. Three customers reported problems with respiration, and two others allergies and skin problems. 12% of the hairdressers indicated that they experienced customers having health problems with a product used in a salon. The most common issue was sensitivity or an allergic reaction to hair colour.

### Work attitude and environmental attitudes

The majority of the interviewed hairdressers are well familiar with work safety regulations and requirements, know about the effects of the used products on the body and hair, feel well informed about the hair products in use and protect themselves when working with colours, dyes and hair bleach products. However, the number of people who usually read the ingredients lists of the used products is significantly lower. To a certain degree, the hairdressers can offer different care products and provide alternatives according to the customer’s needs and wishes, and give advice which products to use at home.

The interviewed hairdressers show awareness for environmental topics. However, they clearly locate efforts for environmental protection within their private life, not in their professional life. They clearly state that they do not feel able to act environmentally friendly at their workplace, whereas within their private environment they feel more confident about their impact. Further, they do estimate their customers’ awareness for eco-labelled products or natural products to be very low, and they do not think the customers are willing to pay a higher price for natural hair care products.

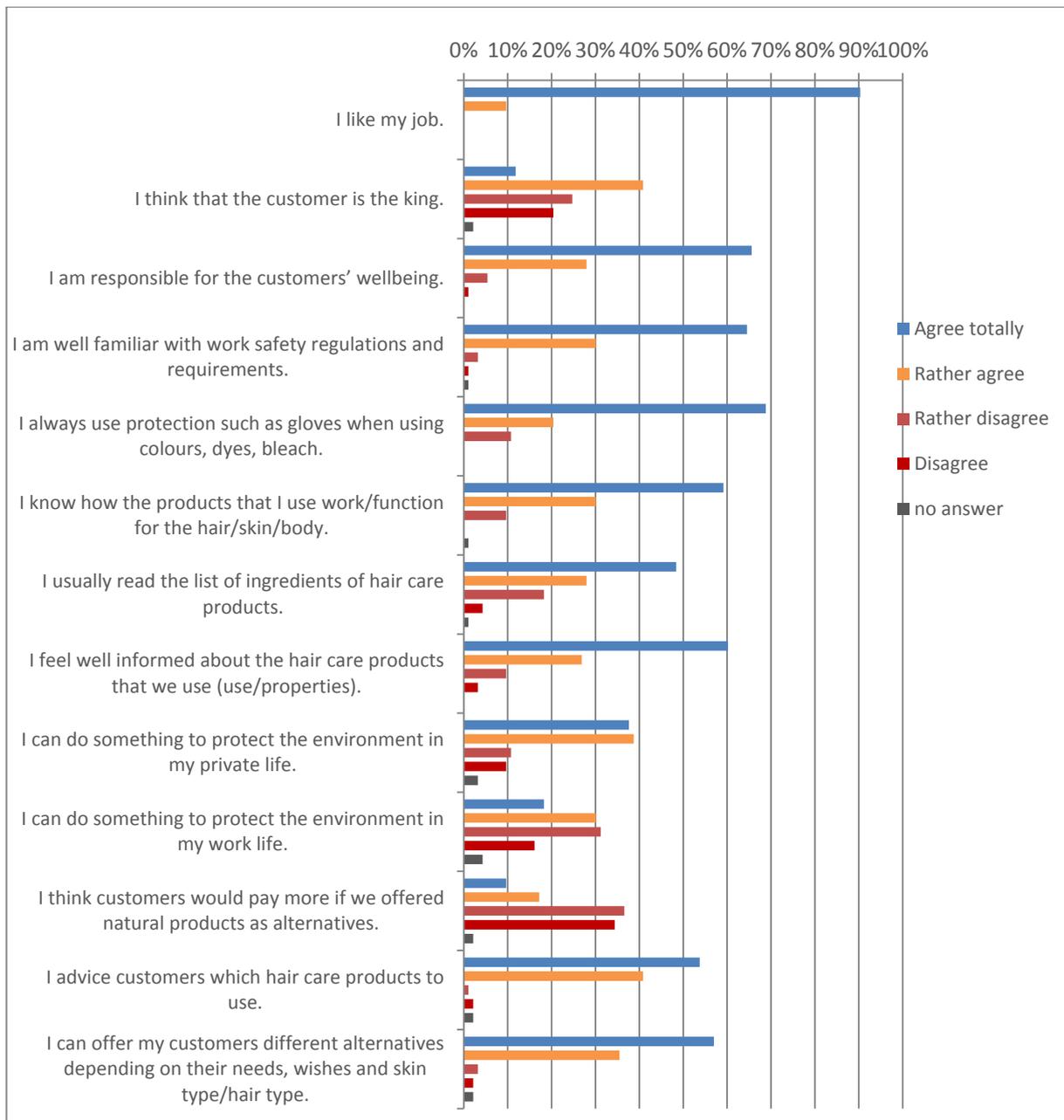


Figure 16: Respondents' attitudes towards their occupation and the environment (n=93)

The environmental awareness regarding behaviour at the work place is almost evenly distributed throughout all ages. The interrelation between the respondent's age and the answer to question "I can do something in my work life to protect the environment" shows the age has no influence on the respondent's awareness. The only exception are the older respondent who tended slightly towards a more environmental friendly attitude.

Regarding hazardous substances in hair care products, the question arises if those hairdressers who are well aware of environmental impact of their occupation link this topic with the use of eco-certified products. The table below shows a slight tendency confirming this hypothesis, but overall the number of people using eco-certified products is too low to make clear statements.

			I can do I can do something to protect the environment in my work life					Total
			agree totally	rather agree	rather disagree	disagree	no answer	
Using eco-certified products	no answer	Count	0	0	1	0	0	1
		%	0.0%	0.0%	3.4%	0.0%	0.0%	1.1%
	yes	Count	5	5	2	3	0	15
		%	29.4%	17.9%	6.9%	20.0%	0.0%	16.1%
	no	Count	12	23	26	12	4	77
		%	70.6%	82.1%	89.7%	80.0%	100.0%	82.8%
Total		Count	17	28	29	15	4	93
		%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*Table 12: Environmental awareness and use of eco-certified products*

The general low level of environmental awareness in professional context shown in this survey is also confirmed by the fact that the majority of the interviewed hairdressers (54%) is not interested in a training about chemicals and hazardous substances in hair care products. However, almost half (44%) of the respondents is interested in such a training, and half of the interviewed hairdressers would like to educate themselves on chemicals and hazardous substances in hair care products with information material.

Comparing the general health status and the use of eco-certified products does not reveal clear tendencies. Although two-thirds of the respondents who use eco-certified products say that their overall health is very good or good, there are no statements about the effect of hazardous substances on their health status possible. The connection could work in both directions: People are healthier because they use eco-certified products, or if people who suffer from health problems tend to use eco-certified products to minimise this health risk.

