

Training impact assessment

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Executive summary

<p>NOTES ON DATA COLLECTION</p>	<ul style="list-style-type: none"> • Employees participated in single-day trainings, whereas executives participated in two-day trainings on corruption and its prevention. • The trainings were held between September 2013 and February 2014. • Methodology of data collection: personal questionnaire, experimental arrangement without control group, questionings before and after training with questionnaires of same content.
<p>RESULTS OF SINGLE-DAY TRAININGS</p>	
<p>GLOBAL RESULTS</p>	<ul style="list-style-type: none"> • Only one out of the 16 statements led to a lack of change in opinion (<i>„In Hungary it is in fact the top class leaders of the country who are not interested in eliminating corruption.”</i>) • Even the strongest of the changes of opinion can be viewed as light moderately strong. • The strongest changes in opinion can be measured regarding statements on which the methodology of the training explicitly focused. • The conservative attitude, however, remained strong: both before and after the training the participants primarily agreed (with an average of 4 on a scale of 1 to 5) with statements according to which corruption will only decrease in Hungary if corrupt leaders and crimes of corruption are exemplarily and more strictly punished. • The participants were typically devoted to countering corruption, with the training further strengthening this attitude.
<p>ATTITUDES</p>	<ul style="list-style-type: none"> • On average, the participants were already rather devoted to countering corruption before the training. • The training did not only strengthen this: the participants become significantly more devoted in their attitude to countering corruption after the trainings. • Meanwhile, however, the distribution of the participants' attitudes remained the same in size: the mass of participants did not become more homogenous after the training. • 52.1 per cent have become more devoted, 26.9 per cent have become more disenchanted, whereas the average attitude of 21 per cent have not changed. • No significant change in attitudes can be displayed typically, but not exclusively in the case of trainers who had few participants. • Belonging to a respective trainer determined the revealed a change in attitude in a significant but to a rather small degree, with 5 out of 24 cases no change having occurred.
<p>COGNITIONS</p>	<ul style="list-style-type: none"> • After the training the cognitions of the participants have significantly broadened, and in absolute terms have developed in a strongly moderate way, with the training having managed to lead to a stronger change in this dimension compared to that of attitudes. • In parallel with the broadening of cognitions, the scope of participants has become more homogenous (with decreased dispersion) in terms of level of knowledge. • The level of cognition has improved for 55.5 per cent, has decreased for 23 per cent and has not changed for 21.5 per cent of participants. • In only 2 out of 24 trainers were there no significant changes in terms of level of cognition, which can be due to the few cases attributed to the two trainers. • Belonging to a respective trainer affected the changes in the level of cognition at a negligible level.

RESULTS OF TWO-DAY TRAININGS	
GLOBAL RESULTS	<ul style="list-style-type: none"> • No significant change in opinion occurred in the case of 4 out of 16 statements, however, neither of these were in the focus of the training. • In the beginning and at the end of the training the participants agreed the most with one statement which was in the focus of the research and which was related to one of the strongest (weakly moderate) change in the opinion of participants through the training (<i>"If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption."</i>). • The second strongest change in opinion was related to the assessment of an also important but attitude-related statement (<i>"The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day."</i>) • The participants were typically devoted to countering corruption, with the training further strengthening this attitude.
ATTITUDES	<ul style="list-style-type: none"> • On average, the participants were already rather devoted to countering corruption before the training. • The training further strengthened this:the participants become significantly more devoted in their attitude to countering corruption after the trainings. • Meanwhile, however, the distribution of the participants' attitudes remained the same in size:the mass of participants did not become more homogenous after the training. • Just like in the case of the single-day training, 52.1 per cent have become more devoted, 26.9 per cent have become more disenchanted, whereas the average attitude of 21 per cent have not changed. • Belonging to a respective trainer determined the revealed a change in attitude in a significant but to a rather small degree, with no change at 2 out of 8 trainers.
COGNITIONS	<ul style="list-style-type: none"> • After the training the cognitions of the participants have significantly broadened, and in absolute terms have developed in a strongly moderate way. • Meanwhile, however, the distribution of the variable measuring the participants' level of cognition remained the same in size:the mass of participants did not become more homogenous after the training. • The level of cognition has improved for 61.1per cent, has decreased for 20.6per cent and has not changed for 18.3per cent of participants. • The significant improvement of the participants' level of cognition can be displayed in the case of all 8 trainers.

Methodology and samples

The research realized a classic and simple experimental arrangement, without control groups, in which the same questionnaire on preventing and countering corruption was filled by participants before and after both the single- and two-day trainings. This included altogether 16 statements that measured the participants' attitude towards corruption, and their main cognitions on corruption. The main question of the research was whether the participants' opinion in the respective issues has changed through the training and if yes, in what direction. The analysis reflects special attention on examining what kind of role the trainers could have had in forming the opinions.

The single-day and two-day trainings were aimed at people at different levels of organizational hierarchy: employees and executives participated in a single-day and a two-day training respectively. The single-day trainings were held between the beginning of September 2013 and the end of February 2014 whereas the two-day trainings were held between the beginning of September 2013 and the end of January 2014. The single-day and two-day trainings had altogether 363 and 44 training groups respectively. The single-day trainings were held by altogether 24 trainers, while two-day trainings were held by 8 trainers, with 6 trainers holding both types of training. Each trainer trained a different number of participants who were not assigned to them on a random basis.

Since participants of the single-day and two-day training differ from each other in terms of their respective position and the length of their training, it cannot be determined that an incidental and noticeable difference between the change in opinion of the participants at the single-day or two-day training was due to which factor (length of the training or position of participants), therefore statistical methods are not applied in searching for differences among the results of the single-day and two-day trainings. Comparing the results of the single-day training and that of the two-day training in the text of the analysis is done with the purpose of highlighting whether typically similar results can be displayed in the two different arrangements, yet both samples are managed typically separated from each other.

The single-day and the two-day training had altogether 6,692 and 670 participants respectively. The participants not only answered questions regarding cognitions in corruption and countering corruption but also answered some other questions measuring their opinion on the employing organization (the analysis of which is not included in this report), while also providing information on themselves regarding the following background variables: type of organizational body as employer, position, time of hitherto service at the indicated organizational body, gender and status regarding the proximity of retirement. It is important to note that these questions did leave to a lack of answers, with participants not

always providing these pieces of information. In any case, in order to acquire a view on this, the composition of samples is shortly reviewed.

Table 1.:Composition of samples

TYPE OF ORGANIZATIONAL BODY	Single-day training		Two-day training	
	N	%	N	%
governmental	2917	43.6	171	25.5
territorial administration	2569	38.4	354	52.8
other administration	480	7.2	-	-
other	358	5.3	65	9.7
no answer	368	5.5	80	11.9
TOTAL	6692	100.0	670	100.0
SINCE WHEN HAVE YOU BEEN WORKING AT THE NAMED ORGANIZATIONAL BODY?				
2 years at most	1719	25.7	155	23.1
2-5 years	1056	15.8	91	13.6
5-10 years	942	14.1	71	10.6
more than 10 years	2549	38.1	276	41.2
no answer	426	6.4	77	11.5
TOTAL	6692	100.0	670	100.0
ARE YOU JUST BEFORE PENSION?				
yes (within 3 years at most)	427	6.4	30	4.5
no	5836	87.2	562	83.9
no answer	429	6.4	78	11.6
TOTAL	6692	100.0	670	100.0
GENDER				
male	1553	23.2	271	40.4
female	4717	70.5	321	47.9
no answer	422	6.3	78	11.6
TOTAL	6692	100.0	670	100.0

1. Has any significant in opinion occurred among training participants along the assessment of the respective statements? If yes, what direction and strength does this change of opinion have?

As displayed in the chapter on methodology, and in accordance with the basic arrangement of the research, participants had to answer the same set of questions on a scale of 1 to 5 before and after the training. The first issue to be examined is whether – globally, considering each and every participant – any significant change in opinion has occurred regarding the respective questions.

1.1 Single-day training

There was one single statement among single-day training participants that showed no significant change in opinion throughout the training, namely: *In Hungary it is in fact the top class leaders of the country who are not interested in eliminating corruption*. Both before and after the training, participants at an average agreed slightly better than moderately (3.32) with this statement.¹As for the extent of the significant change in opinion regarding the other statements, even the relatively strongest change can be viewed as light moderately strong at best.

The relatively strongest ² change in opinion (abs(Cohen's d)=0.36, abs(r)=0.18,) occurred regarding a question that measures both the global cognitions related to the message of the training and attitude towards the training itself: namely, more participants have agreed that *the way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefitting them self-critically the other day*. It is definitely important to mention that this strongest change in opinion occurred with participants of the training already moderately, or more rather, agreeing with this statement (3.36) before the training which has only strengthened this position (3.68).

Similarly, the message that *if a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption* also found ground in the participants' mind throughout the training. The occurred change in opinion is also interesting because the average attitude of

¹In the case of non-significant change in opinion, speaking about the strength of change makes no sense, therefore, indicators were not calculated and are not displayed in tables in these cases.

² It is important to emphasize that there is not deterministic relationship between the strength of change in opinion and the absolute value of the change in opinion, hence it is possible that a smaller change in opinion in absolute terms is stronger according to the statistics than another change more stronger in absolute terms.

the participants arriving to the training in this issue had already displayed a commitment in the first place (3.59) and this was further increased on average by the participation in the training (3.86).

The strengthening in commitment is also displayed by the fact that the third strongest change in opinion occurred precisely in relation to the opinion rejecting the vanity of the fight against corruption: even before the training, it was noticeable that participants are less in agreement with the view that *corruption has gained such a size in Hungary nowadays, it has become impossible to fight against*. The training further strengthened this view of the participants.

In average the participants see less possibility for legal instruments to fight against corruption, yet continue to see a moderate possibility in absolute terms of their opinion, on the other hand, the cognition of publicity and rapid and efficient administration as instruments has strengthened.

Regarding the other questions, there was typically very weak change in opinion concerning the participants' average attitude.

Table 1: The change of the average opinion per statement among single-day training participants (paired sample t-test significances and measures of effect size, set in descending order of r absolute value)

törölt: 2

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ³	Effect size (r) ⁴
The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day.	3.36	3.68	+0.32	6588	***	0.36	0.18
If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.	3.59	3.86	+0.27	6627	***	0.32	0.16
Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.	2.27	1.95	-0.32	6652	***	0.31	0.15
Corruption should be countered first and foremost with legal instruments.	3.38	3.14	-0.24	6655	***	0.24	0.12
The most effective remedy against corruption is quick and effective administration.	3.28	3.47	+0.19	6638	***	0.18	0.09
Corruption can be most efficiently countered with the aid of publicity.	3.58	3.71	+0.13	6646	***	0.14	0.07
The fight against corruption cannot be successful in Hungary because those who should step up against corruption are corrupt themselves.	3.13	2.97	-0.16	6634	***	0.14	0.07
Corruption is as old as mankind and should not really be dealt with.	1.85	1.74	-0.11	6645	***	0.11	0.06
Politics in Hungary is the hotbed of corruption.	3.49	3.37	-0.12	6567	***	0.11	0.05
Corruption in Hungary will only decrease if criminal acts of corruption have much stricter punishments than currently.	4.03	3.96	-0.07	6648	***	0.07	0.04
The new Criminal Code provides unambiguous orientation in assessing phenomena of corruption.	3.10	3.17	+0.07	6219	***	0.10	0.05
The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation.	2.07	2.14	+0.07	6604	***	0.07	0.03
Corruption in Hungary will only decrease if corrupt leaders receive exemplary punishment.	3.87	3.92	-0.05	6644	***	0.05	0.03
Corruption in Hungary is no more widespread as in other countries.	3.20	3.17	-0.03	6622	*	0.03	0.02
Corruption could be decreased by having people openly state the price of everything for which they used to pay in secret.	3.13	3.16	+0.03	6629	*	0.03	0.01
In Hungary it is in fact the top class leaders of the country who are not interested in eliminating corruption.	3.32	3.32	0	6609	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

n.s.: no significant change occurred

1.2 Two-day training

³its absolute value

⁴its absolute value

In the case of two-day training participants, who were middle and higher level leaders, the volume of the changes in opinion was similar to that of single-day participants, however, due to their lower number of participation (which was only about one-tenth of single-day training participants) it could easily happen that even a change in opinion that was same in absolute terms turned out to be one with less impact than in the case of single-day training participants. There were altogether four statements regarding which the training did not lead to substantive change in general opinion, however, neither of these measured the attitudes towards countering corruption or the related cognitive knowledge in any regard.

Nevertheless, it is important to see that even in the case of leaders the training achieved the strongest, moderate change in opinion regarding a cognitive and an attitude related statement respectively. The leaders already had a committed standpoint from which they assessed the statement that *if a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption*, and this was managed to become more cognitive in general among participants through the training.

The two-day training achieved an effect similar in direction and strength regarding the assessment of the statement that *the way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day*. In average, the participants had a weakly consentient opinion before the training, however, they have come to a stronger agreement after the training.

During the trainings the leaders were also successfully provided with the information that *the most efficient remedy against corruption is quick and effective administration* which the participants were in a slightly stronger than moderate agreement with, and were significantly capable of loosening their agreement on the statement that *corruption should be countered first and foremost with legal instruments*.

Throughout the training the participating leaders' opinion that corruption should and can be countered also gained strength, which was a great achievement even considering that participants had already decisively rejected the statements on the vanity of countering with this rejection further gaining strength throughout the training.

Table 2: The change of the average opinion per statement among two-day training participants (paired sample t-test significances and measures of effect size, set in descending order of r absolute value)

törölt: 3

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ⁵	Effect size(r) ⁶
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⁵its absolute value

⁶its absolute value

If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.	3.74	4.10	+0.36	657	***	0.45	0.22
The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day.	3.56	3.90	+0.34	657	***	0.40	0.19
The most effective remedy against corruption is quick and effective administration.	3.35	3.66	+0.31	659	***	0.31	0.15
Corruption should be countered first and foremost with legal instruments.	2.97	2.75	-0.22	659	***	0.24	0.12
Corruption is as old as mankind and should not really be dealt with.	1.76	1.57	-0.19	660	***	0.22	0.11
Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.	1.88	1.71	-0.17	660	***	0.20	0.10
Corruption can be most efficiently countered with the aid of publicity.	3.60	3.73	+0.13	656	**	0.14	0.07
Corruption in Hungary will only decrease if corrupt leaders receive exemplary punishment.	3.49	3.60	+0.11	660	**	0.12	0.06
The fight against corruption cannot be successful in Hungary because those who should step up against corruption are corrupt themselves.	2.51	2.41	-0.10	661	*	0.10	0.05
Politics in Hungary is the hotbed of corruption.	3.09	3.00	-0.09	661	**	0.09	0.04
Corruption in Hungary will only decrease if criminal acts of corruption have much stricter punishments than currently.	3.61	3.52	-0.09	658	*	0.09	0.04
The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation.	2.08	2.16	+0.08	658	*	0.08	0.04
In Hungary it is in fact the top class leaders of the country who are not interested in eliminating corruption.	2.65	2.71	+0.06	658	n.s.	-	-
Corruption could be decreased by having people openly state the price of everything for which they used to pay in secret.	2.97	3.03	+0.06	658	n.s.	-	-
The new Criminal Code provides unambiguous orientation in assessing phenomena of corruption.	3.15	3.21	+0.06	618	n.s.	-	-
Corruption in Hungary is no more widespread as in other countries.	3.27	3.28	+0.01	659	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

n.s.: no significant change occurred

2. Attitudes versus change of cognitive capabilities: complex indicators

Out of the various assessed variables, 4-4 elements measure the opinions related to corruption in aspects that are *cognitive* and tangible at the level of *attitudes*. These variables were forged into complex variables (indices) which can thus express in scores what kind of opinions and knowledge did the participants have before and after the training in all applied questions and considering their respective attitude and cognitive knowledge.

Table 3

Variables measuring the attitudes on countering corruption	Variables measuring the cognitions and cognitive elements related to countering corruption
1. The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation. 2. Corruption is as old as mankind and should not really be dealt with. 3. Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against. 4. The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day. ⁷	1. Corruption should be countered first and foremost with legal instruments. ⁸ 2. Corruption can be most efficiently countered with the aid of publicity. 3. The most effective remedy against corruption is quick and effective administration. 4. If public administration institutions are well-organized, it can significantly decrease the pressure of external attempts of corruption.

törölt: 4

2.1 Attitudes on countering corruption

As indicated, the questions holding on attitudes primarily assess to which extent do the participants “believe” that it is worth to do anything against corruption. Thus these questions measure the emotional relation to the topic and to the concrete acts, and were composed into an index in which the large scores around 5 measure a feeling of disenchantment and helplessness whereas scores around 1 measure a feeling of readiness for action and a strong belief in and commitment to the fight against corruption.

2.1.1 Single-day training

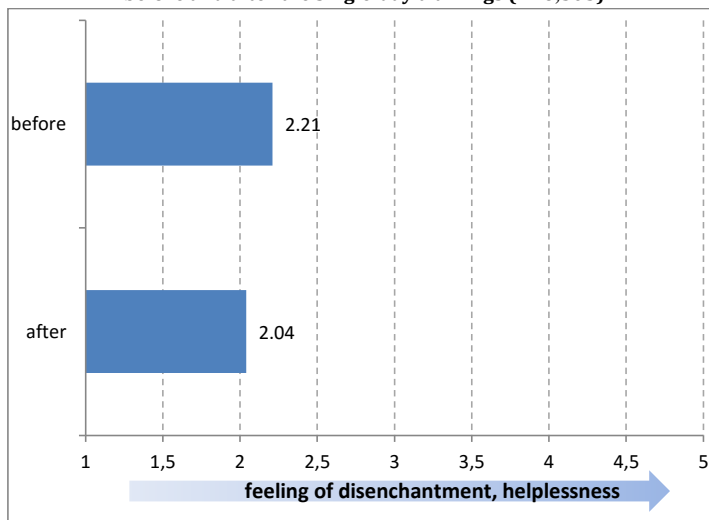
⁷ “Rotated” within the index measuring attitudes, i.e. logically set in the same direction as the other three variables, thereby assuring that the large value of the index measures the opinion that is pessimistic and understates the problem of corruption.

⁸ This statement is also displayed “rotated”, as an important message of the training was the legal measures against corruption is not sufficient at all, and corruption should be countered at the organizational level. In other words, the effect aimed to be achieved by the training was the weakening of the participants’ belief in legal measures as a priority.

2.1.1.1 The change in the average and dispersion of attitudes

The global attitude of the single-day training participants moved in the expected direction, thus overall participants have become more committed to countering corruption ($t=24.555$, $df=6504$, $p=0.000$). When analysing the results, it should be highlighted that the global attitudes of single-day participants had already revealed a commitment to the fight against corruption before the training and was further strengthened through the trainings. Considering this, however, it should not come as a surprise that, according to the ratios indicating the intensity and strength of the change in opinion, a rather weak change can be observed in attitudes ($abs(\text{Cohen's } d) = 0.28$, $abs(r) = 0.14$).

Graph 1 The average attitudes on countering corruption before and after the single-day trainings (N=6,505)

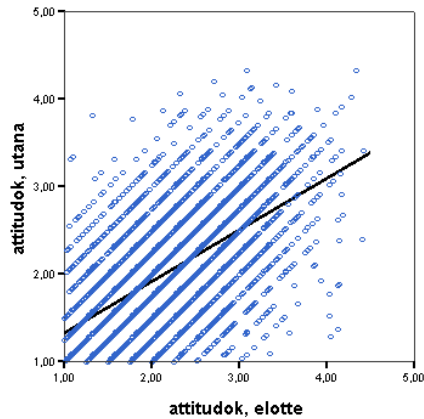


The average attitudes of participants displayed the same extent of dispersion before and after the training ($p_{\text{Pitman-Morgan-test}}=0.10>0.05$), thus the change in attitude measured globally occurred without the participants' opinions becoming homogenous.

2.1.1.2 The distribution of the change in attitudes

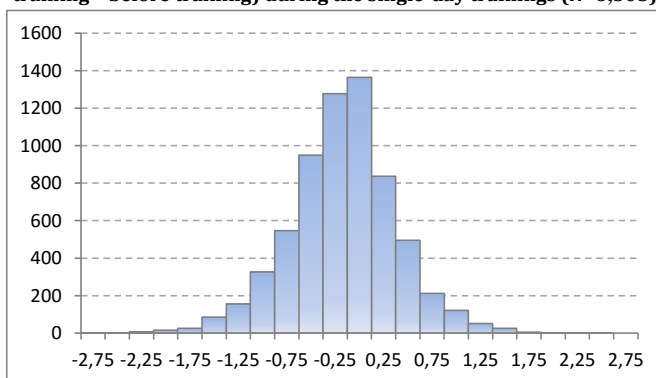
Overall, it can be said that there is a moderately strong, linear relationship with a positive direction between the scores of attitude before and after the training (Pearson's $r = 0.580$, $p=0.000<0.05$).

Graph 2 The scatter plot of individual observance couples indicating the average attitudes before (X axis) and after (Y axis) the single-day training



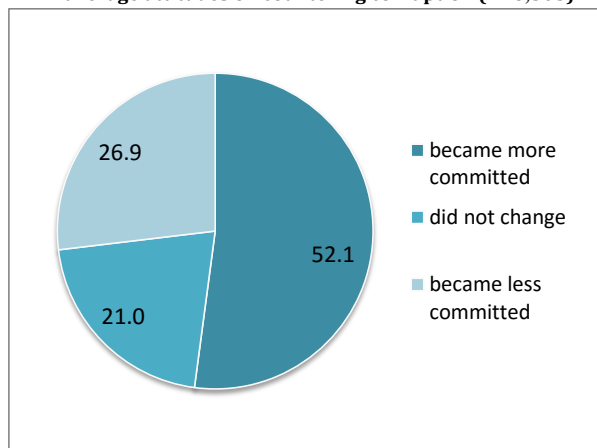
This of course does not mean that there were no changes with opposing direction in attitudes. The following graph displays the distribution of the changes in opinion along the attitudes, with the help of a histogram.

Graph 3 The distribution of average changes in attitude on countering corruption (after training - before training) during the single-day trainings (N=6,505)



There was no change in attitude in the case of about one-fifth of single-day training participants with the extent of their average attitudes being exactly the same before and after the training. As displayed on the graph, the changes in opinion within the average attitudes were typically of little extent with 53.6 per cent of participants having an average attitude that increased or decreased with 0.25. It is also noticeable that the change in opinion occurred in both directions, with identifiable examples of participants becoming more disenchanted and feeling themselves somewhat more helpless after training, as well as examples of participants who have become more committed to countering corruption.

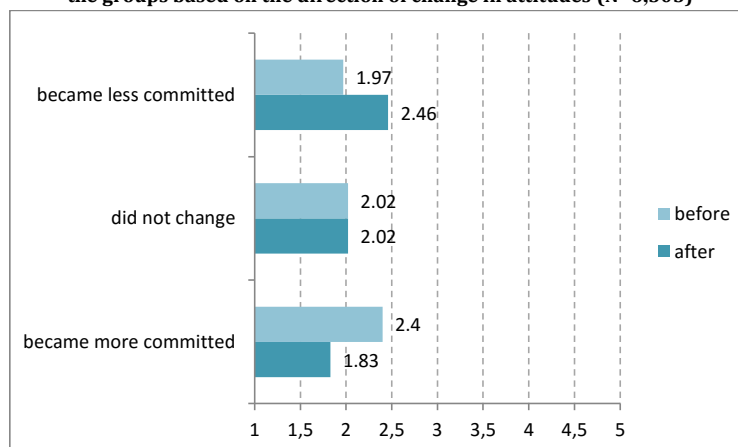
Graph 4 The ratio of groups among single-day training participants based on the changes in average attitudes on countering corruption (N=6,505)



As already seen during the examination of average attitudes, single-day training participants have become generally more committed to countering corruption. More precisely, the opinion of 52.1 per cent, that is the majority of them moved in this direction, while 26.9 per cent of participants thought there was fewer sense to counter corruption after the training.

It is important to emphasize, however, that the average attitude of those who have become more disenchanted did not enter into the range that would indicate total “hopelessness” among them after the training, as on average they still think that countering corruption does make sense.

Graph 5 The average attitudes on countering corruption before and after the training in the groups based on the direction of change in attitudes (N=6,505)

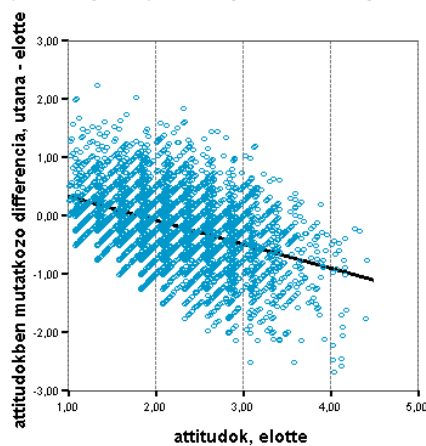


Considering the group averages of the respective of the trainings, it can be said that there was not really a single group where the initial average group attitude on countering corruption was pessimistic (minimum of group averages = 1.73, maximum of group averages = 2.85). This distance has not substantially changed after the training, and there was no group where the average opinion in absolute value turned into the pessimistic range (with group averages after the training falling between 1.53 – 2.80).

2.1.1.3 The correlation between initial individual opinions and the change in attitude

The initial average attitudes display a moderately strong correlation of negative direction ($r = -0.44$, $p = 0.000 < 0.05$) with the variable measuring the change in attitude, thus the more disenchanted opinion one had on countering corruption it was more typical of that person's opinion to move into the direction of more commitment.

Graph 6 The point cloud of individual observance couples measuring the average attitudes before (X axis) the single-day training and the change in attitude (Y axis)

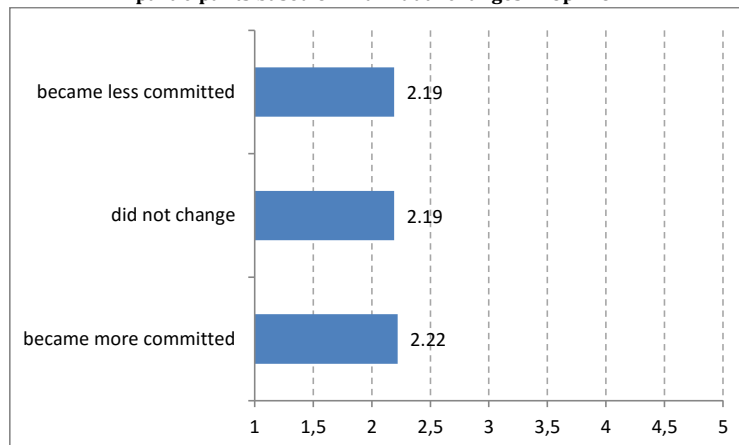


2.1.1.4 The relationship between the initial group milieu and the change in attitude

The volume of the change in opinion can be substantially affected by what kind of milieu the respective participants' group had in the beginning of the training. The initial group milieu is measured with the average attitude of participants. According to the results, those who have become more committed to countering corruption after the single-day training, had generally belonged to a group with an initial milieu of somewhat more disenchantment, whereas those who have not produced changes in attitude and those who have become more

disenchanted had been members of generally more committed groups. ($F=34.563$, $df_1=2$, $df_2=6,502$, $p=0.000<0.05$).