			Indication of overall health				Total
			very good	good	few health problems	not very good	
Using eco-certified products	no answer	Count	0	0	1	0	1
		%	0.0%	0.0%	3.2%	0.0%	1.1%
	yes	Count	4	6	5	0	15
		%	30.8%	13.3%	16.1%	0.0%	16.1%
	no	Count	9	39	25	4	77
		%	69.2%	86.7%	80.6%	100.0%	82.8%
Total		Count	13	45	31	4	93
		%	100.0%	100.0%	100.0%	100.0%	100.0%

*Table 13: Health condition and use of eco-certified products*

### Concluding remarks

The aim of the survey was to investigate the awareness of hazardous substances. The analysis shows that the interviewed hairdressers are very much aware of the ingredients of the

products they use. They are well informed about allergies and safe use of the products. However, they seem to be less concerned about their own health than their customers’.

The most striking result of the analysis is that the respondents do not seem to acknowledge the environmental impact of their professional behaviour. They are well aware of environmental considerations in their private life, yet, for their professional activities they have other priorities or do simply not link their professional sphere with “abstract” criteria such as environmental protection.

Eco-labels for hair care products seem to have a rather bad reputation. The hairdressers mention them being (too) expensive, not effective and seem to mistrust ecological labelling.

### 5.2.3 Results from Lithuania

#### Research design and background

The project “Think before you buy” aims at rising awareness on hazardous substances in different products used in daily life. As one of different target groups, the project focuses on hairdressers’ use and choice of hair care products. This survey asked 82 hairdressers about their awareness towards the topic and their habits regarding hair care products. The interviews took place in time in Vilnius, Kaunas, and Klaipėda. The respondents were interviewed by students and the results written down in the questionnaire.

This report summarises the results of the survey. The first part presents some personal characteristics of the respondents. The second part asks about the products the hairdressers use and why they choose them. The third part presents health considerations and the final part discusses the environmental awareness of the hairdressers. Due to the high number of non-responses and missing answers, data analysis excludes these cases for some graphs. This is why the total number of answers changes for each question. The valid number of respondents (n) is indicated for each graph.

#### Sample characteristics

The youngest respondent is 21 years old, the oldest is 61. The table below shows the age structure of the survey.

Age in years	21-29 years	30-39 years	40-49 years	50-59 years	over 60 years
% of respondents	25,0%	31,9%	36,1%	4,2%	2,8%

Table 14: Age distribution of the sample (n=72)

26,4% (19 persons) of the respondents work between 1 and 5 years as hairdressers. 20,8% (15 persons) have this profession between 6 and 10 years. 33,3% (24 persons) are working 11 up to 20 years, and 19,4 % ( 14 persons) are even more than 20 years working as a hairdresser.



Figure 17: Number of years the respondents work as a hairdresser (n=72)

For 75,7% of the respondents, the survey did not reveal detailed information about their employment status. They described themselves as “hairdresser”, “stylist” or “manicurist”. 18,9% are employees, 5,4% (4 persons) are in a managing position as owner or director of the salon. 2,7% (2 persons) are students and one person (1,4%) is working in the salon administration.

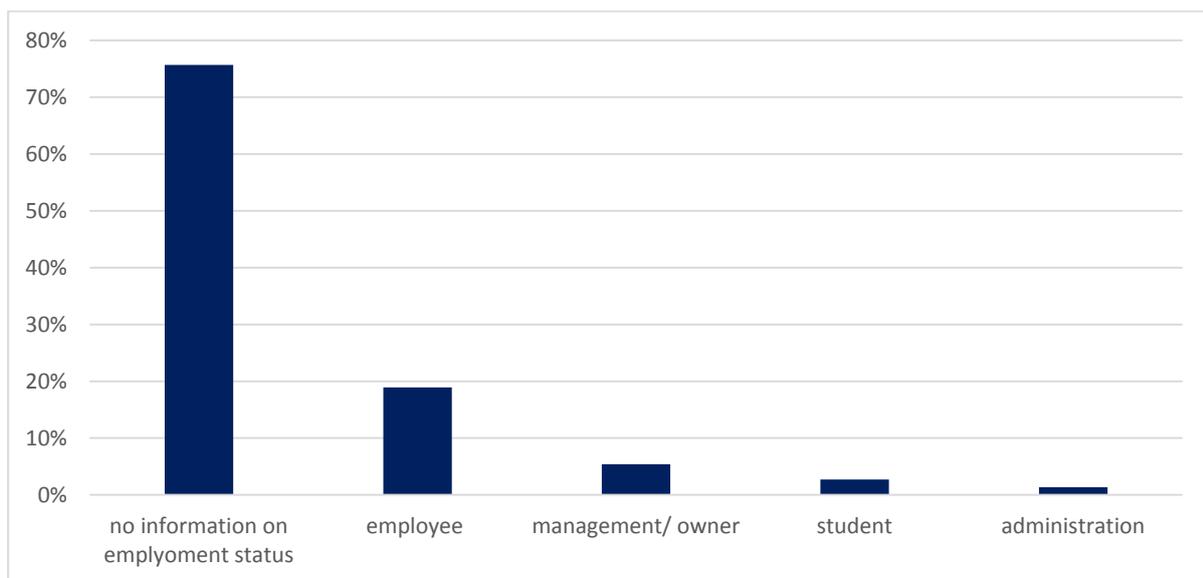


Figure 18: Occupational status of the respondents (n=74)

### Products used at work

The survey asks the hairdressers how they decide for a specific hair care product (shampoos, colours, conditioners, hair spray, hair gel etc.). The majority (85,3%) has a frame contract with a certain producer or brand. The respondents further provided information about factors that are important for them when they buy new hair care products. By far the most important criteria are the hairdresser’s own experience with a product and the customers’ satisfaction. A product’s sensitivity, texture and contents are also important factors for the purchase decision, as is the price. The fact that a product is made from natural ingredients or is certified with an eco-label does not influence the hairdresser’s choice very much.

Regarding the question of hazardous substances, hence, the answers show that it is not easy to convince the hairdressers to use a new, unfamiliar product. Green labels or environmental friendly disposals do not influence their choice, but the ingredients of a product certainly does. Focusing on the contents of a product might thus be a way to raise the attention for hazardous substances.