Graph 7 The group average of attitudes before the single-day training, along the types of participants based on individual changes in opinion



2.1.1.5 The relationship between the distance in-between the applied individual attitude and the initial average opinion of the group, and the change in attitude

It was also examined whether the distance between the respective participants' opinion and the average opinion of their group has any effect on the extent and direction of the change in attitude. In fact, if anyone is considered to be an exception in terms of opinion in any way, that person is expected to try and move their opinion closer to the average opinion of the group in accordance with the group norm. According to the results, however, both those who have become more disenchanted and who have become more committed, and even those who have not changed their average opinion, have positioned themselves on average in the same distance from the group's average opinion.

2.1.1.6 The impact of background variables

Neither the respective participants' gender nor their approximate years of work experience at the respective organizational bodies had significant effect on the change of attitudes. Regarding the type of organizational body, however, there was a significant ($F=4.293$, $df_1=3$, $df_2=6,150$, $p=0.005<0.05$) difference between the categories: on average, it was the territorial administration unit employees whose opinion changed the most towards more commitment (-0.2), whereas in the case of employees at other organizational bodies there was a smaller change

in opinion in absolute value and about the same on average compared to each other.

2.1.1.7 The impact of trainers

There is only a careful estimation regarding the impact of trainers. The main problem in this regard is that the trainers did not have the same number of participants, therefore, even the same mathematical difference in attitudes at respective trainers is to no avail, as that difference occurred among 500 participants at one trainer and among 40 at the other: the difference is expected to be significant due to the high number of participants in the former case, and expected to be insignificant in the latter.

It is also important to see that the “competition” between trainers was not a fight of equals, as the participants’ initial average opinions were significantly different from one trainer to the other ($F=5.810$, $df_1=23$, $df_2=6,464$, $p=0.000<0.05$), thus the trainers received participants with significantly different attitudes in the first place.

Table 4. The change of average attitudes on countering corruption at the respective trainers in the single-day training, in descending order of effect size

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	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ⁹	Effect size(r) ¹⁰
Trainer 13	2.28	1.94	-0.34	320	***	0.57	0.27
Trainer 8	2.34	2.07	-0.27	41	**	0.45	0.22
Trainer 18	2.22	1.99	-0.23	266	***	0.40	0.19
Trainer 4	2.27	2.05	-0.22	504	***	0.38	0.19
Trainer 21	2.12	1.91	-0.21	402	***	0.38	0.19
Trainer 24	2.24	2.01	-0.23	316	***	0.38	0.19
Trainer 6	2.14	1.93	-0.21	203	***	0.36	0.18
Trainer 14	2.34	2.12	-0.22	540	***	0.35	0.17
Trainer 20	2.19	1.99	-0.20	462	***	0.32	0.16
Trainer 19	2.27	2.08	-0.15	356	***	0.31	0.16
Trainer 1	2.16	1.99	-0.17	93	**	0.30	0.15
Trainer 5	2.18	2.00	-0.18	347	***	0.30	0.15
Trainer 16	2.16	1.98	-0.18	94	**	0.28	0.14
Trainer 15	2.22	2.05	-0.17	182	***	0.27	0.13
Trainer 2	2.15	2.01	-0.14	550	***	0.24	0.12
Trainer 17	2.13	2.01	-0.12	253	***	0.21	0.10
Trainer 3	2.25	2.13	-0.12	277	***	0.18	0.09
Trainer 10	2.18	2.08	-0.10	229	**	0.17	0.08
Trainer 7	2.16	2.11	-0.05	430	*	0.09	0.04
Trainer 9	2.15	2.09	-0.06	37	n.s.	-	-
Trainer 11	2.18	2.19	0.01	270	n.s.	-	-
Trainer 12	2.06	2.15	0.09	31	n.s.	-	-
Trainer 22	2.13	2.07	-0.06	234	n.s.	-	-

⁹its absolute value

¹⁰its absolute value

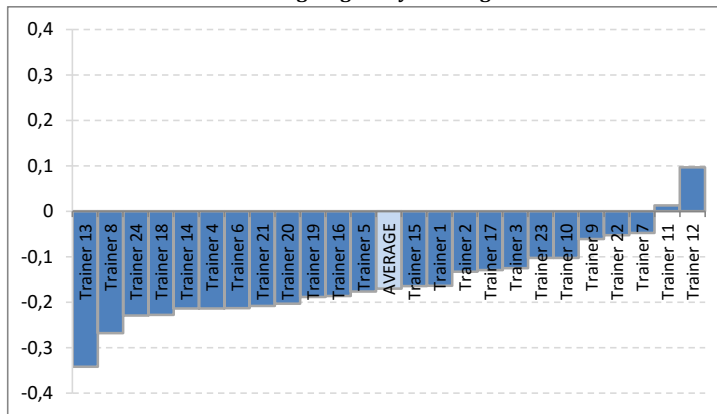
Trainer 23	2.14	2.03	-0.11	51	n.s.	-	-
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* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

n.s.: no significant change occurred

The indicated change in opinion ($F=5.810$, $df_1=23$, $df_2=6,464$, $p=0.000$, $SS_B/SS_T=0.02$) could only be explained with the allocation to a specific trainer in typically few, only 2 per cent of the cases.

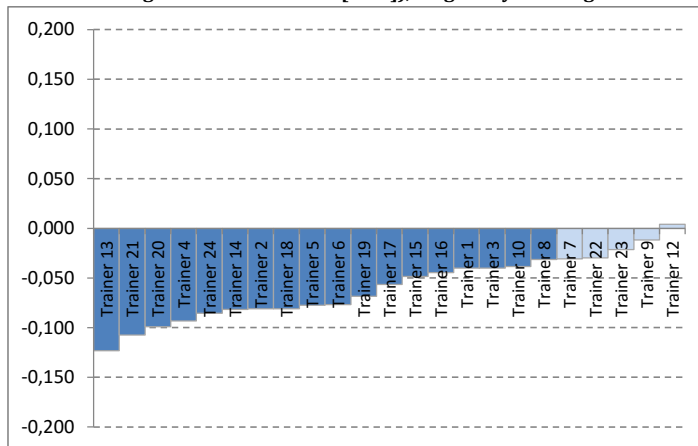
Graph 8 The average change in the attitude on countering corruption trainer by trainer during single-day training



In terms of absolute value, on average the participants under Trainer 13 produced the most significant change in opinion (-0.34) and have become more committed to countering corruption. It is also important to highlight in this regard that on average the participants allocated to the trainer had had relatively more pessimistic and disenchanted views compared to the other participants, although the same goes those trainers who managed to achieve bigger change in opinion in their respective groups.

Thus, in order to produce a list that compares trainers' performance to one-another, a linear regression is required. Through this, and after a reference-trainer has been selected, a quasi list of trainers' performance can be composed indicating those who managed to achieve a significantly bigger change in opinion compared to the reference-trainer. Hence, Trainer 11, achieving the smallest (with no significant rate of) change, has been selected as reference-trainer. As it was clear that the initial opinions differed from trainer to trainer, this effect was filtered out, hence the following results display cleaned trainer effects.

Graph 9 Coefficient measuring trainer effect (OLS linear regression, standardized regression coefficients [beta]), single-day training



As indicated earlier, overall the participants' change in attitude on countering corruption was poorly yet significantly influenced by the fact where, under which trainer, did the participants attend the training. After filtering out the effect of initial attitudes, Trainer 13 continues to seem to be the one with the strongest "effect" on participants, while the effect of Trainer 7, 22, 23, 9 and 12 did not differ substantially from that of Trainer 11 who had the weakest, not even significant effect on participants.

2.1.2 Two-day training

As indicated earlier, the participants of the two-day training were middle and higher level leaders. The following pages will review how the two-day training participants' attitude on countering corruption changed and what influenced the changes among these participants.

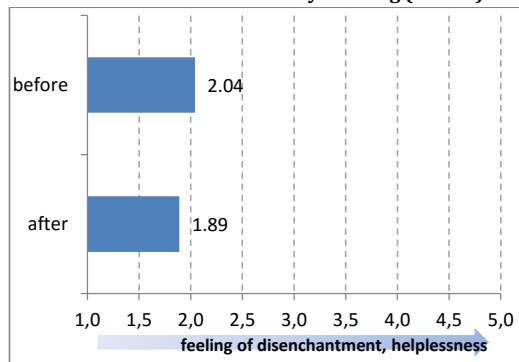
It should definitely be emphasized that the number of two-day training participants was less, about one-tenth of the number of single-day participants, hence in some cases differences that look the same in absolute value are weaker in terms of the extent of effect, or do not even seem to be too significant in terms of statistics.

2.1.2.1 The change in the average and the dispersion of attitudes

Before the two-day training – just like in the case of single-day training participants – the participants were considerably committed in their general attitudes on countering corruption. The training further strengthened this attitude, as the average attitude of two-day training participants moved towards commitment ($t=7.658$, $df=650$, $p=0.000$) in a significant degree. The change in

opinion was similar both in direction and intensity to that of single-day participants ($\text{abs}(\text{Cohen's } d) = 0.27$, $\text{abs}(r) = 0.13$), thus seeming weak, although this was due to the average initial attitudes already showing considerable commitment.

Graph 10 The average attitudes on countering corruption before and after the two-day training (N=651)

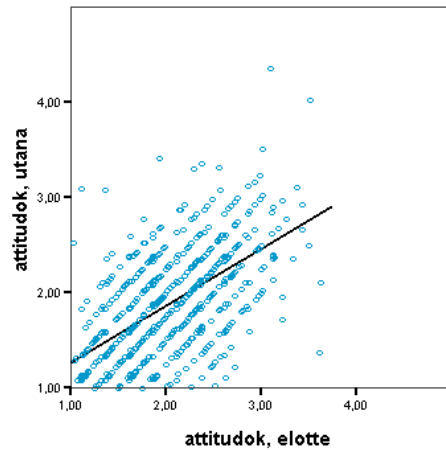


Just like in the case of the single-day training, the average attitudes measured before and after the two-day training showed a dispersion with the same extent (with 0.546 before and 0.565 after, $p_{\text{Pitman-Morgan-test}}=0.27>0.05$), thus in parallel to the above indicated change in attitude, overall the participants' opinions have not become more homogenous.

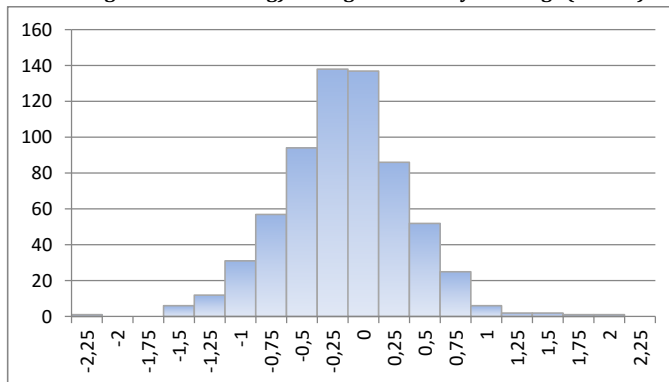
2.1.2.2 The distribution of the change in attitudes

A moderately strong, linear relationship with a positive direction between the attitudes before and after the two-day training can be displayed (Pearson's $r = 0.577$, $p=0.000<0.05$).

Graph 11 The scatter plot of individual observance couples indicating the average attitudes before (X axis) and after the two-day training (Y axis)



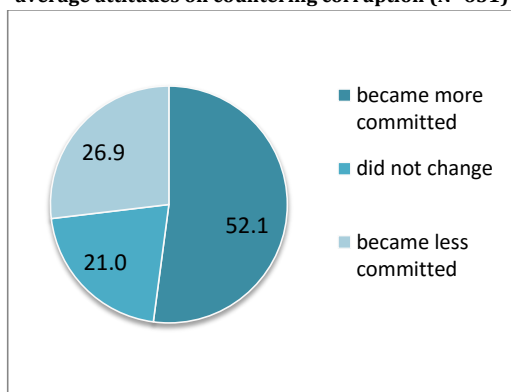
Graph 12 The distribution of average changes in attitude on countering corruption (after training - before training) during the two-day trainings (N=651)



There was no change in attitudes of 21 per cent of two-day training participants, thus there was no difference in their average attitudes before and after the training. As displayed on the graph, the changes in opinion regarding the average attitudes were typically of small extent with a maximum increase or decrease of 0.25 on average attitudes among 55.4 per cent of participants - this being about the same ratio as the one displayed among single-day training participants.

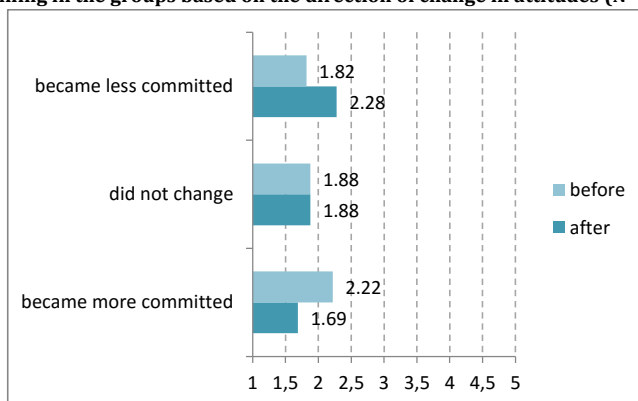
The changes in opinion among two-day training participants move in a somewhat smaller scale¹¹ than among single-day training participants (4.25 versus 5.25).

Graph 13 The ratio of groups among two-day training participants based on the changes in average attitudes on countering corruption (N=651)



The ratios regarding the two-day training groups based on the changes in attitudes were almost the same to the decimal as in the case of single-day training: the absolute majority (52.1 per cent) has become more committed in countering corruption, the opinion of 21.0 per cent of participants did not change and 26.9 per cent of participants have become more disenchanted.

Graph 14 The average attitudes on countering corruption before and after the two-day training in the groups based on the direction of change in attitudes (N=651)



Regarding its average attitudes before and after the training, even the group that has become somewhat more pessimistic in attitude after the training was moving within the scale of commitment to countering corruption. Those, who

¹¹The scale was defined with the so-called "range" that is the difference between maximum and minimum values.

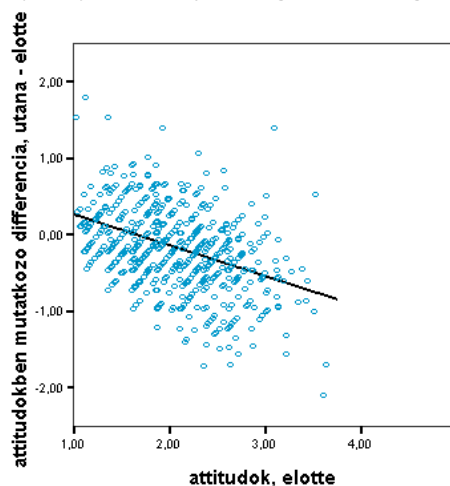
have become more committed, have changed their opinion to a greater extent on average than those who have become disenchanted. This was one of the reasons for the attitudes overall moving towards the direction of more commitment.

Based on the group averages before the two-day training, it can be said that already before the two-day training there wasn't any training group in which the average group milieu would have suggested a pessimistic opinion on countering corruption (with group averages before the training being between 1.73 and 2.34). Even after the trainings there wasn't any group that would have its average opinion being moved into the pessimistic part of the scale of attitudes (with group averages being between 1.65 and 2.19).

2.1.2.3 The correlation between initial individual opinions and the change in attitude

The initial average attitudes display a moderately strong correlation ($r = -0.43$, $p = 0.000 < 0.05$) with negative direction together with the variable measuring the change in attitude, thus the more pessimistic opinion one had on countering corruption, the more typical for that person was to move rather in the direction of being more committed after the two-day training.

Graph 15 The scatter plot of individual observance couples measuring the average attitudes before (X axis) the two-day training and the change in attitude (Y axis)

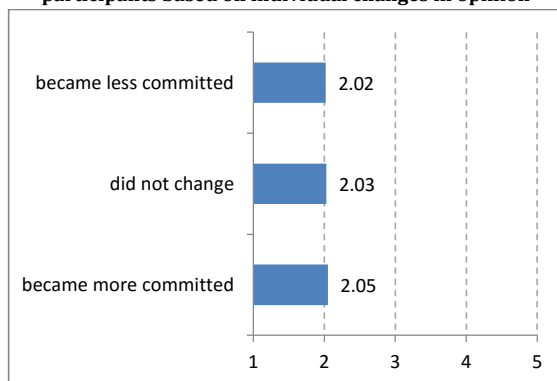


2.1.2.4 The relationship between the initial group milieu and the change in attitude

There is a significant ($F = 3.709$, $df_1 = 2$, $df_2 = 648$, $p = 0.025 < 0.05$) but quite weak ($\eta = 0.11$) relationship between the initial group milieu, that is the average attitudes of training groups, and the individual changes in opinion among the two-day training participants. Those, who have become more committed to countering

corruption after the two-day training, had generally belonged to a group with a somewhat more pessimistic initial milieu than those who have become more disenchanted (Scheffe-test $p=0.049 < 0.05$), however, this cannot be stated (Scheffe-test $p=0.174 > 0.05$) when compared with indicators not measuring change in opinion

Graph 16 The group average of attitudes before the two-day training, along the types of participants based on individual changes in opinion



2.1.2.5 The relationship between the distance in-between the applied individual attitude and the initial average opinion of the group, and the change in attitude

It was also examined whether the distance between the respective participants' opinion (regardless of direction) and the average opinion of their group before the two-day training had any substantial influence on how the respective participants' opinion has change after the training. The results again displayed what was already seen in the case of the single-day training, namely both those who have become more disenchanted, those who have become more committed and those who on average have not changed their opinion, were positioned in the same distance on average from the group average opinion, thus neither group departed from a further position.

2.1.2.6 The impact of background variables

Regarding the changes in attitudes, there were no differences among the two-day training participants along the lines of the type of organizational body, the respective participants' gender, or the time of working experience at the given organizational body.

2.1.2.7 The impact of trainers

In the case of the two-day training, there was a way for a cleaner competition between the trainers' performance, at least in the sense that there

were no significant differences in the average initial attitudes of participants, this there weren't any trainers who would have typically received participants being for instance more disenchanted or more committed compared to the others ($F=1.112$, $df_1=7$, $df_2=649$, $p=0.353>0.05$).

The two-day trainings were managed by less, altogether 8 trainers, with 6 of them having also managed single-day trainings and two only participating in two-day trainings.

Table 5. The change of average attitudes on countering corruption at the respective trainers in the two-day training, in descending order of effect size

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d^{12}	Effect size(r) ¹³
Trainer 14	2.18	1.87	-0.31	42	**	0.55	0.27
Trainer 25	2.03	1.79	-0.24	59	***	0.44	0.22
Trainer 15	2.13	1.93	-0.20	120	***	0.37	0.18
Trainer 23	2.02	1.84	-0.18	114	***	0.34	0.17
Trainer 17	2.02	1.87	-0.15	66	*	0.24	0.12
Trainer 26	1.99	1.87	-0.12	108	*	0.22	0.11
Trainer 8	1.98	1.98	0	74	n.s.	-	-
Trainer 16	2.01	1.93	-0.08	68	n.s.	-	-

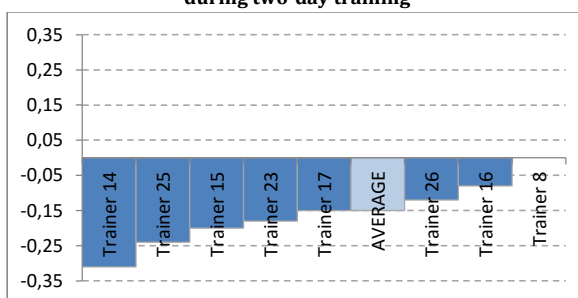
* $p<0.05$, ** $p<0.01$, *** $p<0.001$

n.s.: no significant change occurred

Similarly to the single-day training, the indicated change in opinion ($F=2.186$, $df_1=7$, $df_2=643$, $p=0.034$, $SS_B/SS_T=0.02$) could only be explained with the allocation to a specific trainer in typically few, only 2 per cent of the cases.

In the case of two out of eight trainers (Trainer 8 and 16), there were no significant differences between the attitudes of their groups' participants before and after the training.¹⁴

Graph 17 Average change in the attitude on countering corruption trainer by trainer during two-day training



¹²its absolute value

¹³its absolute value

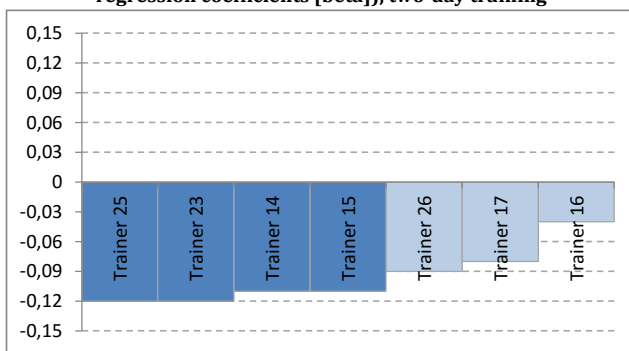
¹⁴ In this case it should be highlighted that these were the two trainers who received the smallest number of participants. In fact in the case of Trainer 6, there wasn't any change at all in the average attitudes before and after the training.

törölt: 6

In average, the biggest change was displayed in the case of group members under Trainer 14, however, the case of Trainer 25 and 15 seem to show an above the average extent of change in the average level of attitudes among participants.

Although there was no significant difference in the two-day training participants' position regarding their respective level of attitude along the trainers, it is noticeable that the outstanding good performance of Trainer 14 may also have something to do with the fact that on average it was after all his/her group in which participants had an average rate suggesting the most pessimistic attitude before the two-day training. If the impact of initial opinions is kept under control, than the list of trainers' performance - based on the trainers' standardized impact - can be once again developed with the help of a purified indicator. Again, the trainer with the weakest performance - in this case Trainer 8 - will serve as reference point in examining which trainers displayed significantly better performance compared to him/her while considering the initial attitudes.

Graph 18 Coefficient measuring trainer effect (OLS linear regression, standardized regression coefficients [beta]), two-day training



Considering and presuming that all trainers began the two-day training with participants of the same initial attitudes, it can be said that the strongest dislocation of attitudes occurred in the case of Trainer 25 and 23. On the other hand, the achieved change in attitude under Trainer 26, 17 and 16 did not differ significantly from the achieved change of Trainer 8 who served as reference point and achieved a change of zero.

2.2 Cognitions on countering corruption, cognitive elements

The cognitive variables do not measure the attitudes on countering corruption but rather the *knowledge* derived from countering corruption which was explicitly referred to during group discussions. The left column of the following table contains the statements used in mapping cognitions.

Table 6.

Variables measuring the attitudes on countering corruption	Variables measuring the cognitions and cognitive elements related to countering corruption
1. The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation. 2. Corruption is as old as mankind and should not really be dealt with. 3. Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against. 4. The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day. ¹⁵	1. Corruption should be countered first and foremost with legal instruments. ¹⁶ 2. Corruption can be most efficiently countered with the aid of publicity. 3. The most effective remedy against corruption is quick and effective administration. 4. If public administration institutions are well-organized, it can significantly decrease the pressure of external attempts of corruption.

törölt: 7

2.2.1 Single-day training

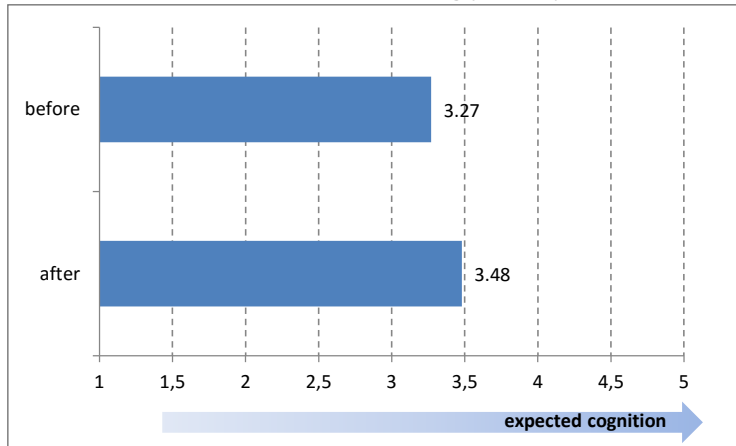
2.2.1.1 The change in the average and the dispersion of cognitions

Overall, the average level of cognitions among single-day participants moved into the expected direction and extent of significance ($t=-33.537$, $df=6,583$, $p=0.000<0.05$). Regarding the absolute level of cognitions, however, it is noticeable that the averages rather belonged to the range of moderate both before and after the training. Yet compared to the attitudes, it seems that the single-day training could achieve a somewhat stronger change in the participants' cognitions ($\text{abs}(\text{Cohen's } d)=0.42$, $\text{abs}(r)=0.20$).

¹⁵“Rotated” within the index measuring attitudes, i.e. logically set in the same direction as the other three variables, thereby assuring that the large value of the index measures the opinion that is pessimistic and understates the problem of corruption.

¹⁶This statement is also displayed “rotated”, as an important message of the training was the legal measures against corruption is not sufficient at all, and corruption should be countered at the organizational level. In other words, the effect aimed to be achieved by the training was the weakening of the participants' belief in legal measures as a priority.

Graph 19 The average of the variable measuring the cognitions on countering corruption before and after the training (N=6,584)

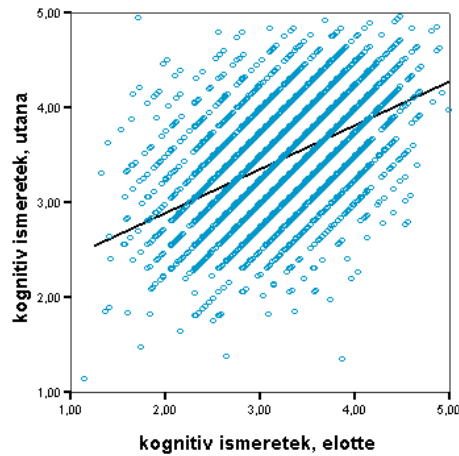


After comparing the dispersions of the complex variable, which measures the level of cognitions, before and after the training, it can be said that the detected change in opinion materializes while the participants' opinions becoming globally somewhat more homogenous (standard deviation $_{\text{before}}=0.52$, standard deviation $_{\text{after}}=0.49$, $p_{\text{Pitman-Morgan-test}}=0.000<0.05$).

2.2.1.2 The distribution of the change in cognitions

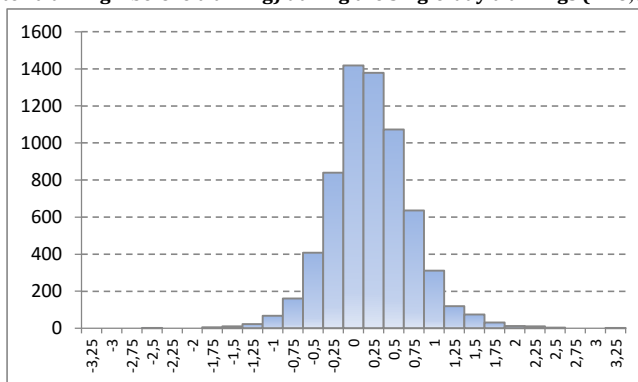
The respective levels of cognitions on countering corruption before and after the training show a positive, moderately strong linear relation with each other (Pearson's $r = 0.494$, $p=0.000<0.05$), however, this is a somewhat weaker accord than the one experienced in the case of attitudes during single-day trainings.

Graph 20 The scatter plot of individual observance couples indicating the average cognitions before (X axis) and after the single training (Y axis)



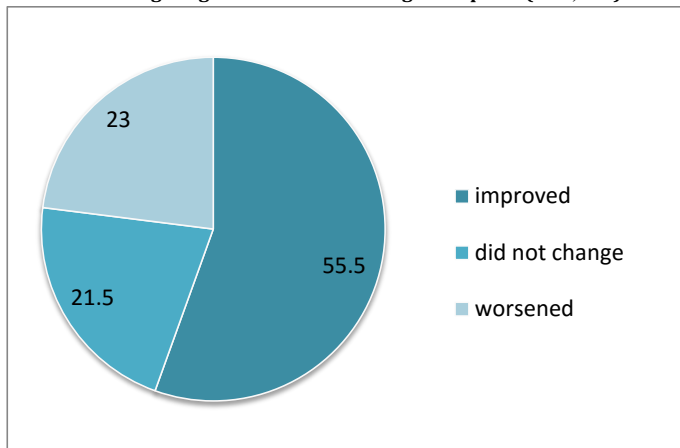
It was also experienced in the case of cognitions that the level of cognition of nearly more than one-fifth (21.5 per cent) of single-day training participants has not changed at all, while a very weak change in cognition, between -0.25 and +0.25, was produced by altogether 55.2 per cent of participants.

Graph 21 The distribution of averages changes in cognitions on countering corruption (after training - before training) during the single-day trainings (N=6,584)



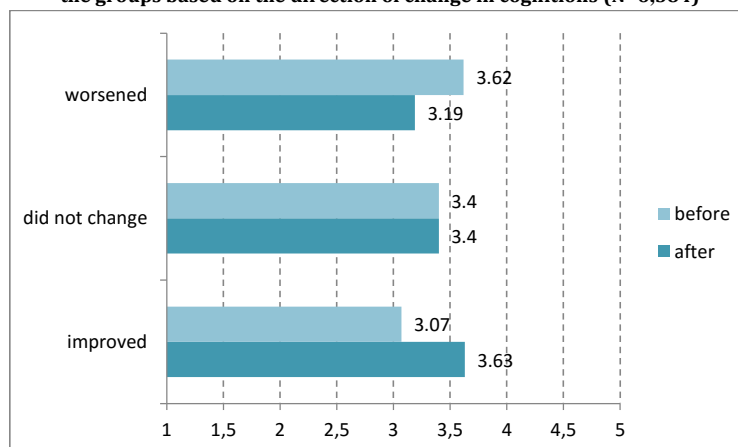
Regarding the level of cognitions, the majority, 55.5 per cent of participants, displayed an increase in the level of cognition to some degree during the single-day training, whereas 23 per cent of participants have lost from their earlier cognitions after the training, and have rather furthered themselves from the desired cognitive knowledge.

Graph 22 The ratio of groups among single-day training participants based on the changes in average cognitions on countering corruption (N=6,584)



It should be examined that on average from which level have those participants stepped back whose level of cognition has eventually turned into the opposite direction than expected, and from which level of cognition have other participants managed to increase their cognitions. The examination of the averages suggests that those participants whose level of cognition has moved to the opposite direction than expected had had an average level of cognition which they could lose from, whereas those participants who displayed an increasing level of cognition have significantly developed their level of cognition which had been on average at a moderate level.

Graph 23 The average cognitions on countering corruption before and after the training in the groups based on the direction of change in cognitions (N=6,584)

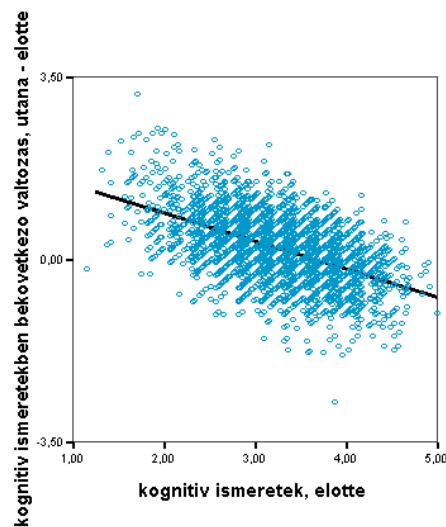


Regarding their average cognitions, the various groups had been positioned on a wider scale before the training than afterwards. Before the training the minimum and maximum average of cognitions at the group level was 2.90 and 3.68 respectively. After the training it was rather the value of the former that has increased (3.21), whereas the latter has not really changed (3.74).

2.2.1.3 The correlation between the initial individual opinions and the change in cognitions

The initial individual cognitions displayed a moderately strong accord with the changes occurring in cognitions (Pearson's $r = -0.551$, $p=0.000 < 0.05$). As seen before, the higher average level of cognitions before the training forecasted rather a decrease in terms of change in opinion, whereas the lower level of cognitions forecasted an increase.

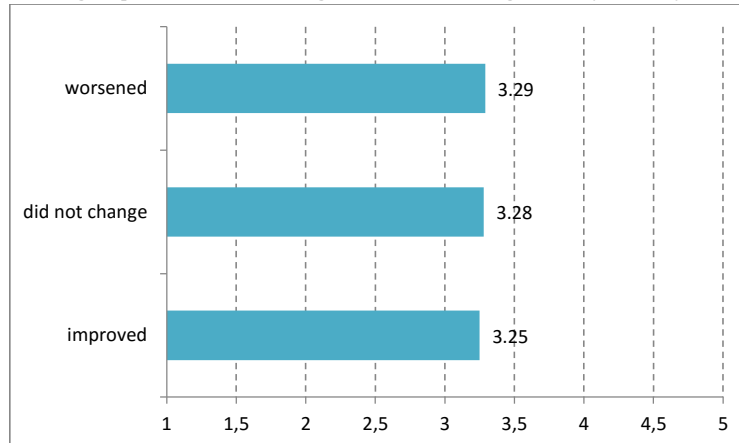
Graph 24 The scatter plot of individual observance couples measuring the average cognitions before (X axis) the single-day training and the change in cognitions (Y axis)



2.2.1.4 The relationship between the initial group milieu and the change in cognitions

A very weak difference ($F=39.097$, $df_1=2$, $df_2=6581$, $p=0.000 < 0.05$, $\eta^2=0.11$) is displayed in the average group opinions before the training, along the categories based on the changes in the level of cognitions. Those participants whose level of cognition has decreased or has not changed began their training in groups with similar milieus. In comparison, those participants whose level of cognition has moved into the expected direction were members of groups with slightly lower level of cognitions on average.

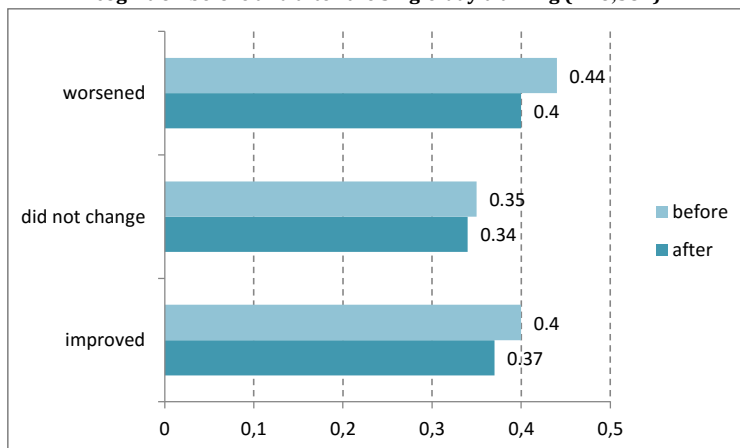
Graph 25 The average values of levels of cognition before the single-day training along the groups based on the changes in the level of cognitions (N=6,584)



2.2.1.5 The relationship between the distance in-between the group's initial average level of cognition and the applied individual cognition, and the change in cognitions

Before the training the participants positioned the farthest from their respective group's average cognitions were the ones who displayed a change in cognition (on average 0.44) that was opposite compared to what was being expected. The distance from the group's level of cognition was somewhat smaller in the case of those participants who showed an increase in the level of cognition (0.40), whereas those participants whose level of cognition has not change during the single-day training were the closest to the initial cognitions of their group (0.35). After the training the same order has remained concerning the distance between individual level of cognition and the group's average level of cognition following the training.

Graph 26 The average of the diversions between the individual and group level of cognition before and after the single-day training (N=6,584)



Both those whose level of cognition has decreased and increased respectively throughout the training, were positioned somewhat closer on average to their respective group's average level of cognition after the training, thus there was some kind of minimal alignment among them to the forming group level knowledge.

2.2.1.6 The impact of background variables

Out of the various background variables (type of organizational body working experience), the volume of the occurring change in the cognitions on countering corruption has only showed significant difference regarding the gender of the respective participants: on average the increase in the level of cognition has occurred in a somewhat greater extent (0.22) among women than in the case of men participants (0.18), although the difference is basically small.

2.2.1.7 The impact of trainers

The various trainers did not start with equal terms regarding the transmission of cognitions on countering corruption, as there was a significant difference in the average initial level of cognition along the respective trainers ($F=1.913$, $df_1=23$, $df_2=6582$, $p=0.001<0.05$), although this difference proved to be quite small ($\eta=0.07$).

Table 7. The change of average cognitions on countering corruption at the respective trainers in the single-day training, in descending order of effect size

törölt: 8

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ¹⁷	Effect size(r) ¹⁸
Trainer 1	3.36	3.64	0.28	99	***	0.59	0.28
Trainer 13	3.22	3.51	0.29	323	***	0.55	0.26
Trainer 15	3.29	3.55	0.26	187	***	0.53	0.25
Trainer 21	3.28	3.53	0.25	407	***	0.51	0.25
Trainer 9	3.26	3.51	0.25	37	**	0.50	0.24
Trainer 14	3.22	3.46	0.24	548	***	0.50	0.24
Trainer 4	3.26	3.49	0.23	519	***	0.49	0.24
Trainer 16	3.36	3.59	0.23	94	***	0.49	0.24
Trainer 20	3.25	3.49	0.24	465	***	0.49	0.24
Trainer 18	3.18	3.42	0.24	270	***	0.48	0.23
Trainer 8	3.21	3.46	0.25	42	**	0.47	0.23
Trainer 19	3.23	3.47	0.24	359	***	0.47	0.23
Trainer 3	3.31	3.53	0.22	282	***	0.44	0.22
Trainer 10	3.25	3.46	0.21	234	***	0.42	0.21
Trainer 5	3.27	3.45	0.18	352	***	0.36	0.18
Trainer 7	3.29	3.47	0.18	432	***	0.35	0.18
Trainer 2	3.25	3.42	0.17	554	***	0.33	0.16
Trainer 17	3.25	3.42	0.17	251	***	0.32	0.16
Trainer 11	3.27	3.42	0.15	272	***	0.30	0.15
Trainer 22	3.33	3.49	0.16	235	***	0.30	0.15
Trainer 24	3.34	3.49	0.15	319	***	0.29	0.15
Trainer 6	3.33	3.47	0.14	204	***	0.27	0.14
Trainer 12	3.37	3.42	0.05	30	n.s.	-	-
Trainer 23	3.34	3.44	0.10	52	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

n.s.: no significant change occurred

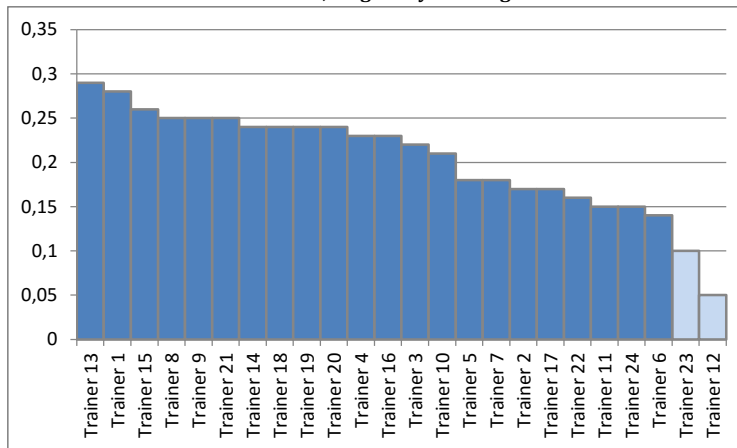
The indicated change in the level of cognition ($F=2.232$, $df_1=23$, $df_2=6543$, $p=0.001$, $SS_B/SS_T=0.01$) was explained by the respective participants' allocation to a respective trainer significantly yet to a negligibly small extent of less than 1 per cent.

It seems that after the attitudes, Trainer 13 was the most effective in transmitting cognitions. There were altogether two trainers (Trainer 12 and 23) who could not achieve significant change among participants regarding the cognitions. In this regard, it is also important to emphasize that both trainers had a very low number of participants, hence it is easily possible that if more participants had been allocated to them, these differences would have been even significant.

¹⁷its absolute value

¹⁸its absolute value

Graph 27 The average change in cognitions on countering corruption at the respective trainers, single-day training



Yet if we once again attempt to reach an indicator of the extent of effect that measures the trainers standardized using a reference point, based on which it draws out a sequence of force among them, in effect there would hardly be a trainer whose performance would stick out of the others', also considering that – as seen before – the initial cognitions actually matter in the later level of cognition, with this causing a little diversion between the trainers' groups.

Compared to the weakest trainer – Trainer 12 – Trainer 1, 13, 15 and 16 proved to achieve a significantly higher level of cognition, with the others achieving a similar extent of change in the level of cognition.

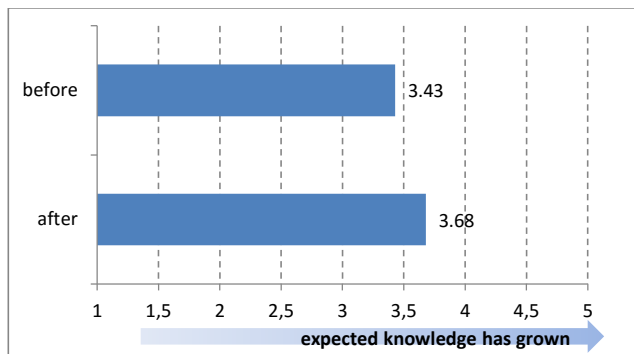
2.2.2 Two-day training

2.2.2.1 The change in the average and the dispersion of cognitions

Just like in the case of their single-day counterparts, the average level of cognition among two-day training participants have moved significantly into the expected direction ($t=-12.797$, $df=650$, $p=0.000<0.05$), thus on average participants could leave the training with more pieces of knowledge. In fact, it seems that the training managed to achieve a somewhat stronger change among two-day training participants ($abs(\text{Cohen's } d)=0.51$, $abs(r)=0.25$) than in the case of single-day training participants. It can be said without much exaggeration that single-day training participants had managed to achieve the same level of average cognitive knowledge on countering corruption throughout the training as the initial level of average knowledge among two-day training participants whose

average knowledge was further increased significantly throughout the two-day training.

Graph 28 The average of the variable measuring the cognition on countering corruption, before and after the two-day training (N=651)

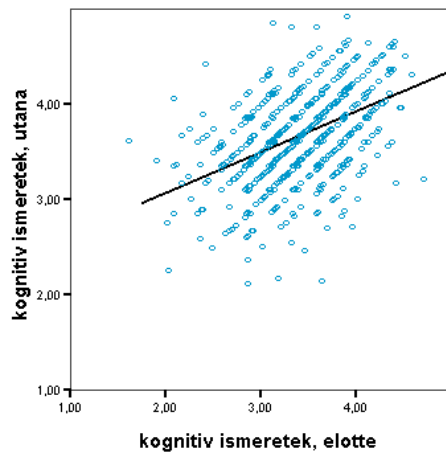


Comparing the dispersions of the complex variable, measuring the level of cognitions, before and after the two-day training, it can be said that the indicated change in knowledge has occurred with the participants' opinions not becoming globally more homogenous ($p_{\text{Pitman-Morgan-test}}=0.067>0.05$).

2.2.2.2 The distribution of the change in cognitions

Quite similarly to the single-day training, the two-day training also displayed a positive, moderately strong linear relationship between the average cognitions before and after the training (Pearson's $r = 0.459$, $p = 0.000 < 0.05$), thus those already having cognitions before the training have had a considerably higher level of cognition after the training.

Graph 29 The scatter plot of individual observance couples indicating the average cognitions before (X axis) and after the two-day training (Y axis)

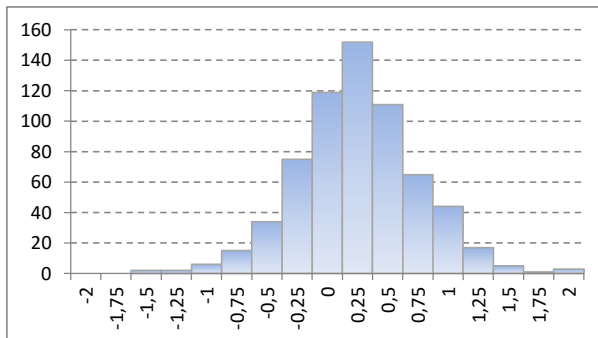


It can be said

The average level of cognition of 18.3 per cent of two-day training participants has not changed at all after the training, with a change in knowledge between -0.25 and 0.25 (including the aforementioned stagnating ones) was displayed by 53.1 per cent of participants

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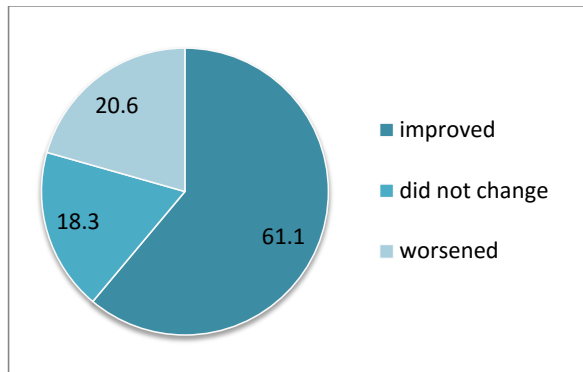
Graph 30 The distribution of average change in the cognition on countering corruption (after training - before training) during the two-day trainings (N=651)



Overall, it can be said that 61.1 of two-day training participants have displayed an increase, even to a certain extent, in the level of cognition on

countering corruption¹⁹ while in the case of 20.6 per cent of participants there was a decrease after the training.

Graph 31 The ratio of groups among two-day training participants based on the change in average cognitions on countering corruption (N=651)

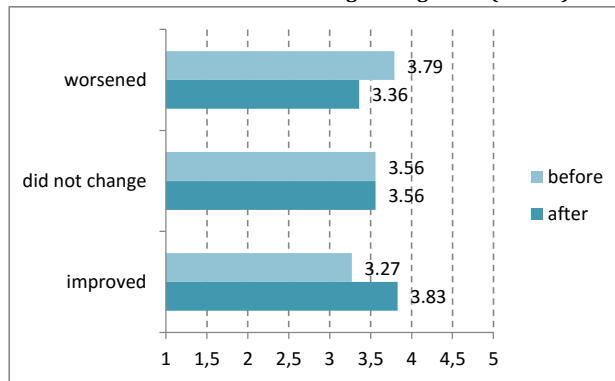


Those two-day training participants whose level of cognition on countering corruption has decreased after the training, have fallen from a nearly good (3.79) level on average to a mediocre level in absolute value, whereas those who have indicated an improving level of cognition after the training on average, have ascended from a mediocre to a nearly good level in cognition.²⁰

¹⁹When compared to the ratio of single-day participants whose level of cognition has improved (55.5 per cent), it can be said that the ratio of those participants whose level of cognition has improved throughout the two-day training was indeed a little higher (even in statistical terms), although this difference is quite small.

²⁰Looking at the single-day training results, it can be said that looking at the two-day training groups with either deteriorating or improving levels of cognition, the level of cognition of two-day training participants had already been higher. Moreover, the extent of deterioration and improvement was nearly the same, hence from a certain perspective the change in cognition within the aforementioned two-day training groups has gone through the same course with only the initial and thus end points being different.

Graph 32 The average cognitions on countering corruption before and after in the groups based on the direction of change in cognition (N=651)

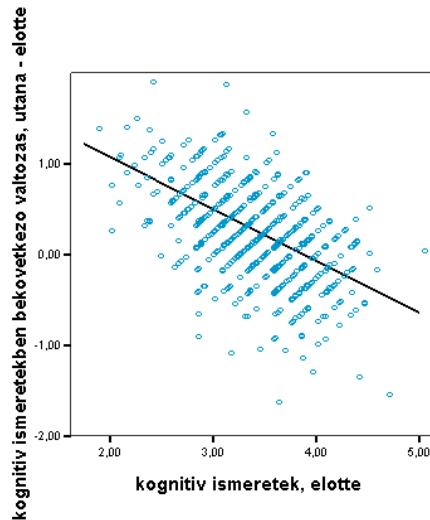


There was no significant diversion in the initial or the achieved level of cognition between the various two-day training groups (with the initial group averages being between 3.2 and 3.8, and the group averages after the training being between 3.4 and 4).

2.2.2.3 The correlation between the initial individual opinions and the change in cognitions

Thetwo-day participants' initial cognitions on countering corruption were in moderately strong negative accord with the changes occurring in cognitions (Pearson's $r = -0.569$, $p=0.000<0.05$), thus the knowledge has rather increased among those who had had lower level of cognitions, and has rather decreased on average throughout the two-day training among those had had higher initial level of cognitions.

Graph 33 The scatter plot of individual observance couples measuring the average cognitions before (X axis) the two-day training and the change in cognitions (Y axis)



2.2.2.4 The relationship between the initial group milieu and the change in cognitions

There is no significant difference ($F= 1.917, df_1=2, df_2=648, p=0.148>0.05$) between the average group opinions before the training along the categories based on changes occurring in the level of cognition (with the level of cognition having deteriorated, not changed, or improved) with these groups having initial averages between 3.42 and 3.44 on average. Thus it can be said that either the level of cognition of a two-day training participant has deteriorated, stagnated or improved later on, the initial group milieu was statistically the same. This result was already adumbrated by the fact that, as referred to this earlier, the training group's average initial level of cognition was statistically the same.

2.2.2.5 The relationship between the distance in-between the group's initial average level of cognition and the applied individual cognition, and the change in cognitions

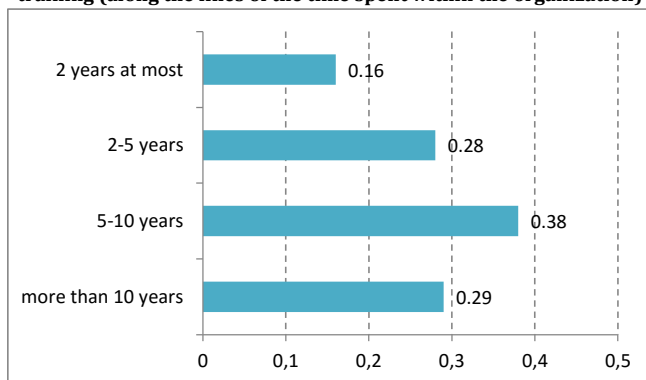
Neither before nor after the two-day training was there any significant difference revealed between participants who had an improving, deteriorating or stagnating level of cognition regarding the average distance of their respective knowledge from their group's average level of cognition. Thus neither before nor after the training were the participants, whose level of cognition has deteriorated or improved, any further on average regarding their respective knowledge from the average knowledge of their group (with those participants whose level of cognition has deteriorated not having stood further away from their respective

training group's average and not having acquired a more extreme cognition than those participants whose level of cognition has stagnated or improved).

2.2.2.6 The impact of background variables

Out of the background variables, it was the time hitherto spent at the organizational body regarding which significant difference ($F=3.843$, $df_1=3$, $df_2=574$, $p=0.01<0.05$) has been revealed in the cognitions on countering corruption: on average the largest increase in the level of cognition can be seen in the case of people having worked at their organizational body for 5 to 10 years, whereas the smallest increase is displayed among those who have worked 2 years or less. Therefore, the time hitherto spent at the organizational body does not cause a completely linear tendency in the increase of the level of cognition among leaders, with the largest increase in the level of cognition occurring in the case of people working for an intermediately long time, and with less increase afterwards. It is important to mention in this regard that the reason for this is not that the people who have been working for the longest time had a higher level of cognition already before the training, meaning that they would have had less opportunity to improve their cognitions on countering corruption: as a matter of fact, there was no significant difference regarding the initial level of cognition along the lines of the time spent within the organization.

Graph 34 The average changes in the level of cognition occurring during the two-day training (along the lines of the time spent within the organization)



2.2.2.7 The impact of trainers

As referred to earlier, there was no difference between the various training groups regarding the average of the initial level of cognition. The same can be said when the difference is being looked for along the trainers: there is no significant difference ($F=1.474$, $df_1=7$, $df_2=650$, $p=0.173>0.05$) between the average of the initial level of cognitions of the participants under the respective trainers, thus in this sense the "competition" for increasing cognitions between trainers was a contest of equals in this regard.