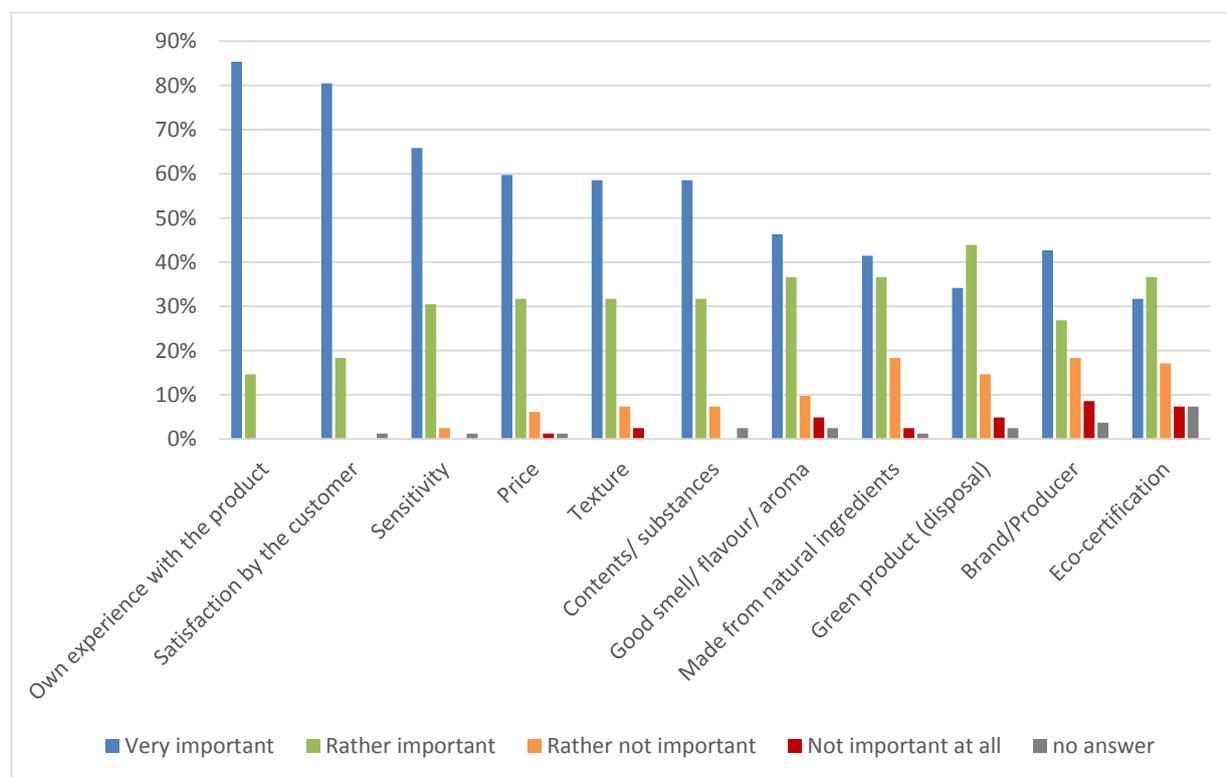


Figure 19: Criteria for selection of specific hair care products (n=82)

### Eco-certified products

Currently, 28% (23 persons) of the interviewed hairdressers use eco-certified hair care products. The remaining 65,9% do not use such products, and 6,1% did not answer the question. Being asked why they do not use eco-certified products, the hairdressers refer to the high price as the most important reason. Some people also said that they mistrust the label. Some respondents explain that eco-labelled products are not as effective as conventional products. Two persons complain about the few varieties of eco-certified products available. Finally, two persons have not yet heard of this kind of products.

Those hairdressers who currently use eco-certified products say that they use them because of health benefits and for environmental protection. Four persons choose them because they contain fewer chemicals and consist of natural ingredients. One person prefers eco-products due to her allergy.

### Work and health

As exposure to hazardous substances might cause health problems, the questionnaire asks the hairdressers about their estimation of their general health and about some specific health impairments typical for their occupation. The majority of the hairdressers assess their general health status to be “very good” or “good”. 18,7% (15 persons) of the respondents report a

“few health problems” and 5% (4 persons) say their health condition is “not very good”. One respondent (3%) indicates a bad health status.

The most common impairment is coughing, affecting in total 36,6% (26 persons) of the respondents. 10% (7 persons) mention that they suffer from shortness of breath. Skin eczema affect 14% (10 persons), and skin dermatitis 10% (7 persons) of the surveyed hairdressers.

Even few people stating a generally “very good” and “good” health status suffer from coughing, skin eczema and skin dermatitis (see graph below). Further, those impairments do not appear more frequently if people indicate a lower health status. Thus, these health impairments do only to a limited amount influence a person’s overall estimation of his/her health. This is no surprise considering how many other factors could determine the health status.

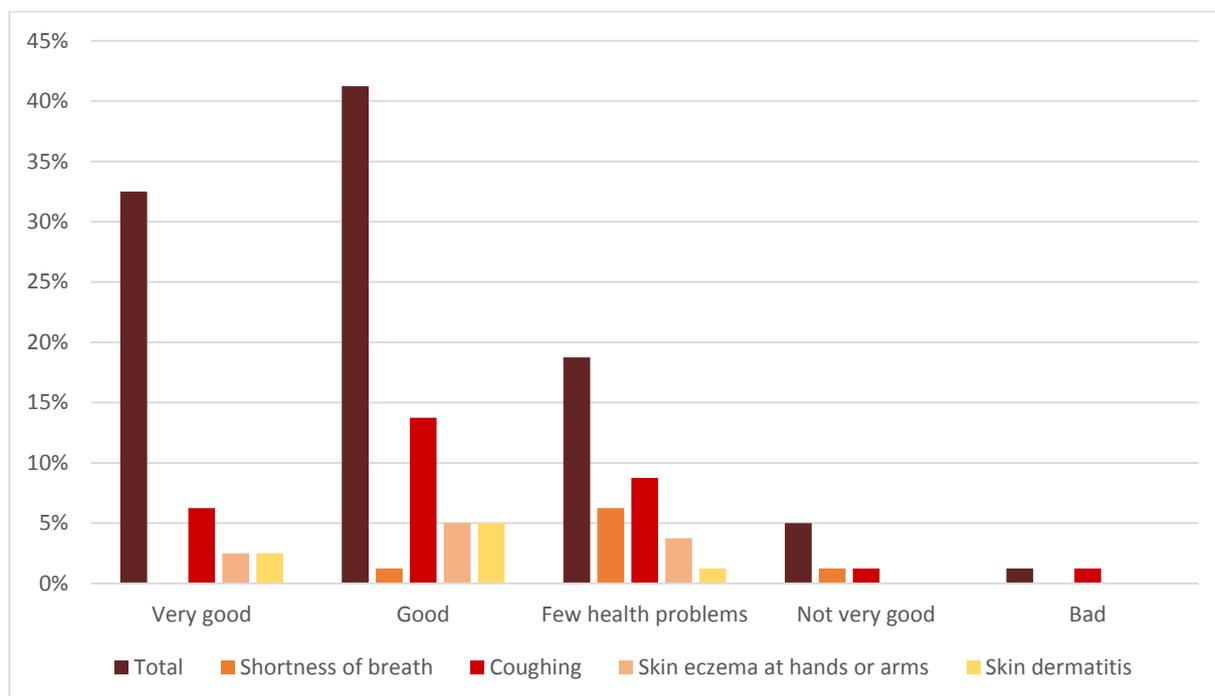


Figure 20: Overall health status and specific health impairments (n=82)