Table 8. The change in cognitions on countering corruption at the respective trainers in the two-day training, in descending order of effect size

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ²¹	Effect size (r) ²²
Trainer 15	3.46	3.8	0.34	119	***	0.70	0.33
Trainer 16	3.40	3.66	0.26	66	***	0.59	0.28
Trainer 23	3.5	3.77	0.27	114	***	0.56	0.27
Trainer 8	3.38	3.62	0.24	76	***	0.52	0.25
Trainer 14	3.31	3.51	0.2	42	**	0.49	0.24
Trainer 26	3.37	3.58	0.21	108	***	0.48	0.23
Trainer 25	3.45	3.68	0.23	60	***	0.47	0.23
Trainer 17	3.52	3.67	0.15	66	*	0.28	0.14

* p<0.05, ** p<0.01, *** p<0.001
 n.s.: no significant change occurred

The indicated change in cognition was not significantly explained by which trainer the participants were allocated to, and was therefore independent from the trainers (F=1.070, df₁=7, df₂=643, p=0.381).

It is noticeable in the case of all two-day training trainers that the average level of cognition of their respective group's participants was significantly higher after than before the training, thus all trainers holding two-day trainings successfully improved the participants' cognitions.

Graph 35 The average change in cognitions on countering corruption at the respective trainers (two-day training)



Considering the absolute value of the change in cognitions, the largest increase in cognitions was indicated in the case of Trainer 15 who by the way had already achieved a significant increase in cognitions during the single-day training. The performance of Trainer 15 stands out from the other trainers' in another aspect as well: if the performances of all trainers were compared to the

²¹its absolute value
²²its absolute value

weakest performance by Trainer 17 while filtering out the impact of initial cognitions, the average increase in cognition would be significantly higher only in the case of Trainer 15. Hence even though it may seem in absolute terms that the level of cognition has increased more in the case of Trainer 23 than in the case of Trainer 17, the difference between the two averages is not significant.

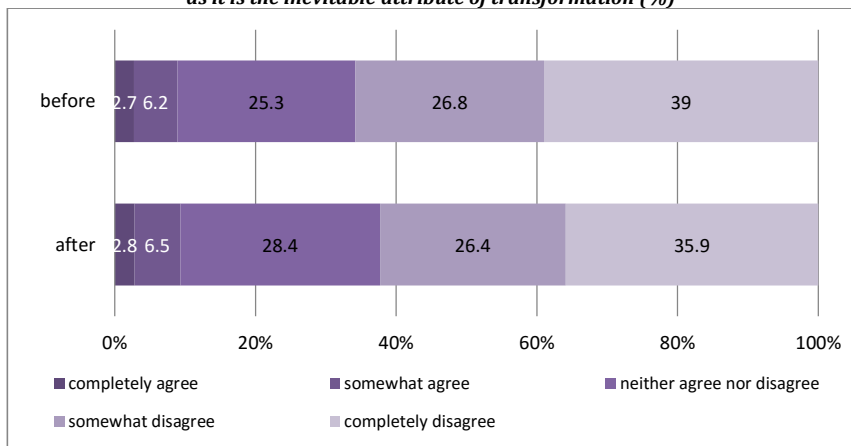
3. The analysis of change in opinion related to single items

3.1 Statement: *The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation.*

3.1.1 Single-day training

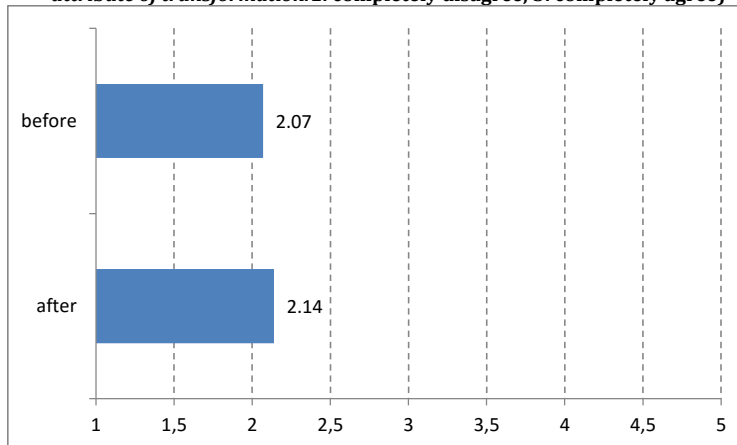
There was no change in the judgement of the issue among overall participants, however, the distributions before and after the training significantly differ (chi-square=42.116, df=4, p=0.000<0.05): although their ratio has seemed to somewhat decrease, overall the majority of single-day training participants, both before and after the training, did rather not agree or did not agree at all with the statement that the corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation.

Graph 36 The distribution of the answers by single-day training participants before and after the training: *The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation (%)*



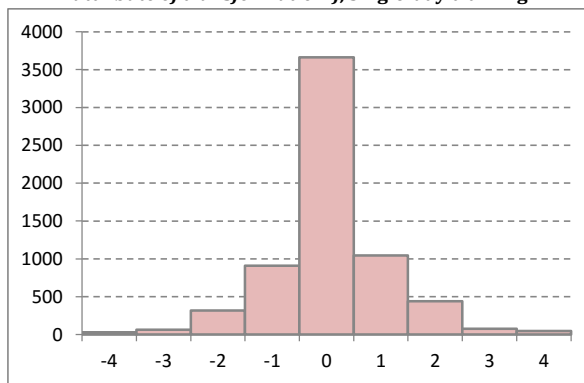
As displayed in the beginning of this study, the agreement with this statement has significantly increased among single-day participants, truth be told, this refers to the global extent of change in opinion, hence the impact of the single-day training can be defined as quite weak ($t=-5.421$, $df=6603$, $p=0.000<0.05$, $abs(\text{Cochran's } d)=0.07$, $abs(r)=0.03$).

Graph 37 The averages of single-day training participants before and after the training (*The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation.* 1: completely disagree, 5: completely agree)



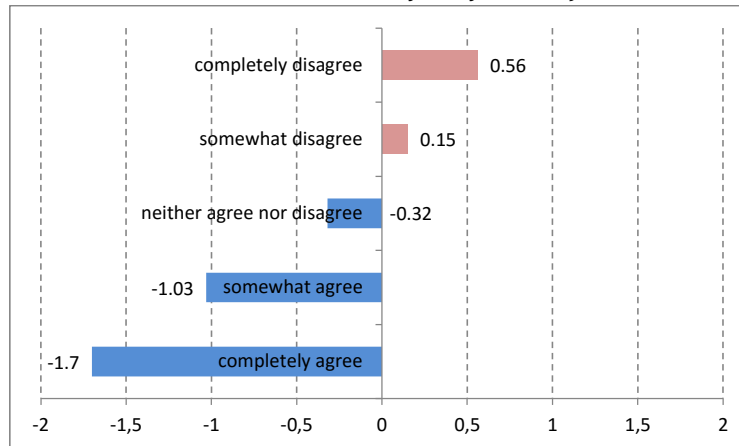
There has been no change in opinion for 55.5 per cent of participants, while the agreement with this statement has decreased among 13.8 per cent and has increased among 30.7 per cent of participants.

Graph 38 The histogram indicating the distribution of the changes in opinion (*The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation.*), single-day training



When analysing the extent and direction of the average changes in opinion along the categories of initial opinions, it can be noticed that the average change in opinion of participants within the two extreme categories of opinion is not equal ($F=118.258$, $df_1=4$, $df_2=6599$, $p=0.000<0.05$): on average, those participants who had completely agreed with this statement have lost from this disenchanted attitude to a greater extent than those who had not agreed with this statement at all but then became uncertain ($p_{\text{Games-Howell}}=0.000<0.05$).

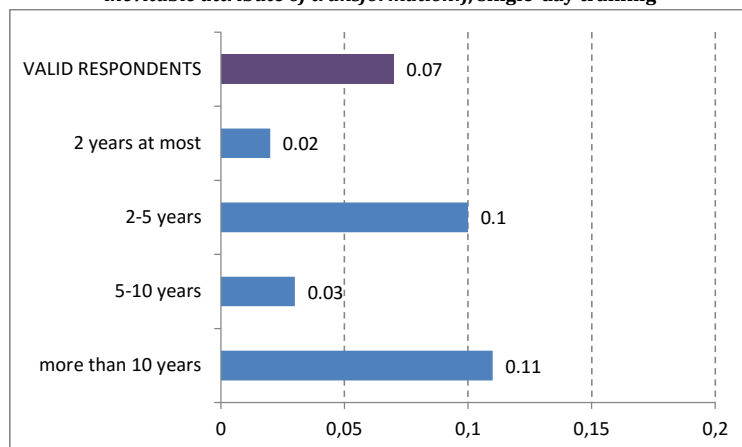
Graph 39 The average change in opinion by categories of answers before the single-day training (*The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation.*)



The participants' opinions showed a somewhat larger dispersion globally after than before the training, although the difference is slightly significant (standard deviation_{before}=1.062, standard deviation_{after}=1.064, $p_{\text{Pitman-Morgan-test}}=0.04 < 0.05$), hence it is easily possible that it is the high number of sample units that makes the measured difference significant. However, the average of the dispersions measured in single-day training groups has not decreased at all, thus on average the training groups themselves have not become more homogenous ($t=-0.104$, $df=362$, $p=0.917 > 0.05$).

Out of the various background variables, it was only the time spent at the respective organizational body that had substantial impact on the change in opinion regarding the given issue: those working for 2 to 5 year or over 10 years at the respective organizational body have shown a somewhat above the average agreement with the statement ($F=3.074$, $df_1=3$, $df_2=6184$, $p=0.027 < 0.05$), although the relation between the two variables is very weak ($\eta^2=0.04$).

Graph 40 The average change in opinion by time spent at the respective organizational body (*The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation.*), single-day training



One half of the trainers has managed to achieve a significant change in opinion regarding the issue, whereas the other has not. Despite the low number of units, the impacts of Trainer 1 and 23 are remarkable: the participants in their groups have produced a greater change in opinion compared to other trainers, moreover, in a direction that rather blocks countering corruption.

Table 9 The change in opinion measured at the respective trainers (*The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation.*), single-day training, in descending order of effect size

törölt: 10

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ²³	Effect size(r) ²⁴
Trainer 23	2.00	2.34	0.34	54	*	0.35	0.17
Trainer 1	2.10	2.40	0.30	98	*	0.26	0.13
Trainer 22	1.91	2.14	0.23	234	***	0.22	0.11
Trainer 11	1.99	2.20	0.21	275	**	0.20	0.10
Trainer 15	1.99	2.20	0.21	187	**	0.19	0.09
Trainer 17	1.96	2.16	0.20	255	**	0.19	0.10
Trainer 21	1.93	2.08	0.15	405	**	0.15	0.08
Trainer 4	2.09	2.23	0.14	517	**	0.13	0.07
Trainer 19	2.16	2.29	0.13	362	*	0.12	0.06
Trainer 2	1.96	2.05	0.09	561	*	0.09	0.04
Trainer 3	2.25	2.30	0.05	280	n.s.	-	-
Trainer 5	2.09	2.04	-0.05	351	n.s.	-	-
Trainer 6	2.10	2.09	-0.01	203	n.s.	-	-
Trainer 7	2.11	2.17	-0.06	433	n.s.	-	-

²³its absolute value

²⁴its absolute value

Trainer 8	2.24	2.12	-0.12	42	n.s.	-	-
Trainer 9	2.05	2.19	-0.14	37	n.s.	-	-
Trainer 10	2.17	2.22	0.05	231	n.s.	-	-
Trainer 12	2.03	2.13	0.10	31	n.s.	-	-
Trainer 13	2.04	1.98	-0.06	324	n.s.	-	-
Trainer 14	2.17	2.14	-0.03	552	n.s.	-	-
Trainer 16	1.95	2.00	0.05	99	n.s.	-	-
Trainer 18	2.11	2.07	-0.04	273	n.s.	-	-
Trainer 20	2.05	2.07	0.02	466	n.s.	-	-
Trainer 24	2.12	2.06	-0.06	317	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

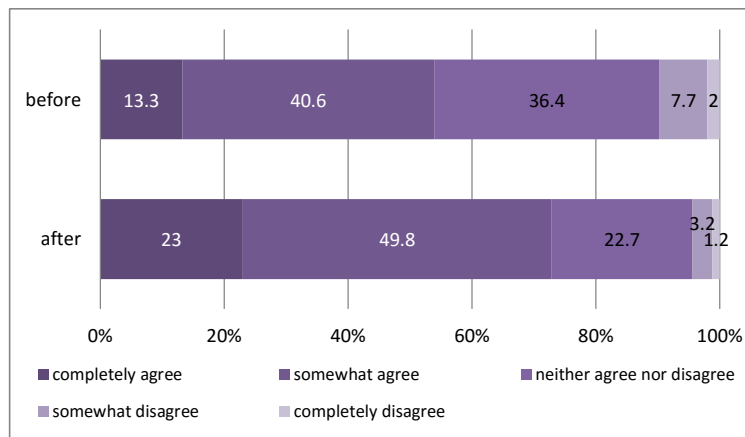
n.s.: no significant change occurred

The indicated change ($F=2.460$, $df_1=23$, $df_2=6563$, $p=0.000<0.05$, $SS_B/SS_T=0.01$) was explained by the respective participants' allocation to a respective trainer significantly yet to a very small extent of barely 1 per cent.

3.1.2 Two-day training

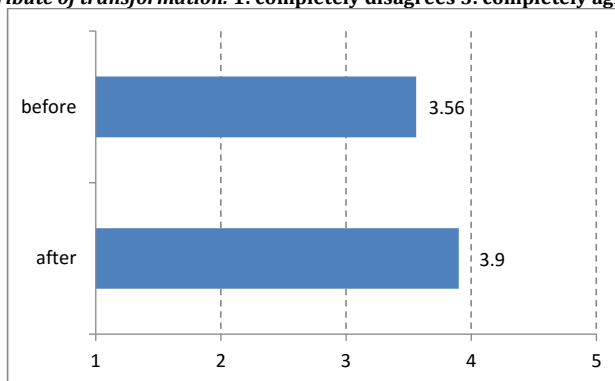
The distribution of opinions of two-day training participants differ to a barely significant extent in relation to judging the issue whether the corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation. ($\chi^2=9.585$, $df=4$, $p=0.048<0.05$). The ratio of participants rather not agreeing or not agreeing at all with the statement has somewhat decreased after the two-day training, although this group of opinion has continued to represent the absolute majority.

Graph 41 The distribution of answers by two-day training participants before and after the training: *The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation (%)*



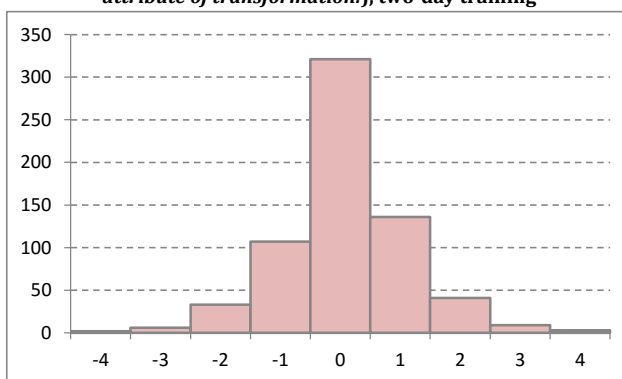
Overall, as displayed in the beginning of this study, the agreement with the statement has increased in a significant extent among two-day training participants as well, truth being told, this change is small in strength with about the same extent as the one experienced in the case of single-day training ($t = -2.118$, $df = 657$, $p = 0.035 < 0.05$, $abs(\text{Cohen's } d) = 0.08$, $abs(r) = 0.04$).

Graph 42 The averages of two-day training participants before and after the training (*The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation. 1: completely disagrees 5: completely agrees*)



The opinion of 48.8 per cent of participants has not changed in judging this issue, while the agreement with this statement has decreased among 22.5 per cent and has increased among 28.7 per cent of participants.

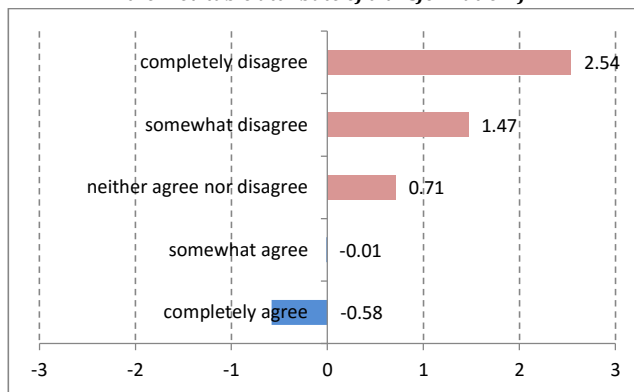
Graph 43 The histogram indicating the distribution of the changes in opinion (*The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation.*), two-day training



Significant difference can be indicated between the average changes measured along the categories of initial opinions in the case of two-day training as well, however, the absolute values of the changes measured among the participants

with the two extreme initial opinions do not significantly differ from each other ($p_{\text{Games-Howell}}=0.056>0.05$), thus it cannot be said in the case the two-day training that those participants who had completely agreed with the statement at the beginning of the training have lost from their opinion in a significantly greater extent compared to the the increase in agreement of those participants who had stood at the opposite pole in the beginning. Presumably, the reason for this is that there were altogether 7 participants who had completely agreed with the statement before the training, and that the extent of the confidence-interval estimated around the average has increased due to the low number of units.

Graph 44 The average change in opinion by categories of answers before the two-day training (*The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation.*)



The dispersion of the opinions of two-day training participants showed no substantial difference before and after the training (with 0.984 being before, 1.053 being after, $p_{\text{Pitman-Morgan-test}} = 0.33>0.05$). When focusing on whether the dispersion of training groups have become more homogenous on average, it becomes clear that overall the training groups themselves have not become more homogenous either (although neither have they become more heterogeneous) after the two-day training.

Out of the various background variables, neither the type of the organizational body of work, the time spent there, nor the gender of the respective participants have had substantial impact on the extent and direction of the change in opinion regarding the issue among two-day training participants.

Table 10, The change in opinion measured at the respective trainers (*The corruption experienced here does not give cause for serious concern, as it is the inevitable attribute of transformation*), two-day training, in descending order of effect size

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d^{25}	Effect size(r) ²⁶
Trainer 14	2.11	1.77	-0.34	44	*	0.34	0.17
Trainer 8	1.99	2.24	+0.25	75	*	0.25	0.13
Trainer 15	2.24	2.33	+0.09	120	n.s.	-	-
Trainer 16	2.06	2.26	+0.20	70	n.s.	-	-
Trainer 17	2.05	2.15	+0.10	66	n.s.	-	-
Trainer 23	2.03	2.20	+0.17	114	n.s.	-	-
Trainer 25	2.13	2.03	-0.10	60	n.s.	-	-
Trainer 26	1.99	2.07	+0.08	109	n.s.	-	-

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

n.s.: no significant change occurred

The occurred change ($F=1.774$, $df_1=7$, $df_2=650$, $p=0.09 > 0.05$) was not explained significantly by the respective participants' allocation to the respective trainers.

Change in opinion with a significant extent throughout the two-day training can only be indicated in the case of altogether two trainers. Trainer 8 and 14, neither of whom had managed to achieve significant change in opinion in the same issue during the single-day training, have modified their training group members' agreement with the statement to the opposite direction. Whereas the agreement with the statement has significantly increased in the case of Trainer 8, it has significantly decreased in the case of Trainer 14.

3.2 Statement: Corruption should be countered first and foremost with legal instruments.

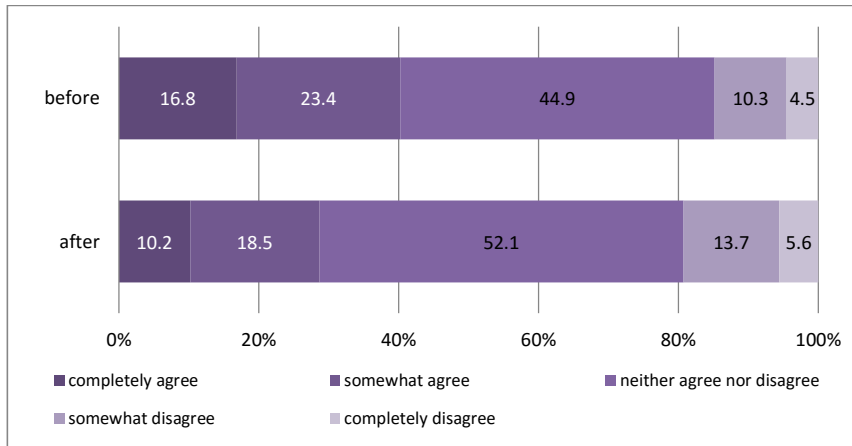
3.2.1 Single-day training

The ratio of those single-day training participants who rather agree or completely agree with the statement that corruption should be countered first and foremost with legal instruments has significantly decreased compared to the answers measured before the training (chi-square = 510.76, $df = 4$, $p=0.000 < 0.05$).

Graph 45 The distribution of the answers by single-day training participants before and after the training: Corruption should be countered first and foremost with legal instruments. (%)

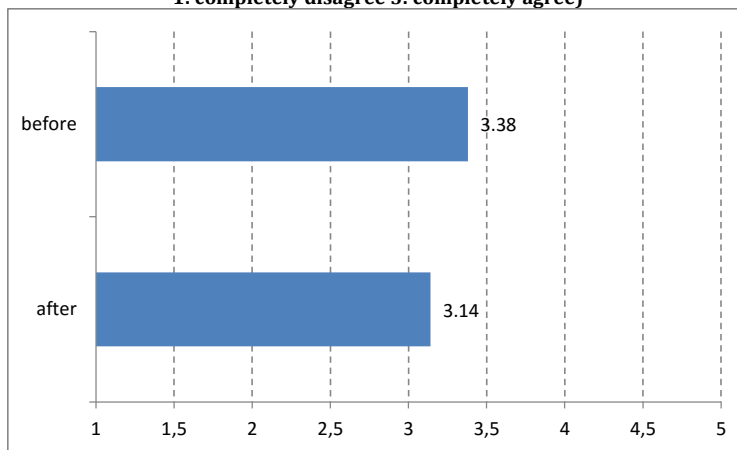
²⁵its absolute value

²⁶its absolute value



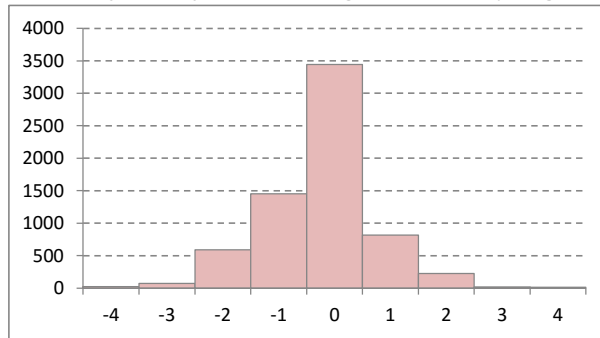
The decrease of the agreement with the statement can also be indicated in the average of the opinions, as demonstrated in the summary table displayed at the beginning of this study. Participants showed an agreement of 3.38 on average before and a lower 3.14 after the training, which can be deemed weak in terms of the strength of the change in opinion ($t=19.374$, $df=6654$, $p=0.000$, $abs(\text{Cohen's } d)=0.24$, $abs(r)=0.12$).

Graph 46 The averages of single-day training participants before and after the training
(Corruption should be countered first and foremost with legal instruments.
 1: completely disagree 5: completely agree)



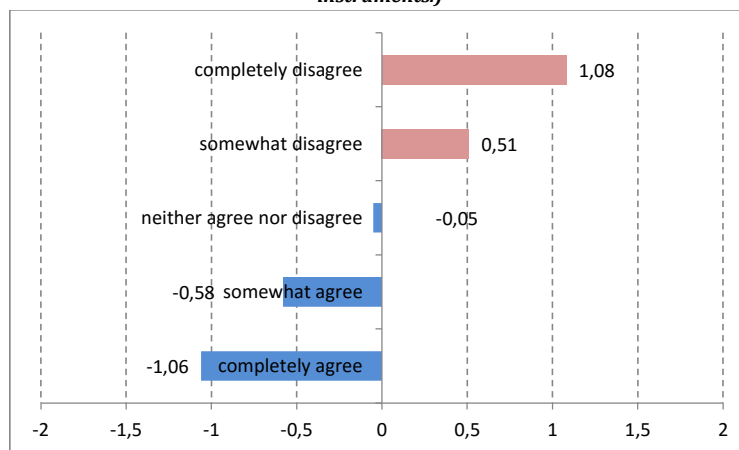
The opinion of more than half (51.8 per cent) of single-day training participants has not changed at all regarding this issue. The agreement with the statement has decreased among 32.1 per cent and has increased, strengthened among 16.1 per cent of participants.

Graph 47 The histogram indicating the distribution of the changes in opinion (*Corruption should be countered first and foremost with legal instruments.*), single-day training



In light of the initial opinions, the direction and extent of the change in the opinions of single-day participants are quite symmetric: those participants who had not agreed with the statement at all before the training have on average become a little more consentient in the same exact extent as the participants who had initially completely agreed with the statement have become less consentient ($p_{\text{Games-Howell}}=0.996>0.05$). A similar symmetry can be observed in the case of the categories of rather agree – rather disagree.

Graph 48 The average change in opinion by categories of answers before and after the single-day training (*Corruption should be countered first and foremost with legal instruments.*)

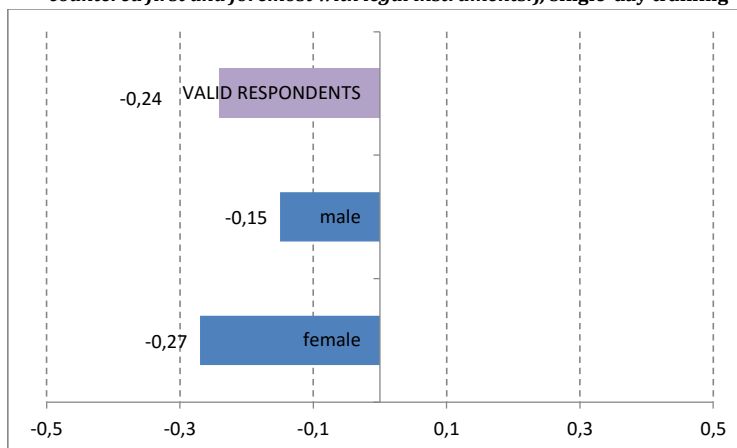


After the single-day training, the participants on average have not only agreed less with the statement but the opinions regarding this issue have also somewhat grouped together with the dispersion of opinions after the training having decreased compared to their dispersion before the training (from 1.025 to 0.964, $p_{\text{Pittman-Morgan-test}} = 0.000 < 0.05$). The average of the dispersion of opinions

measured within the training groups has also significantly decreased ($t=6.409$, $df=362$, $p=0.000<0.05$), thus the training groups too have become more homogenous on average.

Out of the various background variables, only the gender of single-day participants was related to significant difference in that how has the agreement with the statement changed after the training: there was a significantly stronger change on average among women towards disagreement than among men ($F=15.248$, $df_1=1$, $df_2=6237$, $p=0.000$), although the impact of gender is quite weak ($\eta^2=0.05$).