The majority of the respondents (57,8%, 37 persons) does not think that the impairments appear or get more acute after being in contact with hair care products used in the salon. Contradicting to this statement, however, the majority of the respondents suffering from the four specific health impairments (shortness of breath, coughing, skin eczema, skin dermatitis) think that these are related to their work (see graph below). Due to the low number of respondents, these results need to be treated carefully.

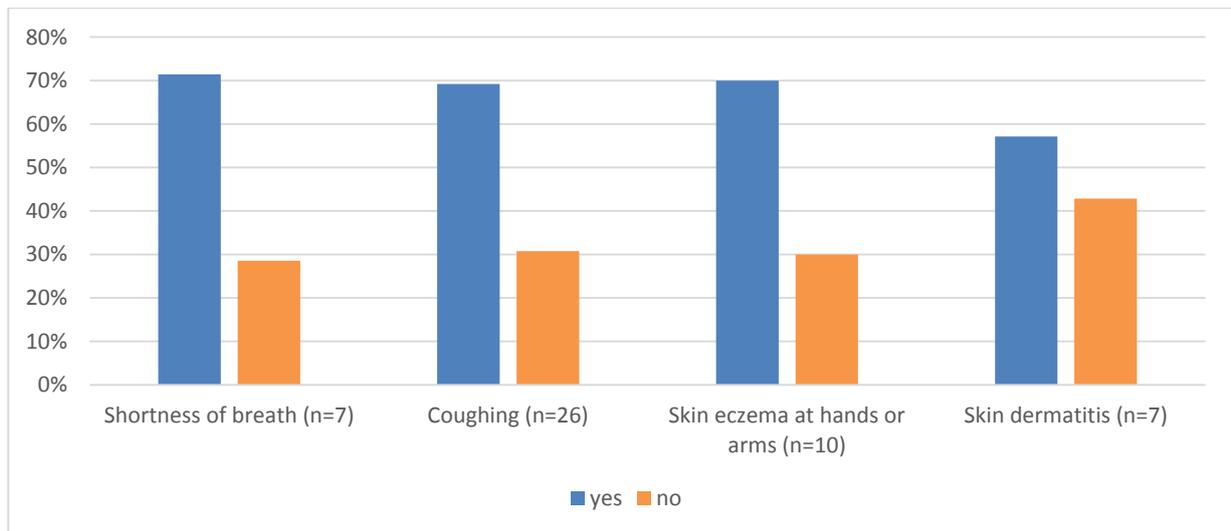


Figure 21: Percentages of responded affected by health impairments who think that these are related to their work

A factor that might reinforce health problems in professional context is the air ventilation of the workplace. 20,2% (16 persons) of the respondents say their workplace is “not so well” ventilated, and for 5% (4 persons) it is even badly aired. 6% (5 persons) of the hairdressers report that it has happened that customers complained about health issues after their visit. The customers complained about the bad ventilation, felt dizzy or were fainting, one person had eye irritations. 9% (7 persons) of the hairdressers indicated that they experienced customers having health problems with a product used in a salon. The most common issue were skin irritations, one customer had an allergic reaction.

### Work attitude and environmental attitudes

The large majority of the interviewed hairdressers is well familiar with work safety regulations and requirements, knows about the effects of the used products on the body and hair, and protect themselves when working with colours, dyes and hair bleach products. A high number of people usually reads the ingredients lists of the used products and feels well informed about the hair products in use. The hairdressers provide advice to the customers which hair care products to use, and feel responsible for the customers’ well-being. They generally can offer different alternatives for hair care depending on the customer’s needs.

The interviewed hairdressers show awareness for environmental topics. The majority agrees that their professional behaviour can help protecting the environment. A lower number of people is aware that the private life also has an environmental impact. This is an interesting result as the interviewed hairdressers both in Latvia and Estonia rather locate environmental protection within the private sphere, not in the work life as the Lithuanian hairdressers do.

Only a small percentage of the hairdressers thinks that their customers would be willing to pay more for products consisting of natural ingredients.