Graph 49 The average change in opinion by gender of participants (*Corruption should be countered first and foremost with legal instruments.*), single-day training



The majority of the various trainers have successfully achieved change in opinion which was to some extent significant among single-day training participants regarding the issue. In particular, the changes in opinion caused by Trainer 17, 20 and 13 are the most substantial from those achieving significant changes in opinion.

Table 11, The change in opinion measured at the respective trainers (*Corruption should be countered first and foremost with legal instruments.*), single-day training, in descending order of effect size

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d^{27}	Effect size(r^{28})
Trainer 13	3.46	3.06	-0.40	326	***	0.40	0.19
Trainer 17	3.47	3.09	-0.38	255	***	0.40	0.19
Trainer 20	3.38	2.98	-0.40	472	***	0.39	0.19

²⁷its absolute value

²⁸its absolute value

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Trainer 10	3.29	2.93	-0.36	235	***	0.37	0.18
Trainer 4	3.43	3.10	-0.33	527	***	0.36	0.18
Trainer 8	3.62	3.26	-0.36	42	*	0.36	0.18
Trainer 14	3.48	3.12	-0.36	555	***	0.35	0.17
Trainer 23	3.39	3.13	-0.26	56	*	0.31	0.16
Trainer 19	3.39	3.09	-0.30	362	***	0.30	0.15
Trainer 24	3.38	3.12	-0.26	319	***	0.25	0.12
Trainer 21	3.22	3.00	-0.22	408	***	0.22	0.11
Trainer 18	3.51	3.31	-0.20	275	***	0.21	0.10
Trainer 6	3.33	3.18	-0.15	205	*	0.16	0.08
Trainer 11	3.39	3.23	-0.16	275	**	0.16	0.08
Trainer 2	3.33	3.19	-0.14	564	**	0.14	0.07
Trainer 22	3.33	3.20	-0.13	235	*	0.13	0.07
Trainer 1	3.47	3.31	-0.13	101	n.s.	-	-
Trainer 3	3.40	3.31	-0.09	283	n.s.	-	-
Trainer 5	3.36	3.30	-0.06	353	n.s.	-	-
Trainer 7	3.33	3.27	-0.06	434	n.s.	-	-
Trainer 9	3.11	2.89	-0.22	37	n.s.	-	-
Trainer 12	3.35	3.16	-0.19	31	n.s.	-	-
Trainer 15	3.22	3.11	-0.11	189	n.s.	-	-
Trainer 16	3.27	3.08	-0.19	99	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

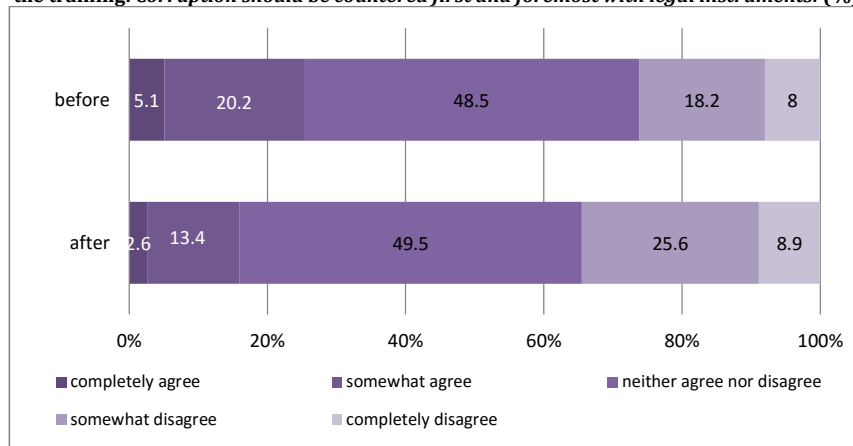
n.s.: no significant change occurred

The occurred change ($F=3.985$, $df_1=23$, $df_2=6614$, $p=0.000<0.05$, $SS_B/SS_T=0.01$) was explained by the respective participants' allocation to the respective trainers significantly yet to a very small extent of about 1 per cent.

3.2.2 Two-day training

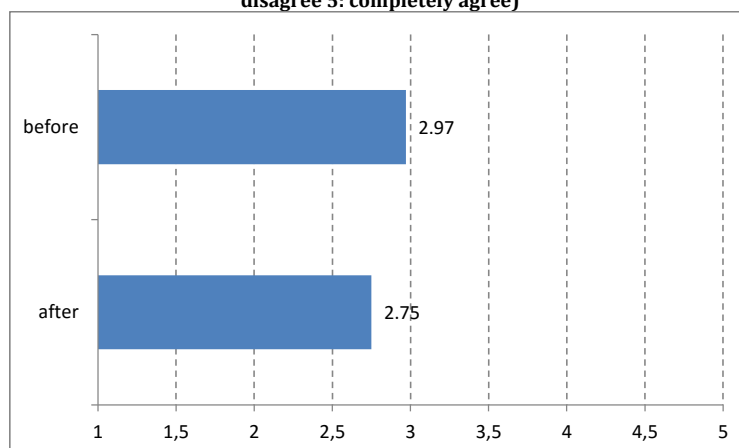
Just like in the case of the single-day training, the ratio of those two-day training participants who were in complete or partial agreement with the statement that corruption should be countered first and foremost with legal instruments has significantly decreased after the training: while a quarter of participants had agreed with the statement before the training, only a sixth-seventh of participants were in agreement with it afterwards ($\chi^2=53.888$, $df=4$, $p=0.000$).

Graph 50 The distribution of the answers by two-day training participants before and after the training: *Corruption should be countered first and foremost with legal instruments.* (%)



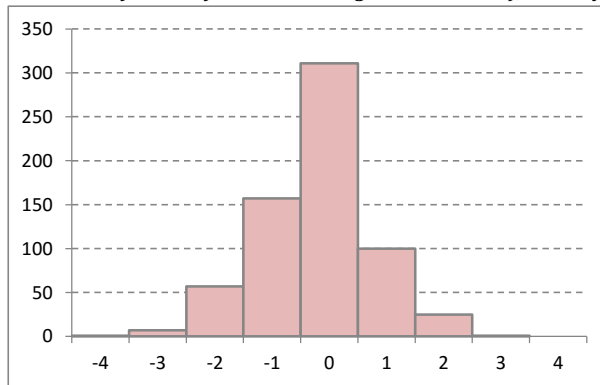
Not only the change of the distribution but the change of the average agreement's level as well comes to show that the two-day training participants have significantly agreed less with the statement after the training: while the agreement with the statement ($t=5.640$, $df=658$, $p=0.000$) had been with an extent of strong moderate (2.97) on average, it was with an extent of weak moderate (2.75) afterwards, with the change being deemed to be of equal extent – weak – as the one experienced in the case of the single-day training ($abs(\text{Cohen's } d)=0.24$, $abs(r)=0.12$).

Graph 51 The averages of two-day training participants before and after the training (*Corruption should be countered first and foremost with legal instruments.* 1: completely disagree 5: completely agree)



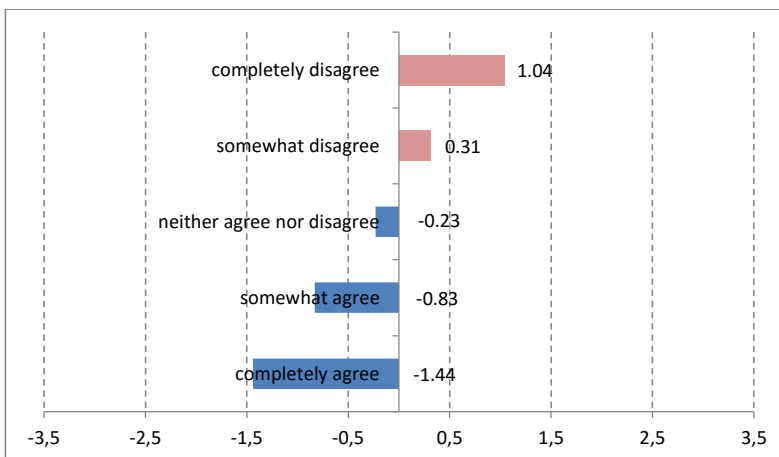
47.2 per cent of two-day training participants have not changed their original answer after the training, whereas the agreement with the statement has decreased among one-third (33.7 per cent), and has increased among 19.1 per cent of participants.

Graph 52 The histogram indicating the distribution of the changes in opinion (*Corruption should be countered first and foremost with legal instruments.*), two-day training



Just like in the case of the single-day training, it can be said of two-day training participants within the two extreme opinion groups as well that at the beginning of the training the extent of their agreement with the statement has changed the same on average yet in the opposite direction ($p_{\text{Games-Howell}}=0.266 > 0.05$).

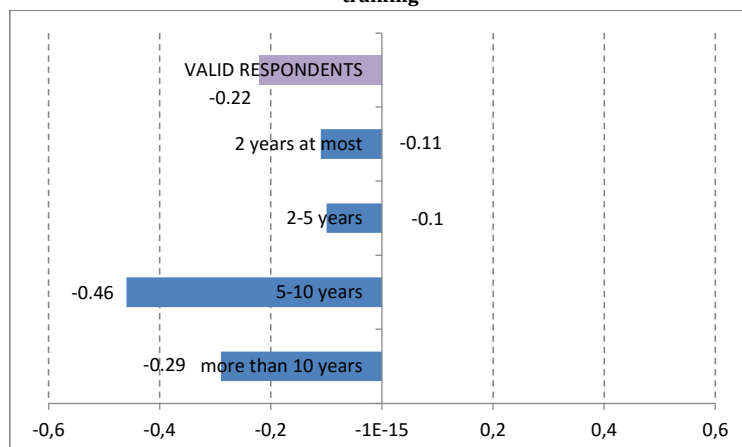
Graph 53 The average change in opinion by categories of answers before the two-day training (*Corruption should be countered first and foremost with legal instruments.*)



Another similarity with the single-day training is that not only has the average agreement of two-day training participants regarding the issue decreased but the dispersion of answers has decreased somewhat as well, thus the opinions have become more homogenous (with 0.953 before and 0.890 afterwards, $p_{\text{Pitman-Morgan-test}}=0.049<0.05$). The average dispersion of training groups has also significantly decreased ($t=2.801, df=43, p=0.008<0.05$).

Out of the various background variables, it was only the time spent at the respective organizational body along which any difference could be indicated regarding the average of the changes in opinion. Accordingly, it was the participants working for 5-10 years at the respective organizational body whose agreement with the statement has decreased on average the most, whereas those participants who have been working for less than 5 years has decreased the less ($F=2.884, df_1=3, df_2=580, p=0.035<0.05$), yet the impact of the time spent at the respective organizational body is weak ($\eta^2=0.12$).

Graph 54 The average change in opinion by time spent at the respective organizational body (*Corruption should be countered first and foremost with legal instruments.*), two-day training



[AG2] megjegyzést írt: Át kell fordítani.

It is an interesting fact that neither before nor after the training could one find significant difference between the trainers regarding how their participants' average agreement with the examined statement was like. Thus the competition between the trainers was a contest of equals, however, as for the end result, the participants allocated to the respective trainers had the same attitude on average. Altogether three trainers could induce significant change in opinion in the case of steps with legal instruments, with the strongest change in opinion being caused by Trainer 25, although the impacts of Trainer 16 and 26 can also be regarded substantial.

Table 12. The change in opinion measured at the respective trainers (*Corruption should be countered first and foremost with legal instruments.*), two-day training, in descending order of effect size

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d^{29}	Effect size(r) ³⁰
Trainer 25	3.03	2.62	-0.41	60	***	0.48	0.23
Trainer 26	2.87	2.56	-0.31	110	**	0.36	0.18
Trainer 16	3.22	2.92	-0.30	70	**	0.33	0.16
Trainer 8	3.01	2.88	-0.13	76	n.s.	-	-
Trainer 14	3.18	2.93	-0.25	43	n.s.	-	-
Trainer 15	2.79	2.71	-0.08	120	n.s.	-	-
Trainer 17	3.00	2.79	-0.21	66	n.s.	-	-
Trainer 23	2.89	2.76	-0.13	114	n.s.	-	-

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

n.s.: no significant change occurred

The occurred change ($F=1.214$, $df_1=7$, $df_2=651$, $p=0.293 > 0.05$) was not explained significantly by the respective participants' allocation to the respective trainers.

3.3 Statement: Corruption can be most efficiently countered with the aid of publicity.

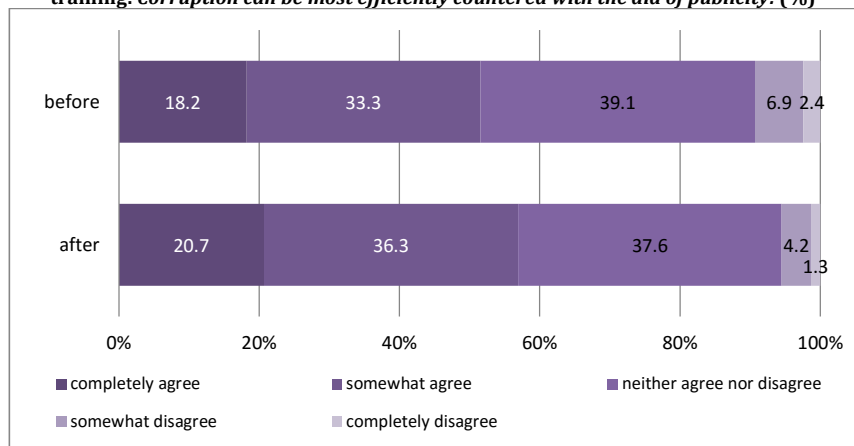
3.3.1 Single-day training

The ratio of single-day participants who completely agree or rather agree with the statement that corruption can be most efficiently countered with the aid of publicity has significantly increased (chi-square = 225.285, $df=4$, $p=0.000 < 0.05$), and so the participants completely agreeing or rather agreeing with the statement have remained to be in majority after the training as well.

²⁹its absolute value

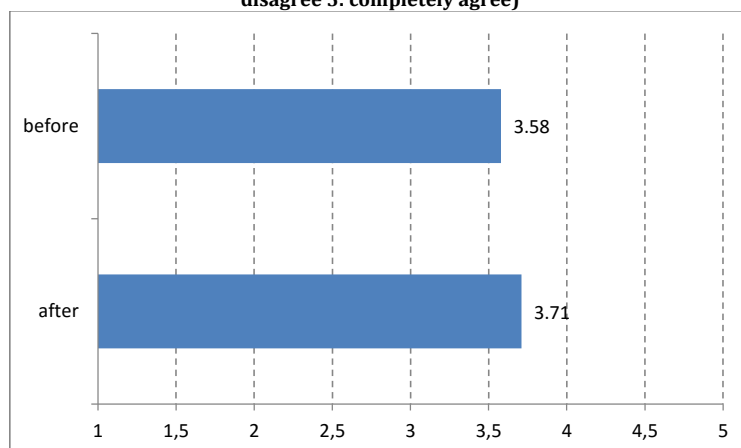
³⁰its absolute value

Graph 55 The distribution of the answers by single-day participants before and after the training: *Corruption can be most efficiently countered with the aid of publicity.* (%)



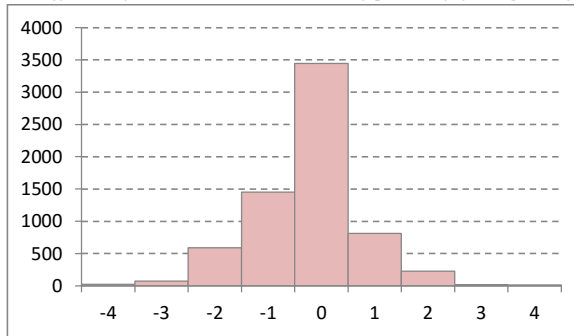
Naturally, this change in opinion returns at the level of average agreement as well: the average level of agreement with the statement was significantly higher among the participants after the training, although the volume of the change in opinion can be regarded as weak ($t = -10.706$, $df=6645$, $p=0.000 < 0.05$, $abs(\text{Cohen's } d)=0.14$, $abs(r)=0.07$).

Graph 56 The averages of single-day training participants before and after the training (*Corruption can be most efficiently countered with the aid of publicity.* 1: completely disagree 5: completely agree)



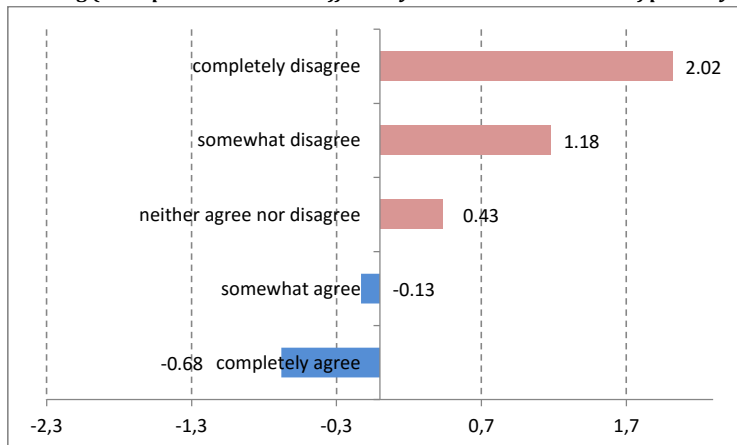
49.9 per cent of single-day training participants have not changed their opinion during the training, while 20.6 per cent of participants have agreed less and 29.5 per cent have agreed more with the statement than at the beginning of the training.

Graph 57 The histogram indicating the distribution of the changes in opinion (*Corruption can be most efficiently countered with the aid of publicity.*), single-day training



When examining the changes in opinion along the categories of initial opinions, it can be noticed that those who had not agreed with the statement that corruption can be most efficiently countered with the aid of publicity at all, have stepped in the direction of agreement to a larger extent on average, in contrast to those who had completely agreed with this statement before the training and have become uncertain ($p_{\text{Games-Howell}}=0.000$): while the former participants could advance their opinion in the direction of agreement with 2 units on average, the latter participants have become uncertain in an extent of one-third of that on average.

Graph 58 The average change in opinion by categories of answers before the single-day training (*Corruption can be most efficiently countered with the aid of publicity.*)

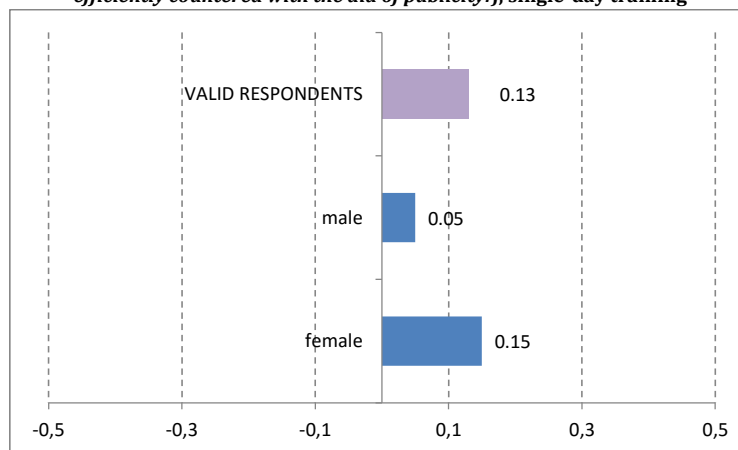


Single-day training participants have managed to become globally more consentient regarding the role of publicity in countering corruption while their opinions have managed to become more concentrated globally with the

dispersion having significantly decreased (before: 0.945, after: 0.883, $p_{\text{Pitman-Morgan-test}}=0.000<0.05$). In parallel, the average decrease of the groups' dispersion by the end of the single-day training is also true for the training groups ($t=6.453$, $df=362$, $p=0.000<0.05$).

Out of the various background variables, again, it was only the gender of the participants that had any effect: the agreement with the statement has increased more on average among women than among men ($F=11.978$, $df_1=1$, $df_2=6229$, $p=0.000$), however, the impact of the participants' gender is again very weak ($\eta=0.04$).

Graph 59 The average change in opinion by participants' gender (*Corruption can be most efficiently countered with the aid of publicity.*), single-day training



Slightly less than half of the trainers could cause significant changes in opinion among the participants of their respective training groups. The most remarkable average change in opinion was noticed in the case of Trainer 9 and 14. The former's performance is also outstanding due to the fact that this trainer received very few participants, among whom however, a quite sharp change has occurred on average, along with an increase of their agreement with the statement that corruption can be most efficiently countered with the aid of publicity.

Table 13 The change in opinion measured at the respective trainers (*Corruption can be most efficiently countered with the aid of publicity.*), single-day training, in descending order of effect size

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d^{31}	Effect size(r) ³²
Trainer 9	3.35	3.70	0.35	37	*	0.40	0.20
Trainer 14	3.52	3.87	0.35	556	***	0.36	0.18

³¹its absolute value

³²its absolute value

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Trainer 1	3.72	4.00	0.28	101	**	0.32	0.16
Trainer 15	3.52	3.79	0.27	189	***	0.32	0.16
Trainer 18	3.55	3.79	0.24	275	***	0.28	0.14
Trainer 3	3.58	3.83	0.25	283	***	0.27	0.13
Trainer 7	3.61	3.77	0.16	433	**	0.18	0.09
Trainer 21	3.59	3.75	0.16	408	***	0.18	0.09
Trainer 13	3.58	3.74	0.16	327	**	0.16	0.08
Trainer 20	3.56	3.69	0.13	470	**	0.14	0.07
Trainer 24	3.63	3.76	0.13	319	*	0.14	0.07
Trainer 2	3.59	3.66	0.07	564	n.s.	-	-
Trainer 4	3.61	3.65	0.04	524	n.s.	-	-
Trainer 5	3.51	3.6	0.09	353	n.s.	-	-
Trainer 6	3.58	3.63	0.05	204	n.s.	-	-
Trainer 8	3.69	3.74	0.05	42	n.s.	-	-
Trainer 10	3.55	3.57	0.02	235	n.s.	-	-
Trainer 11	3.57	3.63	0.06	274	n.s.	-	-
Trainer 12	3.68	3.55	-0.13	31	n.s.	-	-
Trainer 16	3.60	3.77	0.17	98	n.s.	-	-
Trainer 17	3.62	3.62	0	254	n.s.	-	-
Trainer 19	3.53	3.56	0.03	362	n.s.	-	-
Trainer 22	3.61	3.71	0.10	235	n.s.	-	-
Trainer 23	3.75	3.56	-0.19	55	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

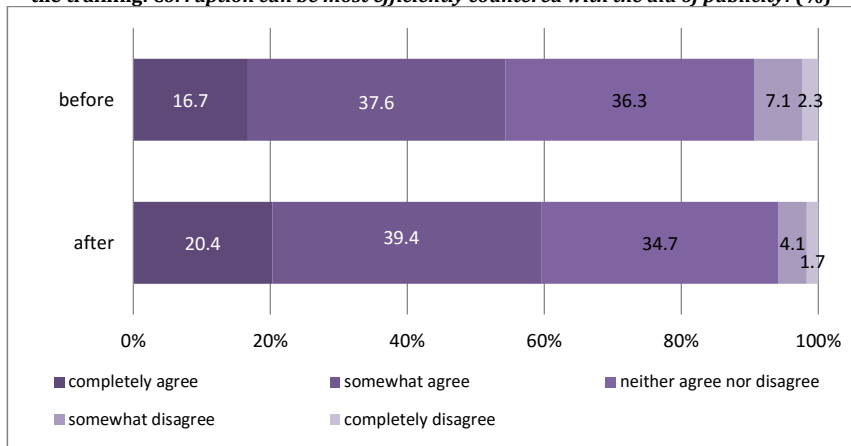
n.s.: no significant change occurred

The occurred change ($F=3.078$, $df_1=23$, $df_2=6605$, $p=0.000<0.05$, $SS_B/SS_T=0.01$) was explained by the respective participants' allocation to the respective trainers significantly yet to a very small extent with about 1 per cent.

3.3.2 Two-day training

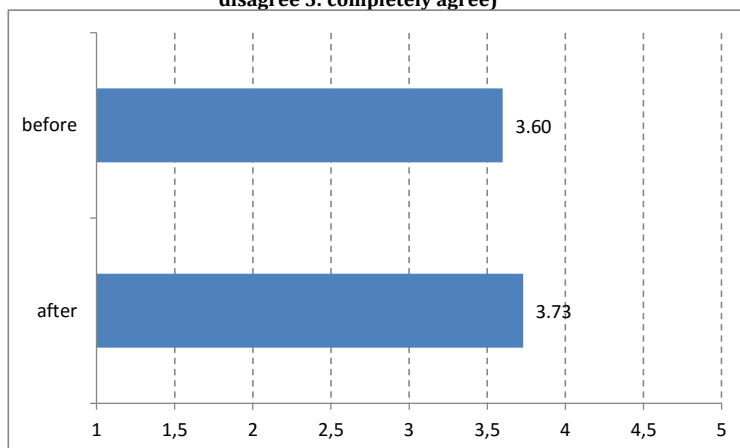
Similarly to the single-day training, it can be said that the ratio of two-day training participants who have completely agreed or rather agreed with the statement that corruption can be most efficiently countered with the aid of publicity has increased significantly ($\chi^2=20.953$, $df=4$, $p=0.000$).

Graph 60 The distribution of answers by two-day training participants before and after the training: *Corruption can be most efficiently countered with the aid of publicity.* (%)



When examining the level of average agreement, it can be said that the previously observed phenomena return here as well: the average agreement with the statement was significantly higher among participants after than before the training ($t=-3.439$, $df=655$, $p=0.001<0.05$), yet with the difference being small, thus the impact of the training – just like in the case of the single-day training – was quite small ($abs(\text{Cohen's } d)=0.14$, $abs(r)=0.07$).

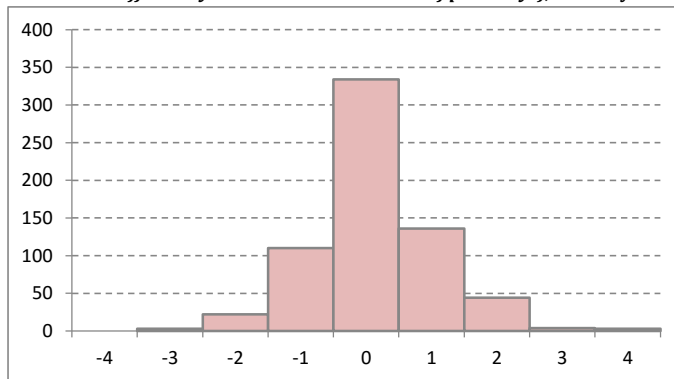
Graph 61 The averages of two-day training participants before and after the training (*Corruption can be most efficiently countered with the aid of publicity.* 1: completely disagree 5: completely agree)



In the case of the two-day training, the level of agreement with the statement has not changed during the training among 50.9 per cent of participants, while 20.6 per cent of participants were in less agreement with the

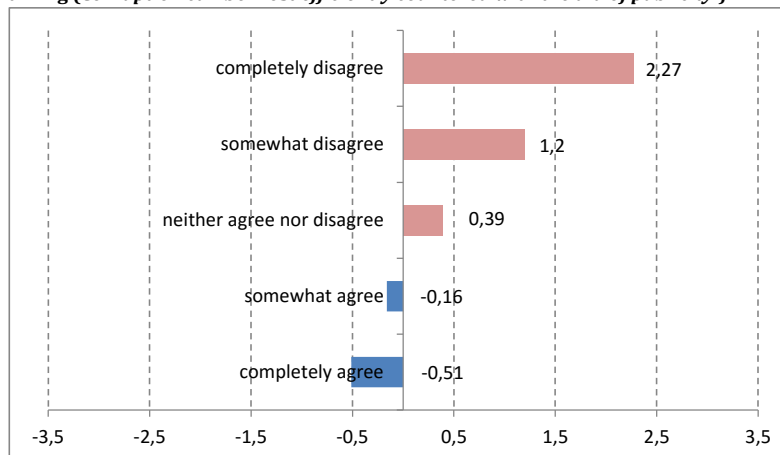
statement at the end of the two-day training than before it, and 28.5 per cent of participants were in stronger agreement with the statement at the end of the second training day.

Graph 62 The histogram indicating the distribution of the changes in opinion (*Corruption can be most efficiently countered with the aid of publicity.*), two-day training



Those participants who had not agreed with the statement at all before the two-day training have moved in the direction of agreement in a more than four-times greater extent on average, compared to those who had originally completely agreed with the statement and then have become less consentient ($p_{\text{Games-Howell}}=0.000 < 0.05$). A similar difference in extent and direction could be noticed regarding this issue in the case of the single-day training as well.

Graph 63 The average change in opinion by categories of answers before the two-day training (*Corruption can be most efficiently countered with the aid of publicity.*)



Comparing the dispersions before and after the training, it can be said that the participants have not become more homogenous regarding the issue (with 0.923 before, 0.888 after, and $p_{\text{Pitman-Morgan-test}}=0.30>0.05$), and the same is true for the average of the dispersions measured within the training groups ($t=0.508$, $df=43$, $p=0.614>0.05$).

Out of the various background variables, neither the type of organizational body, the participants' time spent there, nor their gender have significantly influenced the occurring change in opinion regarding the issue.

In the case of the various trainers, it could be observed that neither before nor after the two-day training could any significant difference be measured between the trainers, in that what sort of average agreement was there between the participants within their respective groups. Moreover, significant change in opinion could only be indicated in the case of only two trainers: Trainer 15 (who managed to cause a change in opinion with similar extent regarding the same issue among the single-day training participants) has influenced the participants' agreement slightly stronger, whereas Trainer 23 has done this slightly weaker.

Table 14 The change in opinion of the respective trainers (*Corruption can be most efficiently countered with the aid of publicity.*), two-day training, in descending order of effect size

törölt: 15

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d^{33}	Effect size(r) ³⁴
Trainer 15	3.50	3.79	+0.29	120	**	0.32	0.16
Trainer 23	3.63	3.82	+0.19	114	*	0.20	0.10
Trainer 17	3.74	3.89	+0.15	66	n.s.	-	-
Trainer 25	3.62	3.68	+0.06	60	n.s.	-	-
Trainer 26	3.52	3.58	+0.06	109	n.s.	-	-
Trainer 16	3.65	3.67	+0.02	68	n.s.	-	-
Trainer 8	3.64	3.62	-0.02	76	n.s.	-	-
Trainer 14	3.52	3.72	+0.20	43	n.s.	-	-

* $p<0.05$, ** $p<0.01$, *** $p<0.001$

n.s.: no significant change occurred

The occurring change ($F=0.995$, $df_1=7$, $df_2=648$, $p=0.433>0.05$) was not significantly explained by the respective participants' allocation to the respective trainers.

³³its absolute value

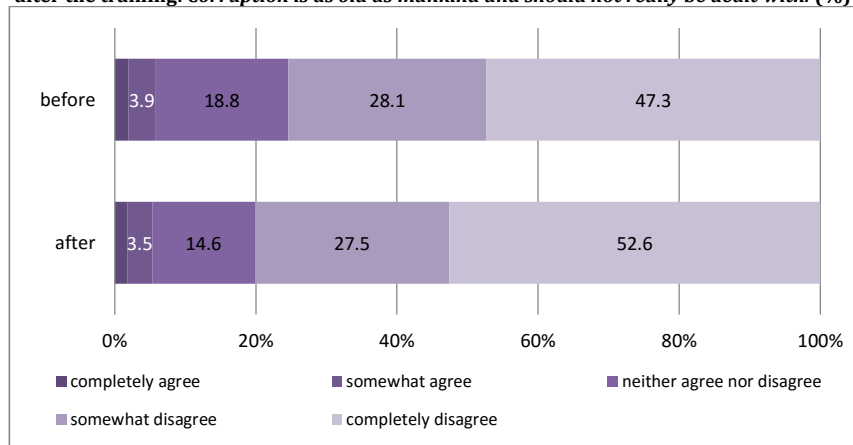
³⁴its absolute value

3.4 Statement: *Corruption is as old as mankind and should not really be dealt with.*

3.4.1 Single-day training

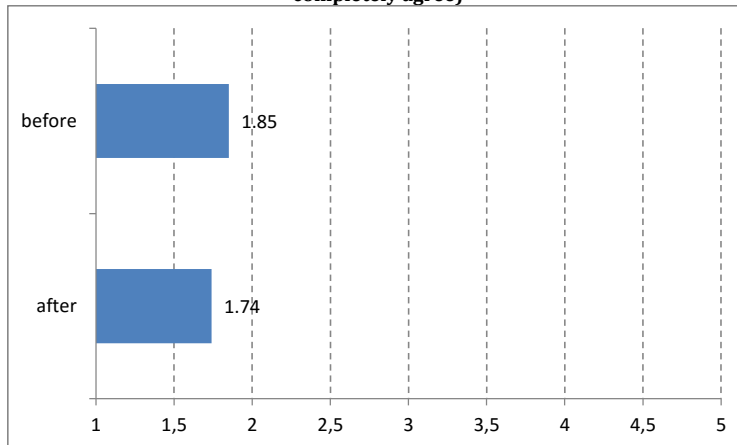
Comparing the data from before and after the training, there is a significant difference in the dispersion of the agreement with the statement: the ratio of those participants who did rather not agree with or did not agree with the quite pessimistic statement at all was somewhat higher after the training (chi-square = 119.963, df=4, $p=0.000 < 0.05$). Despite this, there has been no change in that both before and after the training the absolute majority of participants displayed an opinion opposed to the resigned attitude towards the presence of corruption.

Graph 64 The distribution of the answers by single-day training participants before and after the training: *Corruption is as old as mankind and should not really be dealt with.* (%)



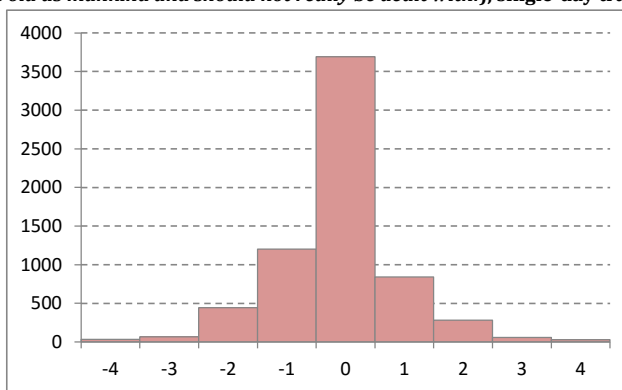
The single-day training participants' typical stance of disagreement with the statement both before and after the training is of course visible in the average of the opinions as well, and it can be also indicated that there has been a significant decrease in the average opinions after the training, thus the training has globally further strengthened the notion that corruption can indeed be dealt with among participants ($t=8.577$, $df=6644$, $p=0.000 < 0.05$). It should also be highlighted that this indicated change in opinion is quite little ($abs(\text{Cohen's } d) = 0.12$, $abs(r)=0.06$), although this should not come as a surprise, since the participants had already had a committed stance before the training which is was also more difficult to further enhance.

Graph 65 The averages of single-day participants before and after the training (*Corruption is as old as mankind and should not really be dealt with.* 1: completely disagree 5: completely agree)



No change in opinion can be indicated among more than half (55.6 per cent) of training participants, who's thoughts in this issue were the same before and after the training. However, 26.2 per cent of participants agreed less and 18.2 per cent of participants agreed more with the statement after than before the training.

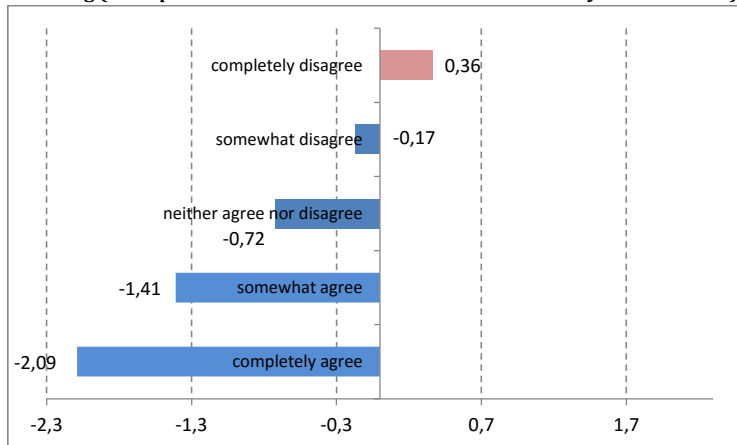
Graph 66 The histogram indicating the distribution of the changes in opinion (*Corruption is as old as mankind and should not really be dealt with.*), single-day training



Those who prior to the training had not agreed with the statement at all, have become uncertain to a smaller extent on average compared to those had been positioned at the other end of the scale and had completely agreed with the statement before the training ($p_{\text{Games-Howell}}=0.000<0.05$). Those who prior to the training had completely agreed with the statement have moved away from this pessimistic stance with 2 units on average, whereas the repositioning of those

who had had the most committed stance on countering corruption before the training, was nearly on-sixth of that.

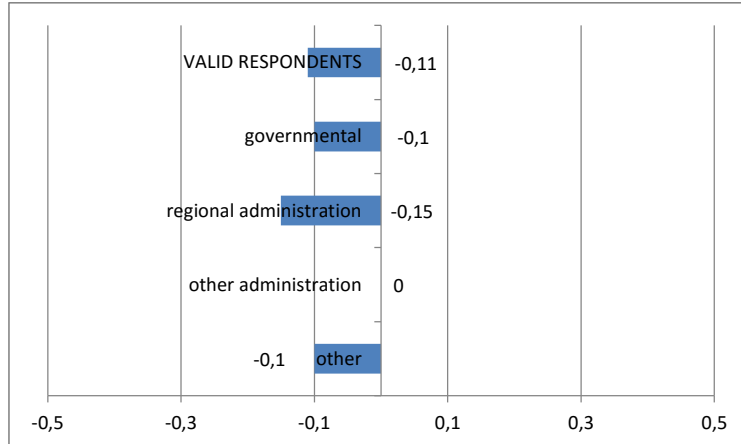
Graph 67 The average change in opinion by categories of answers before the single-day training (*Corruption is as old as mankind and should not really be dealt with.*)



This small extent of increase in commitment throughout the training has been realized with the participants' opinions being somewhat pulled together globally, as the dispersion of the opinions before and after the training have significantly decreased (with 0.983 before, 0.952 after and $p_{\text{Pitman-Morgan-test}}=0.004<0.05$). Meanwhile the average of the single-day training groups' measured dispersions also displays homogenization ($t=2.438$, $df=362$, $p=0.015<0.05$).

Out of the various background variables, significant diversion regarding the direction and the volume of the change in opinion was only displayed along the lines of the participants' organizational body, which was primarily due to practically no change in opinion being among the employees of other administrative organizational bodies on average, unlike at other types of organizational bodies ($F=3.435$, $df_1=3$, $df_2=6280$ $p=0.016<0.05$), however, the effect of this variable on the changes in opinion is also very weak ($\eta^2=0.04$).

**Graph 68 The average change in opinion by participants' type of organizational units
(Corruption is as old as mankind and should not really be dealt with.), single-day training**



Out of the various trainers, Trainer 8, 18 and 16 could achieve the most strongest change in opinion thereby turning the participants' average attitude in the direction of more commitment. The performance of Trainer 8 also stands out due to the trainer having very few participants, although the average of their initial opinions was relatively one of the most disenchanted ones, thus giving a point to move their opinions from.

Trainer 7 should also be mentioned as the only one of the trainers providing a significant impact to "make" the opinion of the respective group participants regarding the issue not more committed but rather more pessimistic on average.

Table 15. The change in opinion measured at the respective trainers (*Corruption is as old as mankind and should not really be dealt with.*), single-day training, in descending order of effect size

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ³⁵	Effect size(r) ³⁶
Trainer 8	2.12	1.76	-0.36	42	*	0.37	0.18
Trainer 18	1.90	1.64	-0.26	275	***	0.30	0.15
Trainer 16	1.85	1.57	-0.28	100	*	0.29	0.14
Trainer 13	1.96	1.72	-0.24	328	***	0.24	0.12
Trainer 6	1.76	1.57	-0.19	205	*	0.21	0.10
Trainer 19	1.96	1.74	-0.22	360	***	0.21	0.10
Trainer 21	1.75	1.57	-0.18	407	***	0.21	0.10
Trainer 15	1.91	1.73	-0.18	188	*	0.19	0.09
Trainer 24	1.83	1.66	-0.17	318	**	0.18	0.09
Trainer 5	1.85	1.70	-0.15	350	**	0.16	0.08
Trainer 14	2.00	1.83	-0.17	553	**	0.16	0.08
Trainer 7	1.76	1.88	0.12	434	**	0.13	0.06
Trainer 4	1.88	1.77	-0.11	526	**	0.12	0.06
Trainer 1	1.76	1.63	-0.13	102	n.s.	-	-
Trainer 2	1.78	1.74	-0.04	562	n.s.	-	-
Trainer 3	1.91	1.89	-0.02	283	n.s.	-	-
Trainer 9	1.97	1.95	-0.02	37	n.s.	-	-
Trainer 10	1.83	1.74	-0.09	235	n.s.	-	-
Trainer 11	1.88	1.99	0.11	275	n.s.	-	-
Trainer 12	1.61	1.84	0.23	31	n.s.	-	-
Trainer 17	1.76	1.67	-0.09	255	n.s.	-	-
Trainer 20	1.77	1.69	-0.08	472	n.s.	-	-
Trainer 22	1.78	1.85	0.07	235	n.s.	-	-
Trainer 23	1.98	1.71	-0.27	55	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

n.s.: no significant change occurred

The occurring change ($F=3.535$, $df_1=23$, $df_2=6604$, $p=0.000<0.05$, $SS_B/SS_T=0.01$) was explained by the respective participants' allocation to the respective trainers significantly yet very weakly with about 1 per cent.

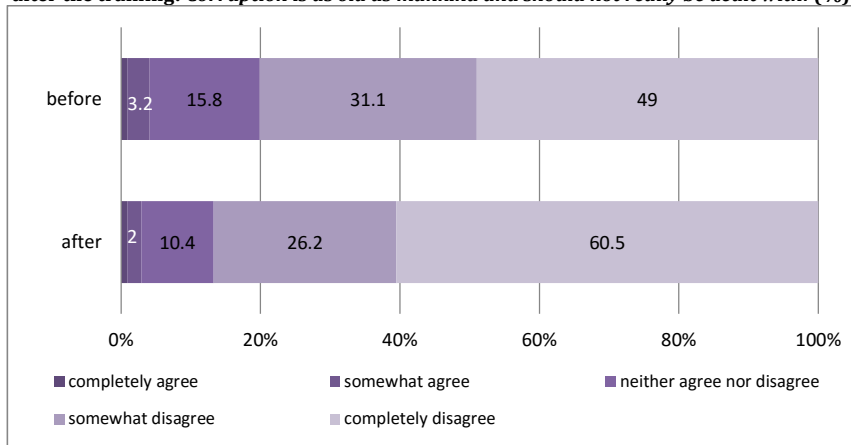
3.4.2 Two-day training

Similarly to what had been experienced in the single-day training, the dispersion of the two-day training participants' answers to the question of how much do they agree with corruption being as old as mankind and should not really be dealt with has significantly changed by the end of the training. The two-day training has also made the participants somewhat more immune against agreeing with the statement, as the ratio of those who rather or completely disagree with the statement has increased ($\chi^2=43.811$, $df=4$, $p=0.000$).

³⁵its absolute value

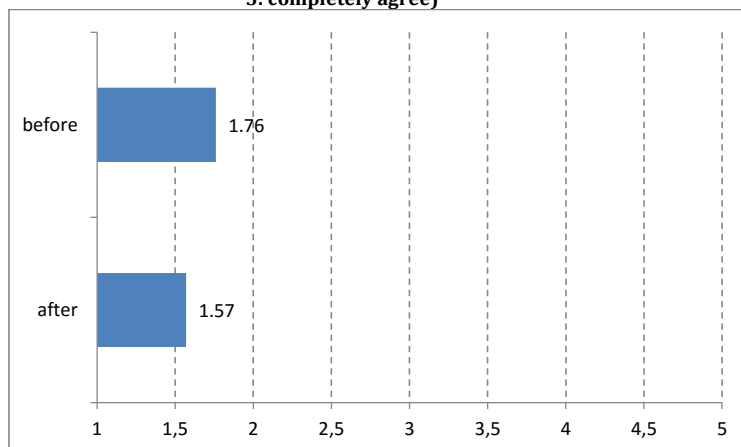
³⁶its absolute value

Graph 69 The distribution of the answers by two-day training participants before and after the training: *Corruption is as old as mankind and should not really be dealt with.* (%)



The average of the opinions also reveal that the rejection of the statement had been massive among participants already before the two-day training, and this opinion having moved to an even more rejecting direction ($t=5.408$, $df=659$, $p=0.000 < 0.05$), with the change in opinion being small yet seeming somewhat stronger than among single-day participants ($abs(\text{Cohen's } d)=0.22$, $abs(r)=0.11$).

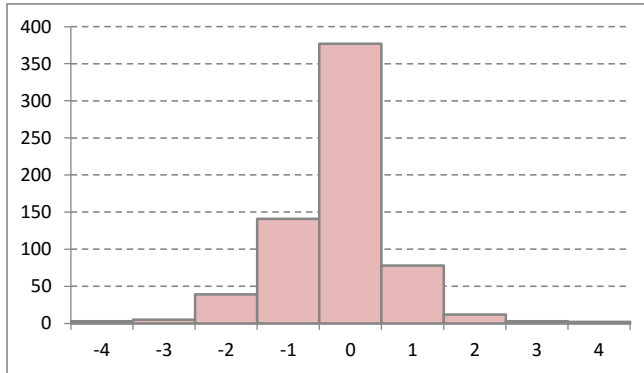
Graph 70 The averages of two-day training participants before and after the training(*Corruption is as old as mankind and should not really be dealt with.* 1: completely disagree 5: completely agree)



57.1 per cent of participants answering the question has not changed their respective initial opinions at all and have given the same answer before and after

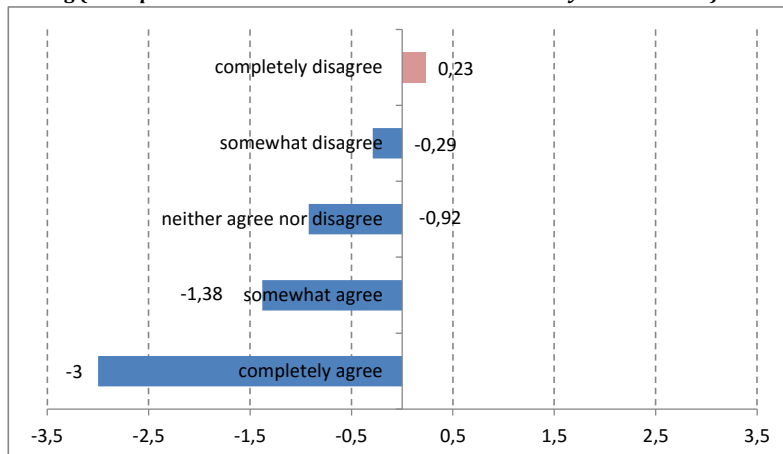
the training. The agreement with the statement has decreased among 28.5 per cent of participants, whereas 14.4 per cent of participants being in more agreement with it than before the training.

Graph 71 The histogram indicating the distribution of the changes in opinion (*Corruption is as old as mankind and should not really be dealt with.*), two-day training



A significant and in absolute terms substantial difference can be indicated in the repositioning of the opinion of participants who, from a certain perspective, had originally taken an extreme stance: those who had completely agreed with the quite gloomy and pessimistic statement before the two-day training, have agreed less with the statement by 3 units on average after the training, whereas those who had originally not agreed with the statement at all, have repositioned themselves to a stance of less agreement in a much smaller extent on average ($p_{\text{Games-Howell}}=0.036<0.05$).

Graph 72 The average change in opinion by categories of answers before the two-day training (*Corruption is as old as mankind and should not really be dealt with.*)



[AG3] megjegyzést írt: Át kell majd fordítani.

In parallel with the decrease in the agreement with the statement, the dispersion of the participants' answers has also become significantly smaller (with 0.894 before and 0.827 after, $p_{\text{Pitman-Morgan-test}}=0.025<0.05$). The average of the dispersions within the training groups has significantly decreased as well ($t=2.400$, $df=43$, $p=0.021<0.05$).

Yet no significant difference in the average of the change in opinion has been displayed in the case of any background variable, thus neither the type of organizational body, the time spent there, nor the participants' gender have had any substantial impact on the change in opinion.

Neither before nor after the training was there a statistical diversion regarding the average agreement with the statement among the participants who had been allocated to the various trainers. On the other hand, it is true for most trainers that the agreement of the their respective groups' participants has significantly decreased at the end of the two-day training, thus there have been changes in the case of almost everyone, with the extent of these changes being more or less similar as well. This change can be observed in the strongest extent among those who belonged to the group of Trainer 23, although the performance of Trainer 14 and 25 is also remarkable with the former having successfully achieved change in opinion among single-day participants as well.

Table 16. The change in opinion measured at the respective trainers (*Corruption is as old as mankind and should not really be dealt with.*), two-day training

törölt: 17

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d^{37}	Effect size(r) ³⁸
Trainer 23	1.80	1.48	-0.32	114	***	0.39	0.19
Trainer 14	1.84	1.57	-0.27	44	*	0.34	0.17
Trainer 25	1.73	1.46	-0.27	59	*	0.32	0.16
Trainer 17	1.74	1.50	-0.24	66	*	0.27	0.13
Trainer 15	1.84	1.60	-0.24	121	**	0.25	0.12
Trainer 8	1.64	1.72	0.08	75	n.s.	-	-
Trainer 16	1.73	1.59	-0.14	71	n.s.	-	-
Trainer 26	1.72	1.59	-0.13	110	n.s.	-	-

* $p<0.05$, ** $p<0.01$, *** $p<0.001$

n.s.: no significant change occurred

The occurred change ($F=1.327$, $df_1=7$, $df_2=652$, $p=0.133>0.05$) was not explained significantly by the respective participants' allocation to the respective trainers.

³⁷its absolute value

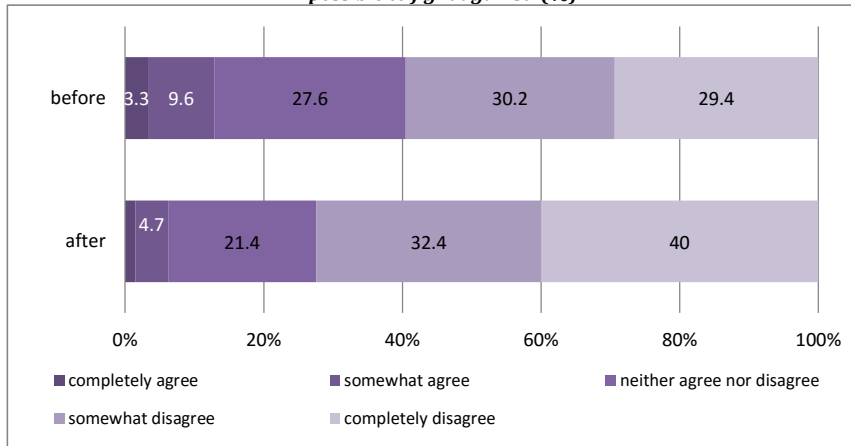
³⁸its absolute value

3.5 Statement: Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.

3.5.1 Single-day training

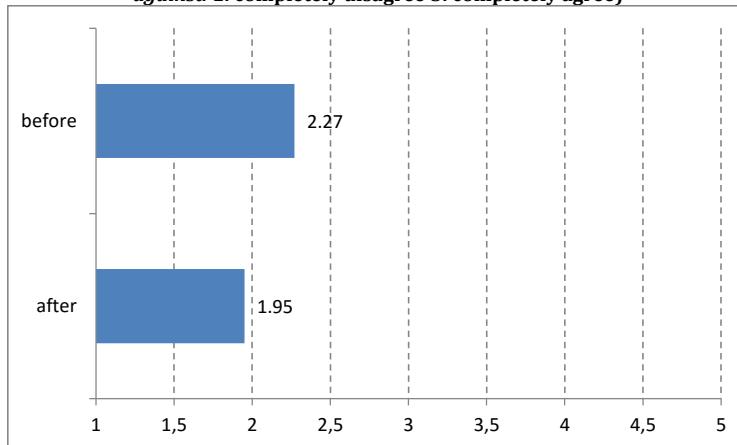
Single-day training participants have also been significantly made more committed regarding another statement of a quite sceptical and pessimistic content. While the statement that *corruption has gained such a size in Hungary nowadays, it has become impossible to fight against* was rather or completely rejected by 6 and 7 out of 10 participants before and after the training respectively (chi-square = 793.485, df=4, p=0.000).