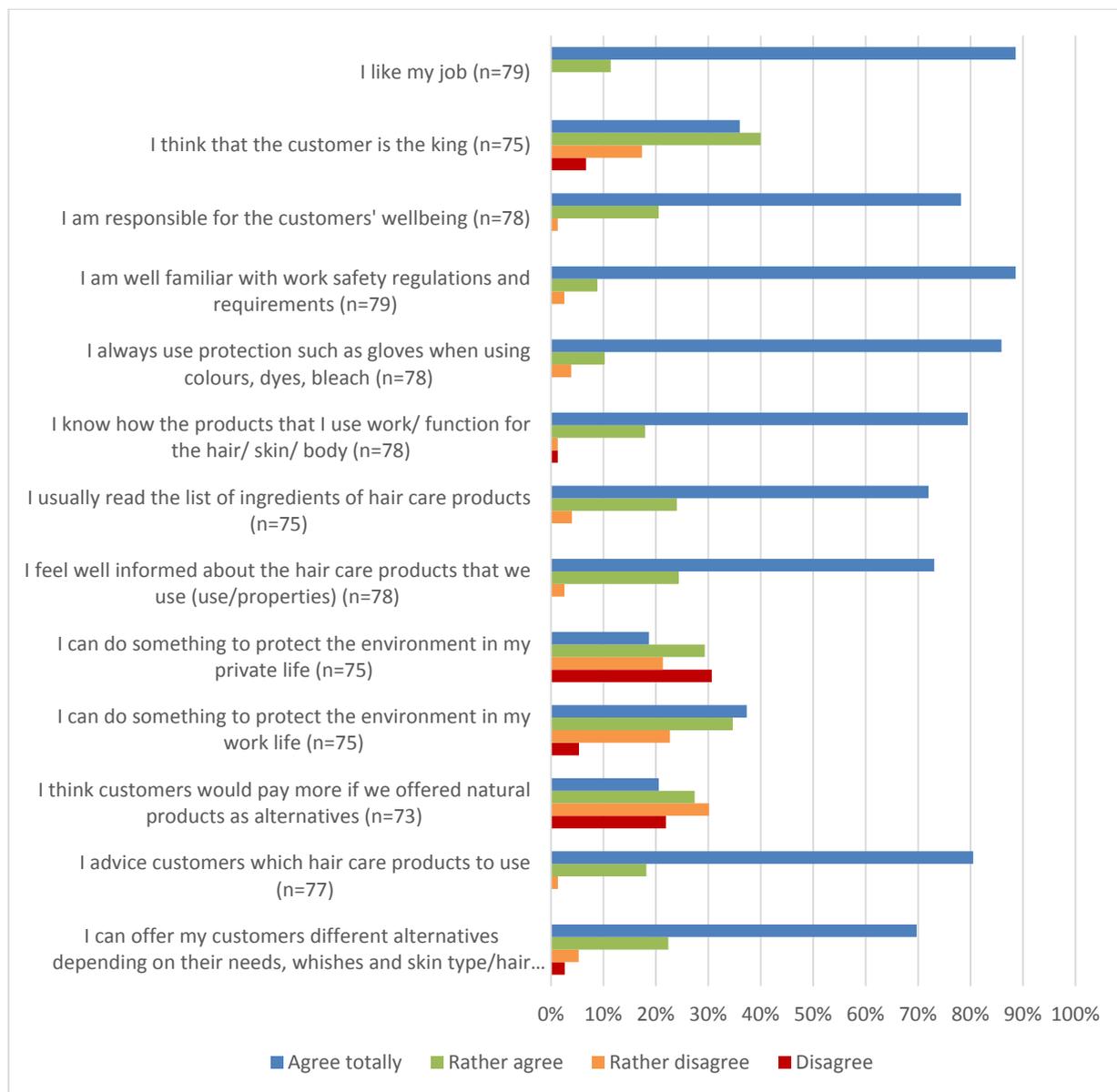


Figure 22: Respondents' attitudes towards their occupation and the environment (n varies)

The following table clearly shows that the hairdressers perceive eco-certified products as an action which might help to protect the environment. People with a high degree of environmental awareness are more likely to use products with an eco-label than people who do not link their own behaviour with environmental protection.

			I can do something to protect the environment in my work life				Total
			agree totally	rather agree	rather disagree	disagree	
Using eco certified products	yes	Count	10	8	3	0	21
		%	40.0%	30.8%	17.6%	0.0%	29.2%
	no	Count	15	18	14	4	51
		%	60.0%	69.2%	82.4%	100.0%	70.8%
Total		Count	25	26	17	4	72
		%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 15: Environmental awareness and use of eco-certified products (n=72)

The fact that the respondents are generally interested in environmental protection is also reflected in their desire to learn more about hazardous substances. 56,2% of the hairdressers would like to receive more information about the environmental impact of hair care products. 62,2% would be interested in the topic of properties of hair care products. 63,5% of the respondents would like to participate a training about chemicals and hazardous substances in hair care products.

The table below shows the correlation of health and usage of eco-certified products. Almost all respondents who use eco-certified products estimate their health to be good or very good. Health problems therefore do not seem to be a reason why people are using eco-labelled products.

			Indication of overall health					Total
			very good	good	few health problems	not very good	bad	
Using eco certified products	yes	Count	9	10	2	1	0	22
		%	36.0%	31.3%	15.4%	33.3%	0.0%	29.7%
	no	Count	16	22	11	2	1	52
		%	64.0%	68.8%	84.6%	66.7%	100.0%	70.3%
Total		Count	25	32	13	3	1	74
		%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 16: Health condition and use of eco-certified products

### Concluding remarks

The aim of this survey was to find out about hairdressers' awareness of hazardous substances and their use of and attitudes towards hair care products. The analysis shows that the interviewed hairdressers are very much aware of the ingredients of the products they use. They are well informed about allergies and safe use of the products. However, only a minority of the respondents uses products with natural ingredients. Eco-labels seem to have a bad reputation of being too expensive, not effective or only a marketing instrument.

At the same time, the respondents show a high awareness for environmental protection and link it with their own behaviour. They locate environmental topics rather in the professional sphere than in their private life. Accordingly, the majority of the hairdressers would be interested in further information on the topic of hazardous substances in hair care products.

## 5.3 Survey after master classes

### Sample

Masterclasses were held for practicing hairdressers. During these classes, hairdressers were shown how to use ecological products with less hazardous substances. The classes included a practical part where hairdressers could try out e.g. new dying techniques directly. Three months after the masterclass was held in Latvia (in February 2015), the project partner BEF Latvia contacted the participants of these masterclasses with the request to answer a few questions about the impact of the masterclass. 9 participants answered the questions.

## Analysis

The questions asked to the hairdressers included the following four questions on the applicability of the things learned during the master class:

- Have you used any of information/knowledge from seminar and master classes in your professional life? If yes, what exactly?
- Have you attempted any of products/techniques demonstrated in the master class? If yes, were you satisfied with results?
- Were any of your colleagues interested in the information/techniques you have learned?
- Would you be interested in similar seminars/trainings in the future?

## Results

Almost all, 8, of 9 the hairdressers make use of the information/knowledge gained during the masterclass. Five participants mentioned that they use more ecological dyes now or at least have ordered them after the event. The three other participants said that they make use of the handbook.

Next, the participants were asked whether they have tried any of products/techniques demonstrated in the master class and if they were satisfied. Three participants did not try any of the products or techniques. The remaining six participants tried natural or semi-natural dyes. Out of the six respondents, four said that the colours give results that are good or at least close to chemical dyes. One hairdresser was not satisfied and said that the results were not as permanent.

Asked if any of the colleagues were interested in information from the masterclass or in the dyeing techniques, five hairdressers answered with yes. Two of these five said that the colleagues were interested in the handbook.

Last but not least, when asked about the interest in similar seminars/training in the future, 7 out of the 9 respondents answered positively and expressed their interest in such opportunities.

In summary, the feedback about the masterclass is very positive. Only one hairdresser did not make use of any of the materials or dyeing techniques and there could be different reasons for that, which are not necessarily found in the quality or content of the training.

## 5.4 Conclusions about the campaign

Looking at all results of the hairdresser campaign we can conclude that the campaign provided materials that trigger the hairdressers' interest. From the questionnaire among all hairdressers we can see that, although ecological alternatives are not yet widespread, there is an interest of a large number of hairdressers who would like to know more about this. The interest in training ranges from 44% of all interviewed hairdressers in Latvia to more than 60% in Lithuania. We find slightly lower numbers regarding the interest in information about the environmental impact of hair care products (36% in Latvia to 56% in Lithuania), but there is still a significant interest in that issue. The question is whether the project activities are able to respond to these information and training requests. The feedback given after the masterclasses was very positive. We conclude that the training concept is designed in a way

to meet the needs of hairdressers while addressing environmental and health concerns. If all hairdressers who are interested in training were able to receive training, we assume that many of them would indeed attend training resulting in a large number of well-informed professionals who know about alternative products and techniques in hairdressing. Unfortunately, the training will not be repeated for the time being since it was co-financed by project funds. The handbook however will remain as a freely available source of information to interested hairdressers.

## Chapter 6 – Campaign for encouraging hazardous substance-free living environment

### 6.1 Brief description of the campaign

The aim of the campaign for the general public was to inform wide society about certain hazardous substances, their properties and use in everyday life products. It focused on everyday choices related to certain products that we use daily and which contain hazardous substances. To achieve the aim nearly 100 events with more than 3700 participants were carried out in Estonia, Latvia and Lithuania. Main participants in info days were young parents, but also it was huge interest from schools, and elderly people. The info events and the information materials distributed there educated the participants about the hazardous substances and helped them to make better purchase decisions.

### 6.2 Analysis

#### Sample and background

A few months after the info days have been held, the project partner BEF Lithuania and BEF Latvia approached the participants of the info days. The participants were called up via telephone and were asked to answer a number of questions. In Lithuania 16 participants of the info days were ready to answer the questions, in Latvia 32. In total we have thus a feedback from 48 participants.

#### Results Lithuania

The first question to the interviewees asked what was considered the most useful information that participants took home from the event. The most useful information was anything that is connected to cosmetics. The answers given are grouped in the table below:

Topic	Answers
Information about (eco-)labels	2
Information about cosmetics	6
Information about ingredients and chemical substances	5
Other	3

*Table 17: Most useful information from info days in Lithuania*

Asked which information was the most surprising, the answers very. Again, quite a high number were surprise about hazardous substances and cosmetics (five answers could be grouped here). However, most respondents were surprised about some aspect, which shows that the awareness on hazardous substances in products used in households is not as good as it could be.

Next, the participants were asked whether they have changed their shopping or consumption behaviour because of the information received in the event. The majority of people (10 out of 16) reported that they indeed changed their behaviour.



Figure 23: Change in shopping/consumption behaviour in Lithuania

Those who changed their behaviour were asked what specifically they changed. Most respondents did indeed make a change in their product choice. Below are the answers grouped into few categories of similar answers; some answers can fall under several categories:

Category	Answers
Reading the labels/instructions	5
Changing to product that contain less hazardous substances and/or products certified as ecologic and/or discontinuing to use these products	6
Replacing products by natural products (etc. vinegar, soda for cleaning)	1
Changing to local producers	1
Others/unclassified	2

Table 18: Type of behaviour change after the info days in Lithuania

Those who stated that they did not change their consumption behaviour (6 respondents), either consume ecologically conscious already or they don't do most of the shopping of the household. Just one respondent said that her financial situation and the availability of shops is a constraint.

During most of the info days, pocket shopping guides were distributed. In our survey, out of the 13 respondents who received these shopping guides, 11 made use of these. The two persons that did not use the shopping guides are respondents, who state not to do most of the household shopping.

The last question asked the respondents whether they have heard of the campaign slogan "Think before you buy" before. 8 out of the 15 respondents who answered the question said "yes", 7 answered with "no".

## Results Latvia

The questions posed in Latvia were shorter and were limited to three questions that cover however the essence of changing behaviour at which the project aims:

- What are the main points you remember and find most useful from the info day?
- Do you do something differently than you did before? If yes, what?
- Would you be interested to participate in more info days on similar topics?

The first question asked for the most useful piece of information gathered during the event. The most useful information by far were the shopping guides themselves, followed by

information about labels or ecolabels. We classify the answers as follows; some answers can fall under several categories:

Category	Answers
How to read/understand different (eco-)labels	9
Pocket guides	16
Knowledge about substances and ingredients	7
Finding alternatives for products used in households	3
Other uncategorized issues	6

Table 19: Most useful information gathered from info days in Latvia

The next question addressed the issue of behaviour change. Out of the 32 answers, 25 can be classified as a change in consumption behaviour or use of household chemicals (or others). The following table summarizes the answers, again some answers can fall under several categories:

Category	Answers
Using less products with hazardous substances and/or replacing them by safer choices	7
Buying (eco-)labelled products	2
Paying more attention to ingredients	2
Ventilating rooms more often	4
Paying more attention to labels on products	6
Tell friends and family about it	2
Other uncategorized issues	5

Table 20: Type of behaviour change after the info days in Latvia

The last question asked about the interested in more info days. The vast majority showed an interest in additional info days. 29 out of 32 participants of the info days wished for additional events. Three participants mentioned that they would be interested in info days about food, which however was not the focus of the project.

### 6.3 Conclusions

The results of the ex-post surveys in both Latvia and Lithuania show that the info days have successfully addressed the general public. The large majority of those who came to one of the info days, changed their behaviour. The problem with one-time training or awareness raising is that participants fall back to their old behaviour after some time if the new information/behaviour is not regularly reinforced. Given that there was a substantial time lag between the events and the phone surveys (in Latvia 9-12 months, in Lithuania 2-6 months), we can assume that the changed behaviour has at least partially fossilized and not all respondents will fall back to old consumption patterns. The pocket shopping guides which were well received in Latvia and Lithuania can support the changed consumption pattern as a handy summary of the key-points for making a safer choice when buying household chemicals, toys, cosmetics etc. They can serve as a reinforcement of the changed use or purchase behaviour. We conclude that the qualitative evaluation of this activity indicates that it has been successful, meaning that it did reach its goal of raising the awareness of the target group and potentially contributing to solving the environmental problem. As for the quantification of the reduced impacts on the environment, it is impossible to quantify this based on the project activities. We talk about a variety of substances that is potentially replaced, starting from chemicals in cleaning agents to cosmetics and toys. The concrete replacement of the substances in question depends on the specific product and would even make a simple linear extrapolation very difficult.

## Chapter 7 – Campaign for educational institutions

### 7.1 Brief description of the campaign

Though already for hairdressers students were involved greater efforts were put also to educate future teachers as well already working teachers about hazardous substances. Project team wanted to give them tools to incorporate the topics of hazardous substances to the curriculum, so special handbook for that was elaborated. Handbook includes theoretical part as well practical exercises and methodological guidance's. Handbook is available in Estonian, Latvian and in English. To introduce the handbook several info seminars and trainings were conducted during the 3 years (all together ca 300 participants) and special lessons about hazardous substances were carried out in 54 schools (totally ca 3500-4000 pupils were reached).