Graph 73 The distribution of the answers by single-day training participants before and after the training: *Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.* (%)



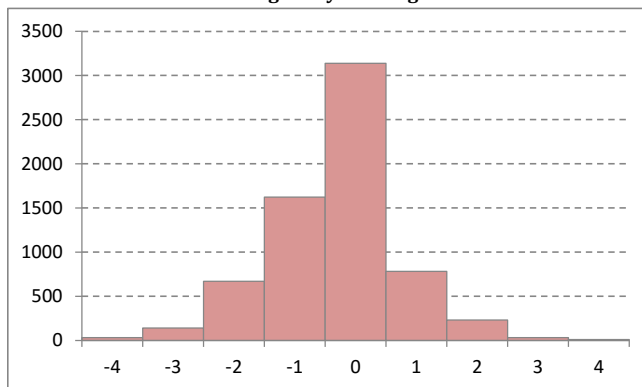
This previously outlined repositioning can also be indicated at the level of averages: participants have agreed less with the statement on average after than before the training ($t=24.525$, $df=6651$, $p=0.000<0.05$). In terms of power the change in opinion was still relatively weak yet stronger than what was experienced regarding the other issues in the case of the single-day training ($abs(\text{Cohen's } d)=0.31$, $abs(r)=0.15$).

Graph 74 The averages of the single-day training participants before and after the training (*Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.* 1: completely disagree 5: completely agree)



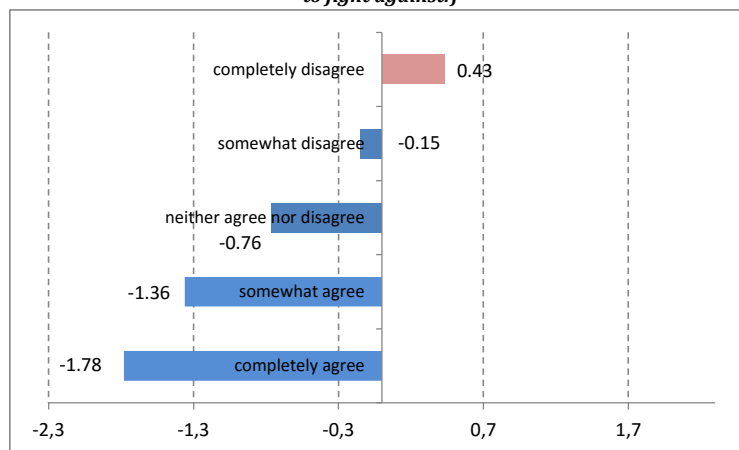
47.2 per cent of participants have not changed their original answer after the training regarding the issue, indicating the same extent of agreement with the statement, while 37 per cent of participants have agreed less and 15.8 per cent of participants have agreed more with the statement after the training.

Graph 75 The histogram indicating the distribution of the changes in opinion (*Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.*), single-day training



As seen in the previous statement with a similar content, those who had not agreed at all with the statement which is resigned regarding corruption, have become uncertain in a smaller extent compared to those who had started from the most pessimistic stance and have become capable of believing in a more committed stance on countering corruption by nearly 2 units on average ($p_{\text{Games-Howell}}=0.000 < 0.05$).

Graph 76 The average change in opinion by categories of answers before the single-day training (*Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.*)



In addition to the significant change in opinions, the opinions have been repositioned globally more closely to each other after the training: the dispersion has become significantly smaller after the training compared to what was before it (with before being 1.082 and after being 0.965, $p_{\text{Pitman-Morgan-test}} = 0.000 < 0.05$). The average of the dispersions measured along the various training groups has decreased significantly as well ($t=11.405$, $df=362$, $p=0.000$).

Out of the various background variables however, none has had a substantial impact on how the participants' opinion changed regarding the issue, thus neither the participants' type of organizational body, the time spent there nor their gender has had a substantial impact.

In the case of this statement, the trainers have distributed their respective roles in reaching change in opinion much more fairly with having in essence only a few trainers who could not achieve significant changes in opinion within their respective groups (two out of them – Trainer 8 and 12 – were not capable of this almost surely because they had too few participants, and the global change in opinion could not be significant in their case). Regarding the other participants, the strongest, sharpest change in opinion was displayed among those who were allocated to Trainer 13 and 23: members of the groups led by these trainers have moved with about half of a unit on average towards more a commitment stance on countering corruption, which was a quite remarkable change.

Table 17, The change in opinion measured at the respective trainers (*Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.*), single-day training, in descending order of effect size

törölt: 18

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ³⁹	Effect size(r) ⁴⁰
Trainer 13	2.45	1.92	-0.53	328	***	0.50	0.24
Trainer 23	2.24	1.78	-0.46	55	*	0.47	0.23
Trainer 4	2.38	1.96	-0.42	526	***	0.43	0.21
Trainer 18	2.32	1.92	-0.4	275	***	0.42	0.21
Trainer 19	2.31	1.89	-0.42	360	***	0.41	0.20
Trainer 1	2.18	1.79	-0.39	99	***	0.38	0.19
Trainer 6	2.18	1.83	-0.35	205	***	0.36	0.17
Trainer 15	2.37	2.01	-0.36	189	***	0.36	0.18
Trainer 21	2.15	1.79	-0.36	408	***	0.35	0.17
Trainer 24	2.35	1.99	-0.36	319	***	0.34	0.17
Trainer 20	2.29	1.96	-0.33	472	***	0.31	0.15
Trainer 2	2.15	1.85	-0.3	563	***	0.30	0.15
Trainer 16	2.36	2.00	-0.36	102	**	0.30	0.15
Trainer 17	2.16	1.87	-0.29	255	***	0.29	0.15
Trainer 14	2.46	2.16	-0.3	553	***	0.28	0.14
Trainer 5	2.16	1.89	-0.27	353	***	0.27	0.13
Trainer 3	2.30	2.05	-0.25	282	***	0.24	0.12
Trainer 22	2.23	1.99	-0.24	235	**	0.23	0.12
Trainer 7	2.21	2.02	-0.19	435	***	0.19	0.09
Trainer 10	2.14	1.96	-0.08	235	*	0.18	0.09
Trainer 8	2.24	2.02	-0.22	42	n.s.	-	-
Trainer 9	2.05	2.05	0	37	n.s.	-	-
Trainer 11	2.22	2.11	-0.11	276	n.s.	-	-
Trainer 12	2.03	2.16	-0.13	31	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

n.s.: no significant change occurred

The occurred change ($F=2.639$, $df_1=23$, $df_2=6611$, $p=0.000<0.05$, $SS_B/SS_T=0.01$) was explained by the respective participants' allocation to the respective trainers significantly yet very weakly with about 1 per cent.

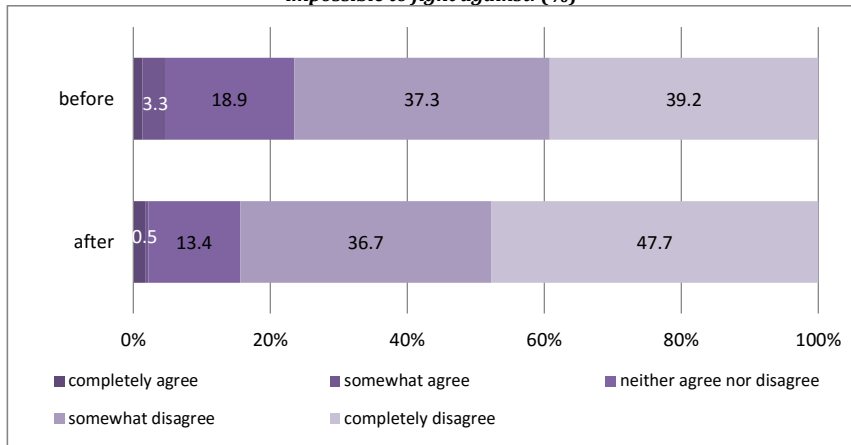
3.5.2 Two-day training

Regarding the statement, the two-day training again displayed what the single-day training already had before, namely that the extent of disagreement with the statement, which is quite pessimistic and resigned regarding corruption, has increased significantly: whereas the statement had been rejected by two-thirds of two-day training participants, it was rejected by 84 per cent after the training (chi-square = 40.139, $df=4$, $p=0.000$).

³⁹its absolute value

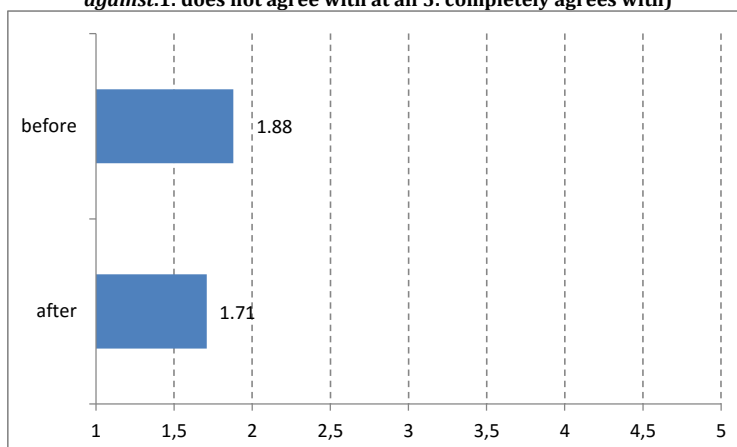
⁴⁰its absolute value

Graph 77 The distribution of the answers by two-day training participants before and after the training: *Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.* (%)



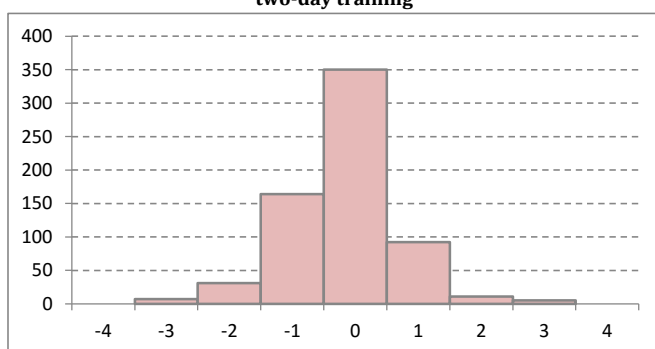
Since the participants had been quite rejecting regarding the statement already before the two-day training, it is considered an achievement in its own that the training has managed to change this as well. In fact, this was done in a direction along which the participants' hitherto attitudes have been enhanced, as the average agreement with the statement has become significantly smaller ($t=5.217$, $df=659$, $p=0.000$), although the power of change is small, even smaller than the one experienced in the case of the single-day training ($abs(\text{Cohen's } d)=0.20$, $abs(r)=0.10$).

Graph 78 The averages of two-day training participants before and after the training (*Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.* 1: does not agree with at all 5: completely agrees with)



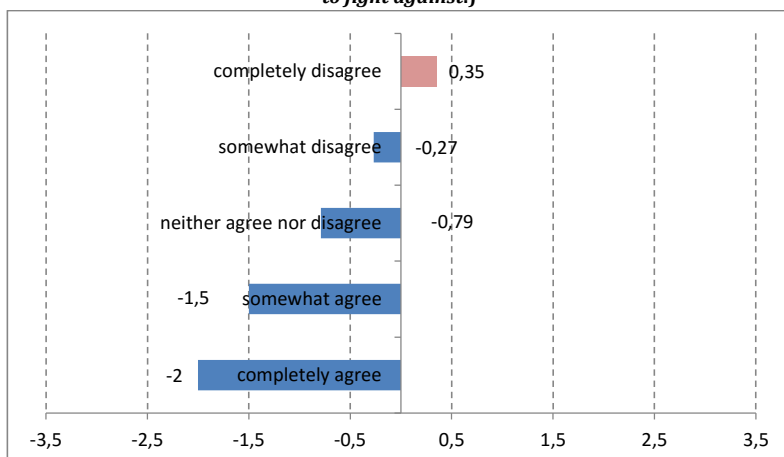
53 per cent of two-day training participants have not changed the extent of their agreement with the statement, which has decreased among 30.6 per cent and has increased among 16.4 per cent of participants.

Graph 79 The histogram indicating the distribution of the changes in opinion (*Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.*), two-day training



Although the difference between the absolute values may suggest that in the case of the categories showing the two more extreme stances before the training, those who had originally completely agreed with the statement have produced greater change in opinion than those who originally had not agreed with the statement at all, this has not been confirmed by the statistical hypothesis testing, as there is no significant difference in absolute values ($p_{\text{Games-Howell}}=0.229 > 0.05$).

Graph 80 The average change in opinion by categories of answers before the two-day training (*Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.*)



The change in opinion within the global attitudes has occurred in parallel to the decrease in the dispersion of the agreement-related variable, thus the opinions have become somewhat more homogenous ($p_{\text{Pitman-Morgan-test}}=0.008<0.05$). The average dispersion of the training groups has also decreased significantly ($t=2.253$, $df=43$, $p=0.029<0.05$).

Nevertheless, the examined background variables did not have substantial impact on the extent and direction of the subgroups' change in opinion in this case either.

Half of the trainers have managed to achieve significant change in opinion among their participants regarding this issue while the other half have not. Out of those who have succeeded in this, Trainer 16 has displayed the strongest change measured, although the others are not far behind either. This particular trainer by the way managed to achieve changes with similar extent during the single-day training as during the two-day training.

Table 18. The change in opinion measured at the respective trainers (*Corruption has gained such a size in Hungary nowadays, it has become impossible to fight against.*), two-day training, in descending order of effect size

törölt: 19

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ⁴¹	Effect size(r) ⁴²
Trainer 16	1.97	1.62	-0.35	71	**	0.40	0.20
Trainer 14	2.18	1.84	-0.32	43	*	0.34	0.17
Trainer 25	1.97	1.73	-0.24	60	*	0.28	0.14
Trainer 23	1.81	1.61	-0.2	114	**	0.27	0.13
Trainer 8	1.89	1.81	-0.07	75	n.s.	-	-
Trainer 15	1.83	1.7	-0.13	121	n.s.	-	-
Trainer 17	1.85	1.71	-0.14	66	n.s.	-	-
Trainer 26	1.83	1.71	-0.12	110	n.s.	-	-

* $p<0.05$, ** $p<0.01$, *** $p<0.001$

n.s.: no significant change occurred

The occurred change ($F=0.898$, $df_1=7$, $df_2=652$, $p=0.507>0.05$) was not explained significantly by the respective participants' allocation to the respective trainers.

3.6 Statement: The most efficient remedy against corruption is quick and effective administration.

3.6.1 Single-day training

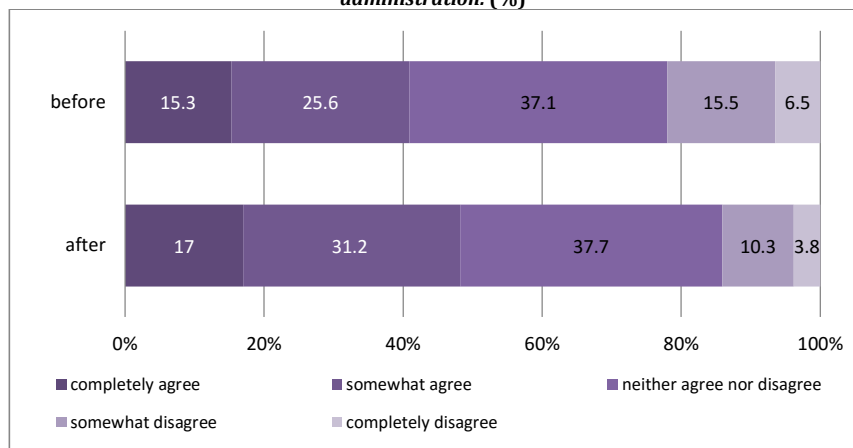
During the section after the single-day training, the dispersion of the statement that *the most efficient remedy against corruption is quick and effective*

⁴¹its absolute value

⁴²its absolute value

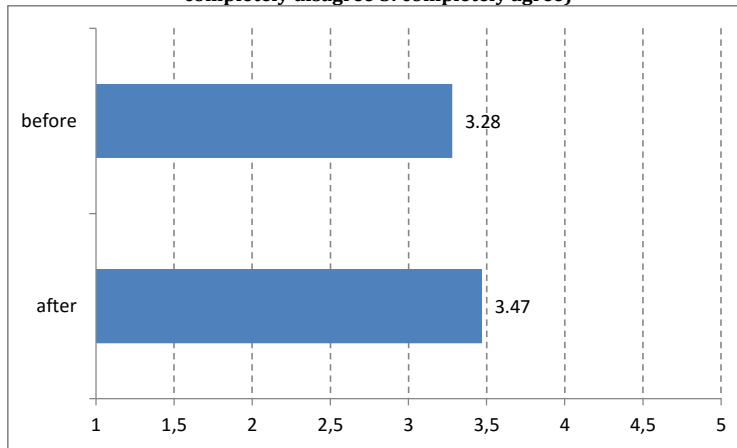
administration among participants has changed significantly compared to the dispersion before the training (chi-square = 375.463, df=4, p=0.000), as the ratio of those who completely agreed or rather agreed with this statement after the training has significantly increased.

Graph 81 The distribution of the answers by single-day training participants before and after the training: *The most efficient remedy against corruption is quick and effective administration.* (%)



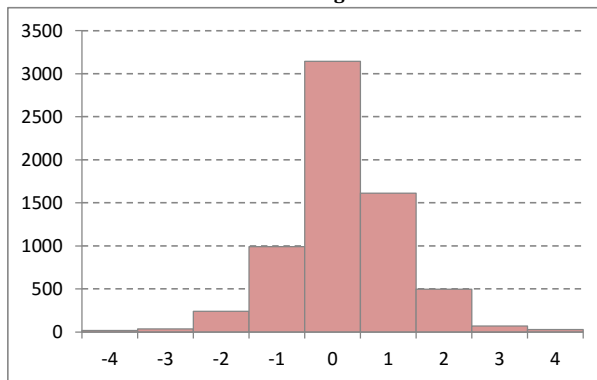
All of this is clearly visible through the examination of the averages: the average of the agreement with the statement was significantly higher after than before the training ($t = -15.411$, $df = 6637$, $p = 0.000 < 0.05$), although truth be told, in terms of power this change can be deemed weak ($abs(\text{Cohen's } d) = 0.18$, $abs(r) = 0.09$). Overall, it can be said that both before and after the training participants agreed with the statement that *the most efficient remedy against corruption is quick and effective administration* to a moderate extent on average.

Graph 82 The averages of the single-day training participants before and after the training
(The most efficient remedy against corruption is quick and effective administration. 1: completely disagree 5: completely agree)



Nearly half (47.3 per cent) of single-day training participants have not changed anything in the level of their initial agreement with the statement, selecting the same rate after as before the training, whereas the agreement with the statement has weakened among 19.4 per cent and has strengthened among 33.3 per cent of participants.

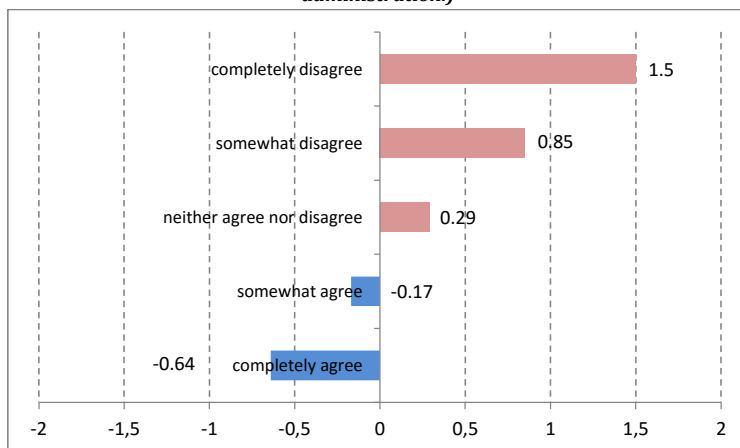
Graph 83 The histogram indicating the distribution of the changes in opinion (*The most efficient remedy against corruption is quick and effective administration.*), single-day training



Those who had completely agreed with the statement at the beginning of the training have become uncertain to a smaller extent on average in this matter, compared to those who initially had not agreed with the statement at all but have been somewhat convinced by the training. The latter participants have covered a distance more than twice the length on average throughout the single-day training

than those who have lost from their opinion of commitment ($p_{\text{Games-Howell}}=0.000<0.05$).

Graph 84 The average change in opinion by categories of answers before and after the single-day training (*The most efficient remedy against corruption is quick and effective administration.*)



It is true in the case of this issue as well that parallel to the occurred changes in opinion during the single-day training, the participants' opinions have also moved towards each-other globally, since the dispersion of the opinions have become significantly smaller after than before the training (with 1.098 being before and 1.01 being after, $p_{\text{Pitman-Morgan-test}}=0.000<0.05$). However, it is also true that the dispersion of the training groups on average has decreased as well ($t=8.513$, $df=362$, $p=0.000<0.05$).

Out of the various background variables, it was only the gender of the participants that has had significant impact on the changes in opinion: men have increased their agreement in a somewhat greater extent (0.24) than women (0.18), although this difference is very-very small ($F=4.213$, $df_1=1$, $df_2=6223$, $p=0.040<0.05$, $\eta = 0.02$)

The majority of trainers have managed to achieve some kind of significant change in their respective participants' level of agreement. There are no really outstanding trainers under whom a repositioning of higher extent has occurred, however, Trainer 7 and 15 should definitely be mentioned, since their respective participants have agreed more with the statement with a rate of 0.3 on average.

Table 19 The change in opinion measured at the respective trainers (*The most efficient remedy against corruption is quick and effective administration.*), single-day training, in descending order of effect size

törölt: 20

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ⁴³	Effect size(r) ⁴⁴
Trainer 7	3.26	3.57	0.31	434	***	0.29	0.15
Trainer 15	3.26	3.56	0.30	188	***	0.29	0.14
Trainer 19	3.25	3.52	0.27	361	n.s.	0.26	0.13
Trainer 5	3.29	3.55	0.26	352	***	0.25	0.12
Trainer 10	3.20	3.44	0.24	234	**	0.24	0.12
Trainer 21	3.21	3.46	0.25	407	***	0.24	0.12
Trainer 3	3.46	3.69	0.23	283	***	0.23	0.11
Trainer 4	3.30	3.53	0.23	524	***	0.23	0.11
Trainer 2	3.20	3.42	0.22	558	***	0.20	0.10
Trainer 13	3.23	3.44	0.21	327	**	0.19	0.09
Trainer 18	3.14	3.33	0.19	275	**	0.18	0.09
Trainer 6	3.36	3.53	0.17	205	**	0.16	0.08
Trainer 20	3.24	3.41	0.17	472	**	0.16	0.08
Trainer 11	3.29	3.45	0.16	275	**	0.15	0.07
Trainer 14	3.24	3.34	0.10	553	*	0.09	0.05
Trainer 1	3.50	3.61	0.11	101	n.s.	-	-
Trainer 8	3.26	3.55	0.29	42	n.s.	-	-
Trainer 9	3.41	3.54	0.13	37	n.s.	-	-
Trainer 12	3.33	3.30	-0.03	30	n.s.	-	-
Trainer 16	3.42	3.56	0.14	100	n.s.	-	-
Trainer 17	3.30	3.37	0.07	254	n.s.	-	-
Trainer 22	3.43	3.55	0.12	235	n.s.	-	-
Trainer 23	3.29	3.49	0.20	55	n.s.	-	-
Trainer 24	3.41	3.43	0.02	319	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

n.s.: no significant change occurred

The indicated change ($F=1.670$, $df_1=23$, $df_2=6597$, $p=0.023<0.05$, $SS_B/SS_T=0.01$) was explained by the respective participants' allocation to the respective trainers significantly yet very weakly with about 1 per cent.

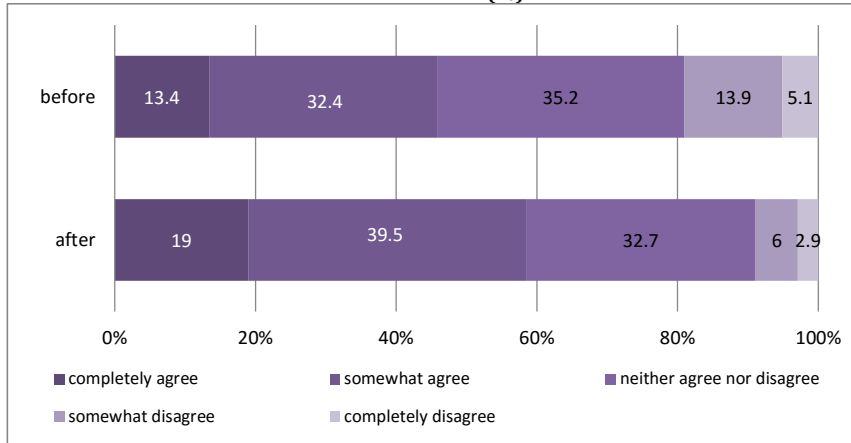
3.6.2 Two-day training

The level of the agreement with the statement that the most efficient remedy against corruption is quick and effective administration has increased after the two-day training, with the a greater ratio of participants thinking that they agree with the statement than they did before the training (chi-square =100.458, $df=4$, $p=0.000$), and with the absolute majority of the participants completely agreeing or partially agreeing with this statement after the training.

⁴³its absolute value

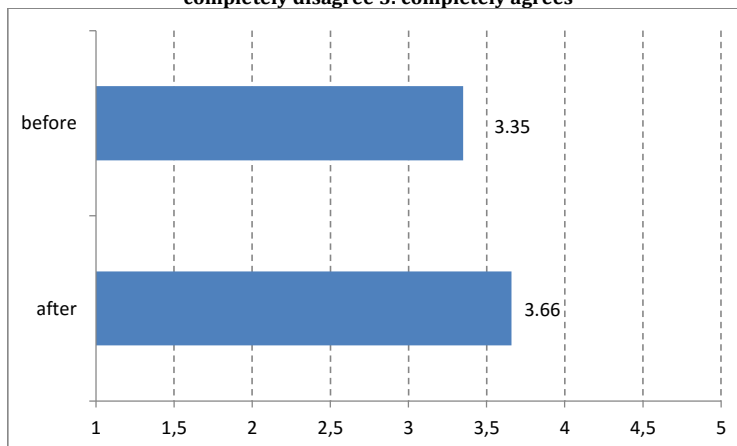
⁴⁴its absolute value

Graph 85 The distribution of the answers by two-day training participants before and after the training: *The most efficient remedy against corruption is quick and effective administration.* (%)



All of this of course is reflected through the change in the level of average agreement as well: the average of agreement with the statement was significantly higher after than before the training ($t=-7.722$, $df=658$, $p=0.000$), the impact of the two-day training seeming somewhat stronger than that of the single-ay training, yet still considered to be rather weak ($abs(\text{Cohen's } d)=0.31$, $abs(r)=0.15$).