### 7.2 Analysis

#### Sample and background

In BaltInfoHaz, a handbook on educating school students about hazardous substances and chemicals in everyday products was developed. In Latvia and Estonia, teacher students were taught about hazardous substances and how to address this topic in their work as teachers. Teacher students in Estonia and Latvia were then asked to apply the things they have learned during their upcoming practice phase in school classes. For the purposes of evaluation the effectiveness, we chose one groups of students from Estonia who went to school practice. They were asked to have pupils fill in a quiz on chemicals and hazardous substances, teach the lesson on hazardous substances and then have pupils fill in an ex-post quiz one week later. The ex-post quiz contained the same questions and answer options than the before-quiz, but in different order so that it was not possible to fill this in from memory alone. For the evaluation we have received 216 filled-in before and after quizzes with 34 answer options each. These 216 pupils who took the quiz attend one of 15 schools that took part in the practice of teacher students.

#### Research design and analysis

The questions in the quizzes were designed so that they could always be answered with either yes/no or correct/wrong. The answers given by the students could then be classified as correct or wrong. We calculated the number of correct answers before and after the quiz for each of the students.

We observed that the number of correct answers was much higher in the questionnaire which was distributed after the lesson took place. Out of 34 questions, 24,42 (71,8%) were answered correctly on average before the lesson and 28,75 (84,6%) after the lesson. In order to test the results for significance we chose a two-sample t-test for dependent variables (before and after the lesson). We compare the difference in answers with the null hypothesis that the lesson does not have an impact on answering the questionnaire correctly. We choose a significance level of  $\alpha = 0,05$ . The following table gives an overview of the two-sided t-test statistics for dependent samples:

Null hypothesis	$H_0: \mu_X - \mu_Y = \omega_0 = 0$
Alternative hypothesis	$H_1: \mu_X - \mu_Y \neq \omega_0 = 0$

Test statistics	$T = \sqrt{n} \frac{D - \omega_0}{s_D} \sim t_{n-1}$ with $d_i = x_i - y_i$ ; $\bar{d} = \frac{1}{n} \sum_{i=1}^n d_i$ and $s_d = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (d_i - \bar{d})^2}$
Rejection region	$\left\{ t \mid  t  > t_{1-\frac{\alpha}{2}; n-1} \right\}$ ; in our case $\left\{ t \mid  t  > t_{0,0975; 215} \right\}$ Note: the t-distribution is symmetric, using absolute values is valid

Table 21: Test statistics for a two-sided t-test for dependent variables (the summary based on the overview provided by the following Wikipedia article <https://de.wikipedia.org/wiki/Zweistichproben-t-Test>)

The calculation of the relevant values yields the following results:

	$T$	$t_{0,0975; 215}$	Conclusion
Results from the analysis	15,277939	1,965496	$H_0$ is rejected

Table 22: Results of the t-test

In conclusion, it is recommended to reject the null hypothesis and accept the alternative hypothesis. It implies that two data series do not belong to the same population, thus the change of knowledge, in this case an increase, is significant.

### 7.3 Results

We can conclude that there is a significant difference of correct answers before and after the quizzes. This means that the lesson has a measurable and significant impact on the knowledge of the pupils.

## Annexes

1. Questionnaire to K-rauta customers
2. Questionnaire to hairdressers
3. Questionnaires to pupils (only the before questionnaire - the questionnaire after the lesson is the same in a different order)
4. Questionnaire to participants of info days

Annex 1 – Questionnaire for K-Rauta clients

### Questionnaire for K-Rauta clients

[100] Have you bought something in K-Rauta today?  yes → [110]  no → [120], skip [121] and [130]

[110] Have you bought indoor paints, indoor varnishes or glues?  yes  no

[120] Have you noticed this label in the store?  yes → [121] if [100] is yes  no → [130]



[121] Have you bought a product because of this label?  yes  no

[130] Did you buy a product with one of the two eco-labels today?  yes  no



[140] Have you heard of the campaign BaltInfoHaz or the slogan “Think before you buy” before today?  yes  no

In this last part would like to learn to receive some additional statistical information from you.

[200] How old are you?

[210] You are...  female  male.

[220] Please name your monthly household income.  less 300 EUR  900-1199 EUR  
 300-599 EUR  1200-1499 EUR.  
 600-899 EUR  ≥ 1500 EUR

[230] How many people live permanently in your household (you included)?

Thank you for your contribution.

Annex 2 – Questionnaire to hairdressers

**1 PRODUCTS USED AT WORK**

In this section we will ask you about the products that you use for your work.

[100] When purchasing hair care products (shampoos, colours, conditioners, hairspray, hair gel etc.) how important are the following criteria on a scale from 1 .... 4?

	1	2	3	4	99
INT: Please read the criteria and note the response.	Very important	Rather important	Rather not important	Not important at all	N/A
[101] Price					
[102] Brand/Producer					
[103] Own experience with the product					
[104] Good Smell/flavor/aroma					
[105] Texture/					
[106] Sensitivity					
[107] Contents/Substances					
[108] Green product (disposal)					
[109] Made from natural ingredients					
[110] Satisfaction by the customer					
[111] Eco-certification					

[120] Do you use eco-certified products?  Yes  No  
continue with [125]                      continue with [128]

[125] Which eco-certifications do your products have? Please list them here:

[126] What are your motives for using eco-certified products? Please list them here:

[127] For which product groups do you have eco-certified products? Please list them here:

→ continue with [200]

[128] Why do you not use eco-certified products? Please list them here:

## 2 WORK & HEALTH

In this section we would like to find out about your health and possible health problems related to your work.

[200] INT: Please read the question and note the response.	Very good	Good	Few health problems	Not very good	Bad	N/A
How do you evaluate your general state of health?						

[210] The following question asks about typical health impairments occurring in your occupation.

INT: Please read the list one by one from left to right and note the response.	Did you have any of the following health problems?	→	Do you think they are related to your work? (yes/no)
[211] Shortness of breath	<input type="checkbox"/> Yes <input type="checkbox"/> No		[221] <input type="checkbox"/> Yes <input type="checkbox"/> No
[212] Coughing	<input type="checkbox"/> Yes <input type="checkbox"/> No		[222] <input type="checkbox"/> Yes <input type="checkbox"/> No
[213] Skin eczema at hands or arms	<input type="checkbox"/> Yes <input type="checkbox"/> No		[223] <input type="checkbox"/> Yes <input type="checkbox"/> No
[214] Skin dermatitis	<input type="checkbox"/> Yes <input type="checkbox"/> No		[224] <input type="checkbox"/> Yes <input type="checkbox"/> No

If any of the questions [211] to [214] have been answered with yes → continue with [230], if all no → continue with [240]

[230] In case you do have any of these symptoms, do they tend to appear or get more acute after coming in contact with products you use in your salon?	<input type="checkbox"/> Yes <input type="checkbox"/> No
[240] How well ventilated is your work place?	<input type="checkbox"/> Very well <input type="checkbox"/> Rather well <input type="checkbox"/> Not so well <input type="checkbox"/> Badly
[250] Did any of your customers ever complain about health problems after a visit in your salon? (even if minor)	<input type="checkbox"/> Yes <input type="checkbox"/> No
[251] Please describe the health problem of the last complaint.	Please describe them here:
[260] Did any of your customers ever have a problem with a product that you use in your salon? (even if minor)	<input type="checkbox"/> Yes continue with [261] <input type="checkbox"/> No continue with [300]
[261] Please name the product group and the problem with the product of the last complaint.	Please describe them here:

### 3 WORK ATTITUDE AND ENVIRONMENTAL ATTITUDE

In this section we would like to learn more about the attitude towards your work and toward the environment.

[300] Please indicate to which extent you agree with the following statements on a scale from 1...4:

	1	2	3	4	99
INT: Please read the statement and note the answer.	Agree totally	Rather agree	Rather disagree	Disagree	N/A
[301] I like my job.					
[302] I think that the customer is the king.					
[303] I am responsible for the customers' wellbeing.					
[304] I am well familiar with work safety regulations and requirements.					
[305] I always use protection such as gloves when using colours, dyes, bleach.					
[306] I know how the products that I use work/function for the hair/skin/body.					
[307] I usually read the list of ingredients of hair care products.					
[308] I feel well informed about the hair care products that we use (use/properties).					
[309] I can do something to protect the environment in my private life.					
[310] I can do something to protect the environment in my work life.					
[311] I think customers would pay more if we offered natural products as alternatives.					
[312] I advice customers which hair care products to use.					
[313] I can offer my customers different alternatives depending on their needs, wishes and skin type/hair type.					

## 4 PERSONAL INFORMATION

In this last part would like to learn to receive some additional statistical information from you.

[401]	<b>What is your position in the salon?</b> INT: e.g. employee, owner, trainee...	Please list them here:	
[410]	<b>Do you decide which products your salon uses?</b>	<input type="checkbox"/> Yes continue with [420]	<input type="checkbox"/> No continue with [411]
[411]	<b>How decides which products you use in your salon?</b>	Please list them here:	
[420]	<b>Do you have a frame contract with a certain producer or brand?</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
[430]	<b>Would you like to receive more information about the environmental impacts of hair care products?</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
[440]	<b>Would you like to receive more information about the properties of hair care products?</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
[450]	<b>Would you be interested to participate in a training about chemicals/hazardous substances in hair care products?</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
[460]	<b>How many years do you work as a hairdresser?</b>	Please list them here:	
[470]	<b>How old are you?</b>	Please list them here:	
[480]	<b>You are...</b>	<input type="checkbox"/> female	<input type="checkbox"/> male.

Thank you for your contribution.

Annex 3 - Questionnaire for pupils in Estonia. Age group 13-16 BEFORE LESSON

Age	
Sex	

**True or false: What do you think is a “hazardous substance”?**

- 1 They can be used by producers like they want
- 2 They can be dangerous for us
- 3 They are never dangerous to animals and plants
- 4 They are man-made chemicals
- 5 They are natural chemicals
- 6 They change the property of products

**True or false: properties of hazardous substances?**

- 1 Your fish for lunch can contain hazardous substances.
- 2 All chemicals are bad for us.
- 3 Dangerous products must have special labels.
- 4 One cleaning agent can be used for everything.
- 5 Products advertised as natural products always are safer.
- 6 It's safe to mix different cleaning agents to clean better.
- 7 You can always see, smell or feel hazardous substances right away.
- 8 Washing left overs of household chemicals down the drain is a good way to get rid of them.
- 9 Phtalates can be dangerous.
- 10 Hazardous substances accumulate in the environment.

**True or false: What can hazardous substances do to your body?**

- 1 Change the colour of your eyes
- 2 Make you deaf
- 3 Cause skin irritations
- 4 Cause allergies
- 5 Influence your hormone system
- 6 Increase your talking speed

Name three ways to avoid contact with hazardous substances at home

- 1.
- 2.
- 3.

Please circle the right description for the label.

	<p>Don't use at home.</p>	<p>Can irritate eyes and skin</p>
	<p>Is an easily flammable product</p>	<p>Can be used as fire extinguisher</p>
	<p>Only for sale in North Europe</p>	<p>Nordic swan eco label</p>
	<p>Don't shake the product.</p>	<p>Can irritate eyes and skin</p>
	<p>Blue Angel sign for clean water</p>	<p>Blue Angel label for ecological products</p>
	<p>Ecologically grown flowers from inside the EU</p>	<p>EU Eco flower label for ecological products</p>

Annex 4 – Questionnaire for participants of info days (used in Lithuania)

### Phone survey Info day

Date:   
Interviewer:

#### Part 1 – Information about the participation in the info day

[100] Have you participated in the info day in .....?  yes → [110]  no → end survey or ask for other family member that has participated

[101] Interviewer, please name the location here →

[110] What was the most useful information that you took from the event?

[120] Which information was new and most surprising for you?

[130] Did you change your shopping or consumption behaviour because of the information received in the event?  yes → [131]  no → [132]

[131] If yes, name max. 3 things that you have changed. 1) ... 2) ... 3) ... → [140]

[132] If no, why not?   
→ [140]

[140] Did you receive the pocket guides during the event?  yes → [141]  no → [150]

[141] Did you make use of the pocket guides?  yes  no

[150] Have you heard or seen the slogan “Think before you buy” in the media or on the streets?  yes  no

#### Part 2 - Statistical information of the participant

[200] How old are you?

[210]

You are...

female

male.

[220]

Please name your monthly household income.

less 300 EUR

900-1199 EUR

300-599 EUR

1200-1499 EUR.

600-899 EUR

$\geq$  1500 EUR

[230]

How many people live permanently in your household (you included)?

[240]

What is your highest educational qualification?

No formal degree

Secondary school (9th/10th grade)

High school (12th/13th grade)

University degree  
(Bachelor/Master/PhD)

Thank you for your contribution.



The background of the entire page is a repeating pattern of light orange laboratory flasks. Each flask contains a darker orange liquid and has several small circles above it representing bubbles. The pattern is uniform and covers the entire surface.

Baltic Environmental Forum Germany  
Osterstraße 58  
DE-20259 Hamburg  
[www.bef-de.org](http://www.bef-de.org)