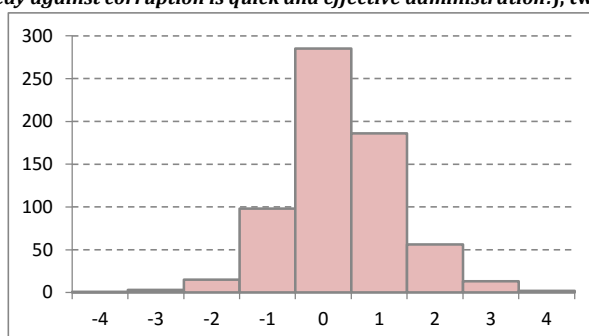
Graph 86 The averages of the two-day training participants before and after the training (*The most efficient remedy against corruption is quick and effective administration.* 1: completely disagree 5: completely agrees)



Both before and after the two-day training 43.2 per cent of participants provided the same rate as their answer to the question referring to their agreement with the statement, thus the training has not changed their opinions.

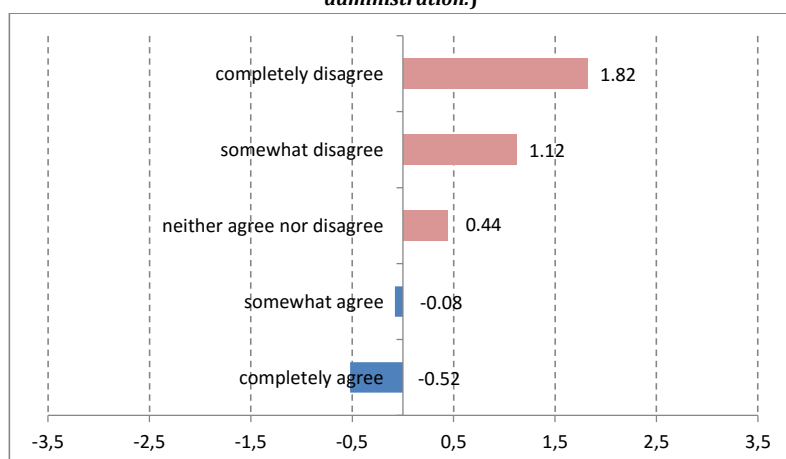
The agreement with the statement has decreased among 17.8 per cent and has increased, strengthened among 39 per cent of participants, thus more than one-third of participants have moved in the direction of the opinion that quick and effective administration can serve as the most efficient remedy against corruption.

Graph 87 The histogram indicating the distribution of the changes in opinion (*The most efficient remedy against corruption is quick and effective administration.*), two-day training



Just like in the case of the single-day training, those who had not agreed with the statement at all at the beginning of the two-day training, have moved towards agreement in a greater extent on average than those who had initially completely agreed with the statement but whose confidence in the efficiency of quick and effective administration seemed to have somewhat shaken after their participation in the training ($p_{\text{Games-Howell}}=0.000$).

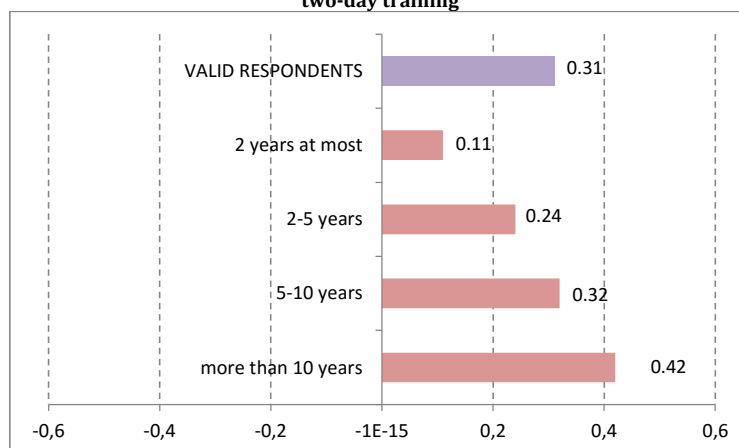
Graph 88 The average change in opinion by categories of answers before the two-day training (*The most efficient remedy against corruption is quick and effective administration.*)



In parallel to the increase of the agreement with statement, it can also be observed that the dispersion of the participants' points of agreement has become significantly smaller, thus the circle of participants has become more homogenous regarding the judgement of quick and effective administration ($p_{\text{Pitma-Morgan-test}}=0.007<0.05$). It is also true that after the two-day training the average dispersion of the training groups has decreased as well (with before being: 1.04, and afterwards being: 0.89, $t=4.494$, $df=43$, $p=0.000<0.05$).

Out of the various background variables, significant difference regarding the average change in the agreement with the statement could only be indicated along the time spent at the given workplace. The longer someone has worked at the given workplace, the more their agreement with the statement has increased on average ($F=3.131$, $df_1=3$, $df_2=581$, $p=0.025<0.05$), however, the impact of the time spent at the workplace on the change in opinion can be regarded rather weak ($\eta^2=0.13$).

Graph 89 The average change in opinion by time spent at the respective organizational body (The most efficient remedy against corruption is quick and effective administration.), two-day training



Whereas the trainers had not been different from each-other regarding the basic attitudes of their respective participants in this issue before the training, after the two-day training it was very much visible that some trainers could generate greater while others smaller change in opinion among their participants regarding this issue, and for this reason there was substantial difference between the trainers. Of all the trainers producing significant changes in opinion, Trainer 8 stands out as one who has achieved one of the strongest increase in the participants' level of agreement next to Trainer 15 and 16, of whom by the way Trainer 15 was the only one whose participants had displayed substantial change in the expected direction during the single-day training as well.

Table 20. The change in opinion measured at the respective trainers (*The most efficient remedy against corruption is quick and effective administration.*), two-day training, in descending order of effect size

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d^{45}	Effect size(r) ⁴⁶
Trainer 8	3.16	3.66	0.5	76	***	0.55	0.27
Trainer 15	3.36	3.90	0.54	121	***	0.51	0.25
Trainer 16	3.36	3.79	0.43	71	***	0.45	0.22
Trainer 23	3.55	3.88	0.33	114	**	0.33	0.16
Trainer 26	3.22	3.40	0.19	109	*	0.20	0.10
Trainer 14	3.23	3.35	0.12	42	n.s.	-	-
Trainer 17	3.42	3.48	0.06	66	n.s.	-	-
Trainer 25	3.43	3.45	0.02	60	n.s.	-	-

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

n.s.: no significant change occurred

The indicated change ($F=1.304$, $df_1=7$, $df_2=651$, $p=0.002 < 0.05$, $SS_B/SS_T=0.03$) was explained by the respective participants' allocation to the respective trainers significantly yet very weakly with about 3 per cent.

3.7 Statement: If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.

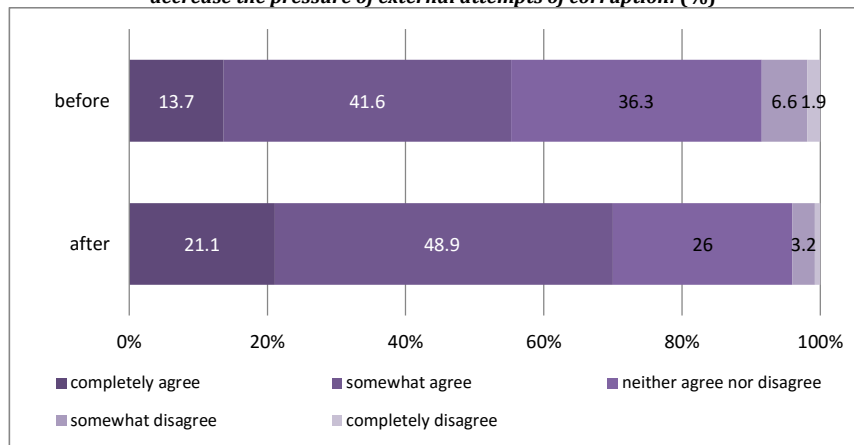
3.7.1 Single-day training

Whereas the ratio of the participants completely agreeing or rather agreeing with the statement that *if a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption* had been 5 out of 10 before the single-day training, it was 7 out of 10 after the training. This also means that there was a significant diversion in the dispersions of the agreement with the statement before and after the training (chi-square = 852.667, $df=4$, $p=0.000$).

⁴⁵its absolute value

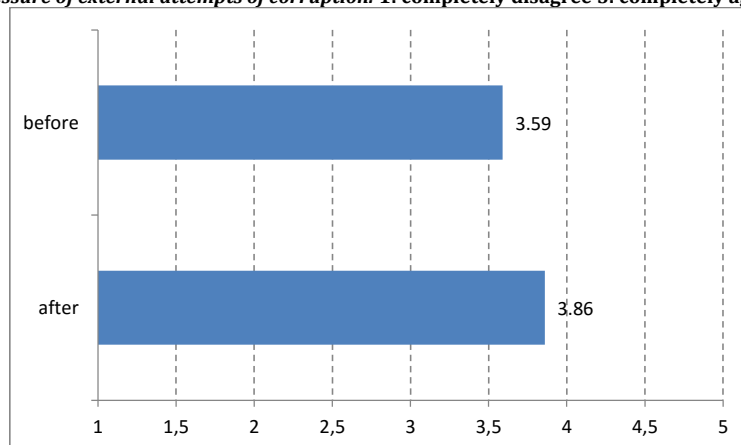
⁴⁶its absolute value

Graph 90 The distribution of the answers by single-day participants before and after the training: *If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.* (%)



Exactly for this reason it should not come as a surprise that people agreed more with the agreement on average after than before the training ($t=-24.074$, $df=6626$, $p=0.000<0.05$), moreover, this difference is on the border of weak and mediocre ($abs(\text{Cohen's } d)=0.32$, $abs(r)=0.16$). It is clearly visible, however that due to the training's impact the global opinions have moved from a moderate and mildly agreeing average to a rather agreeing segment.

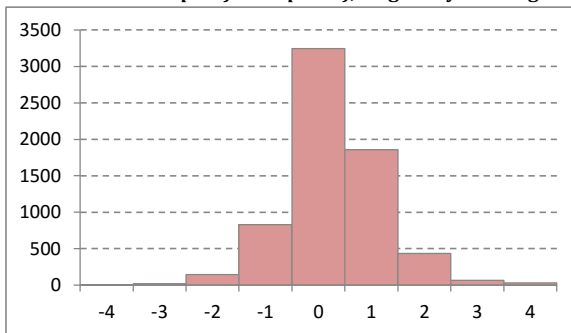
Graph 91 The averages of single-day training participants before and after the training (*If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption. 1: completely disagree 5: completely agree*)



48.9 per cent of single-day training participants have not changed their opinions on the issue, while 15.1 per cent of participants have agreed less with the

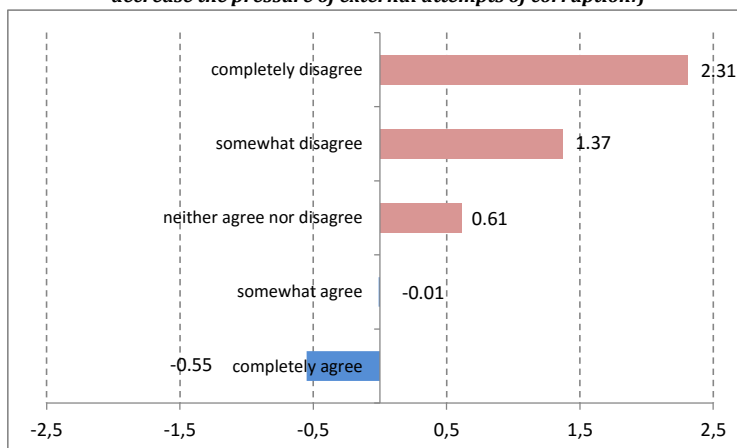
statement after the training, and the agreement with the statement has increased among 36 per cent of participants.

Graph 92 The histogram indicating the distribution of the changes in opinion (*If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.*), single-day training



It is true in the case of this statement as well that there is a significant difference between the participants, who aligned to the two end points of the initial attitudes, regarding the extent of their average change in opinion: the difference is more than fourfold, since while those who had not agreed with the statement at all have moved towards agreement by 2.31 on average, those who had initially completely agreed with the statement have lost from this opinion by only 0.55 on average ($p_{\text{Games-Howell}}=0.000 < 0.05$).

Graph 93 The average change in opinion by categories of answers before the single-day training (*If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.*)



It is true in the case of this statement as well that the heterogeneity or the dispersion of opinions has significantly decreased during the training (before: 0.872, after: 0.808, $p_{\text{Pitman-Morgan-test}}=0.000<0.05$). It is also true that the dispersion of the opinions measured within the training groups has significantly decreased as well ($t=7.407$, $df=362$, $p=0.000<0.05$).

Out of the various background variables, neither along the lines of the participants' type of organizational body, the time spent there nor their gender was there significant difference displayed in the volume of the changes in opinion.

When examining the impact of trainers, it is important to mention that in the case of this issue the various trainers had indeed started with equal chances in changing the opinion of their respective participants, as there had been no significant difference between the trainers in the average attitude of their respective participants (which was not the case with regard to the earlier statements).

There was hardly any trainer who could not achieve significant change in their respective participants' judgement on the issue, with the exception of only three trainers, but even in their case it is rather about too few participants being allocated to them, hence these trainers would have had to produce a greater extent of change in opinion compared to that measured among the others.

Trainer 1, however, has had an outstanding performance, increasing the opinion of 101 participants towards the category of agreement by 0.58 on average, and thus the average agreement with the statement among them has moved from a strongly moderate on average to a strong, rate 4 extent. Furthermore, the performances of Trainer 16 and 13 are also remarkable.

Table 21. The change in opinion measured at the respective trainers (If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.), single-day training, in descending order of effect size

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ⁴⁷	Effect size(r) ⁴⁸
Trainer 1	3.68	4.26	0.58	101	***	0.78	0.36
Trainer 16	3.63	4.09	0.46	98	***	0.56	0.27
Trainer 13	3.51	3.92	0.41	327	***	0.49	0.24
Trainer 15	3.60	3.95	0.35	188	***	0.43	0.21
Trainer 19	3.56	3.91	0.35	361	***	0.43	0.21
Trainer 21	3.53	3.89	0.36	407	***	0.43	0.21
Trainer 8	3.50	3.83	0.33	42	*	0.40	0.20
Trainer 3	3.61	3.93	0.32	282	***	0.38	0.18
Trainer 4	3.56	3.86	0.30	523	***	0.37	0.18
Trainer 18	3.54	3.84	0.30	274	***	0.36	0.18
Trainer 5	3.65	3.94	0.29	353	***	0.35	0.17
Trainer 20	3.55	3.82	0.27	468	***	0.33	0.16
Trainer 22	3.60	3.89	0.29	235	***	0.32	0.16
Trainer 2	3.55	3.79	0.24	560	***	0.29	0.14

⁴⁷its absolute value

⁴⁸its absolute value

törölt: 22

Trainer 11	3.58	3.82	0.24	275	***	0.28	0.14
Trainer 17	3.56	3.80	0.24	254	***	0.27	0.13
Trainer 7	3.63	3.82	0.19	434	***	0.24	0.12
Trainer 10	3.54	3.74	0.20	234	**	0.23	0.12
Trainer 24	3.70	3.89	0.19	319	***	0.22	0.11
Trainer 6	3.72	3.89	0.17	205	*	0.20	0.10
Trainer 14	3.60	3.77	0.17	549	***	0.20	0.10
Trainer 9	3.41	3.70	0.29	37	n.s.	-	-
Trainer 12	3.81	3.97	0.16	31	n.s.	-	-
Trainer 23	3.67	3.87	0.20	53	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

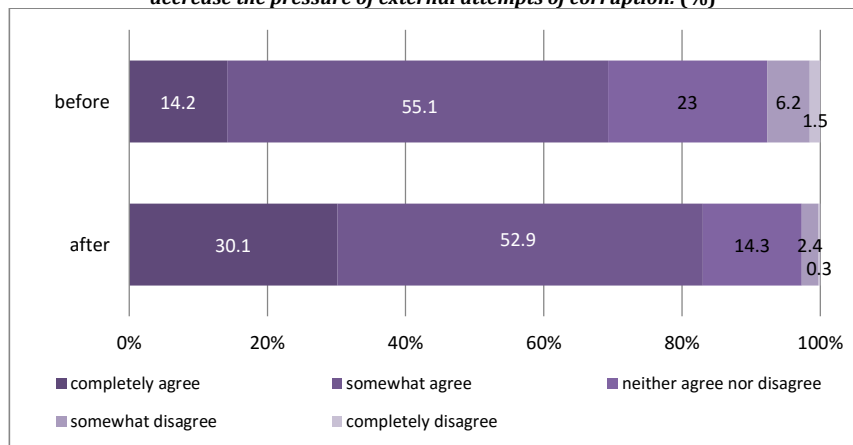
n.s.: no significant change occurred

The indicated change ($F=2.033$, $df_1=23$, $df_2=6586$, $p=0.002<0.05$, $SS_B/SS_T=0.01$) was explained by the respective participants' allocation to the respective trainers significantly yet very weakly with about 1 per cent.

3.7.2 Two-day training

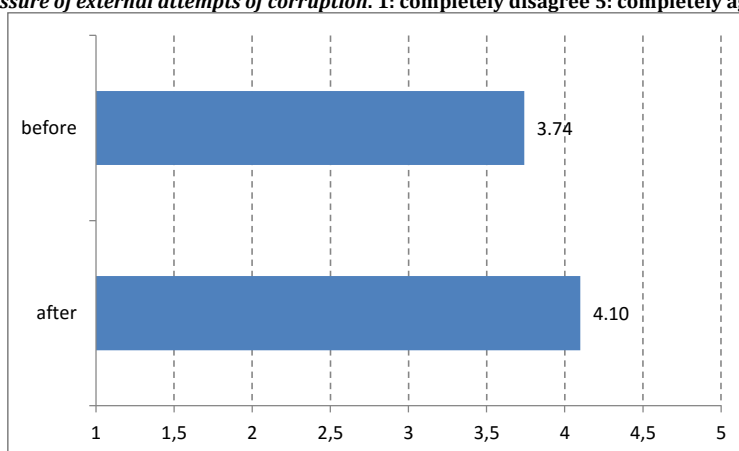
Just like in the case of the single-day training, the two-day training has showed that the ratio of those who completely agreed or rather agreed with the statement that *if a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption* has increased after the training: while 7 out of 10 participants had this opinion at the beginning of the training, after it this ratio was 8 out of 10 (chi-square=162.985, $df=4$, $p=0.000<0.05$).

Graph 94 The distribution of the answers by two-day training participants before and after the training: *If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.* (%)



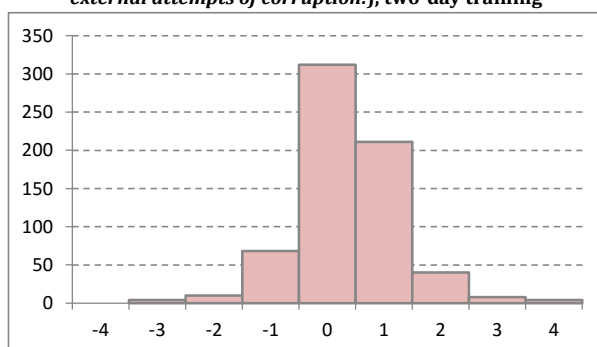
When examining the averages, it is even more visible that the two-day training participants had very much agreed with the statement on average already before the training, and thus it is an achievement in its own that this opinion has been enhanced through the training ($t = -9.670$, $df=656$, $p=0.000<0.05$), what is more, in a moderately strong extent ($abs(\text{Cohen's } d)=0.45$, $abs(r)=0.22$), which seems even stronger than the impact of the single-day training.

Graph 95 The average of the two-day training participants before and after the training (*If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.* 1: completely disagree 5: completely agree)



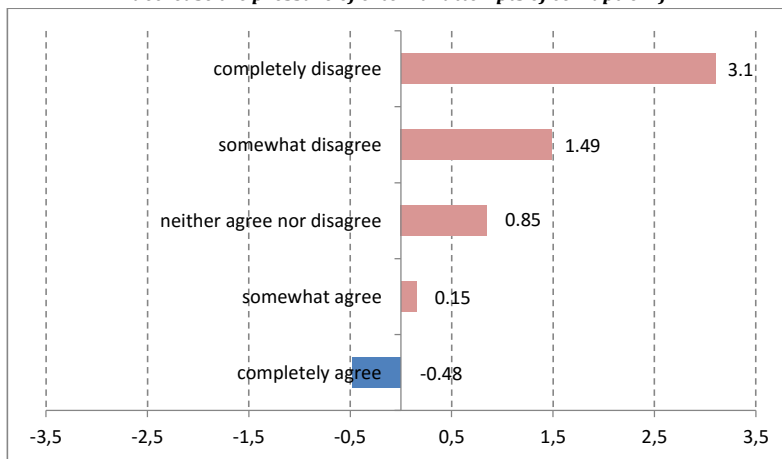
47.5 per cent of two-day training participants have not changed their opinion on agreeing with the statement in the examined issue, while 12.5 per cent of participants have agreed less with the statement at the end of the training, and 40 per cent of participants have agreed more with the statement than before the training.

Graph 96 The histogram indicating the distribution of the changes in opinion (*If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.*), two-day training



The case of the two-day training also shows that those who had not agreed with the statement at all before the training have moved towards agreement with a greater extent of change in opinion on average than those who had departed from the other end point of opinions and have changed their respective opinions to a slightly more pessimistic ($p_{\text{Games-Howell}}=0.000<0.05$). In essence an average increase of agreement has been realized in all initial categories of answers from where the agreement could be increased during the two-day training.

Graph 97 The average change in pinion by categories of answers before the single-day training (*If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.*)



Not only could the level of average agreement with the statement be increased during the two-day training but the dispersion of opinions could also be reduced, thus the participants have become more concentrated in their attitudes (with 0.833 before and 0.748 after, $p_{\text{Pitman-Morgan-test}}=0.004<0.05$), yet interestingly, the average of the dispersion of opinions within the training groups has not become significantly smaller (with 0.80 being before and 0.73 being afterwards, $t=1.986, df=43, p=0.053$), thus the opinions were arranged together globally while the average rate of the differences in opinion within the training groups has remained.

Out of the various background variables, neither the participants' type of organizational body, the time spent there nor their gender have had an impact on the extent and direction of change in opinion one has produced.

While there had been no significant diversions along the trainers before the training in that what opinion do their respective participants have regarding the examined issue on average, making the trainers depart from equal starting positions on average, there were differences between the trainers in this regard

after the training, thus they could achieve changes in opinion among their respective participants with different intensity. Only two trainers could not achieve significant changes in opinion among their participants, although in both cases this is most probably due to having relatively few participants allocated to them, hence the same change in opinion – that could have been visible at another trainer with more participants – was not enough to be deemed statistically substantial. Of all trainers, however, under whom a substantial increase along the agreement with the statement was visible, several trainers have been outstanding, for example Trainer 25, 15 or 23.

Table 22. The change in opinion measured at the respective trainers (If a public administration institution is well-organized, it can significantly decrease the pressure of external attempts of corruption.), two-day training, in descending order of effect size

törölt: 23

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ⁴⁹	Effect size(r) ⁵⁰
Trainer 25	3.78	4.22	0.44	60	**	0.58	0.28
Trainer 15	3.81	4.24	0.43	121	***	0.57	0.27
Trainer 23	3.72	4.16	0.46	114	***	0.55	0.27
Trainer 8	3.71	4.07	0.36	76	***	0.47	0.23
Trainer 16	3.78	4.11	0.33	69	*	0.40	0.20
Trainer 26	3.64	3.93	0.29	109	**	0.36	0.18
Trainer 14	3.60	3.91	0.31	42	n.s.	-	-
Trainer 17	3.89	4.09	0.20	66	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

n.s.: no significant change occurred

The occurred change (F=0.704, df₁=7, df₂=649, p=0.669>0.05) was not explained significantly by the respective participants' allocation to the respective trainers.

3.8 Statement: The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefitting them self-critically the other day.

3.8.1 Single-day training

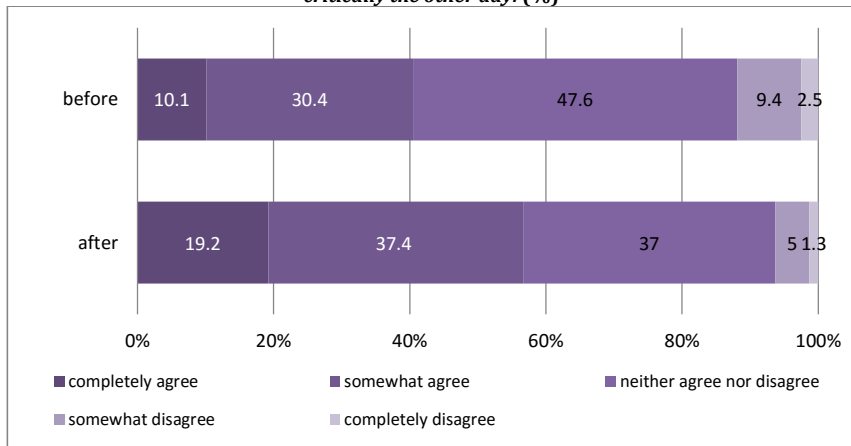
The single-day training has managed to motivate the participants in a quite significant extent to believe that when it comes to countering corruption, it is worth to trust their colleagues and people in general while reviewing the various techniques of repellence. This is referred to by the fact that while 4 out of 10 single-day training participants had completely agreed or rather agreed with the statement that *the way people are thinking about right and wrong can be changed,*

⁴⁹its absolute value

⁵⁰its absolute value

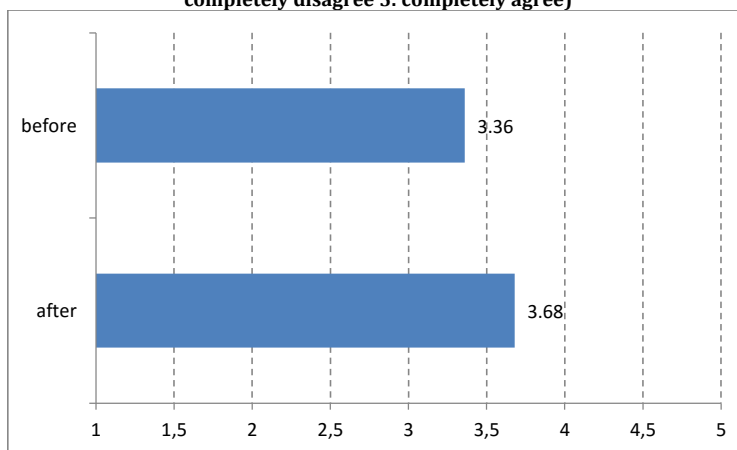
therefore, they can view previously accepted procedures personally benefiting them self-critically the other day before the training, this ratio was 6 out of 10 after the training. The diversion in the distribution of answers (before and after the training) is significant (chi-square = 900.713, df=4, p=0.000).

Graph 98 The distribution of the answers by single-day training participants before and after the training: *The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day.* (%)



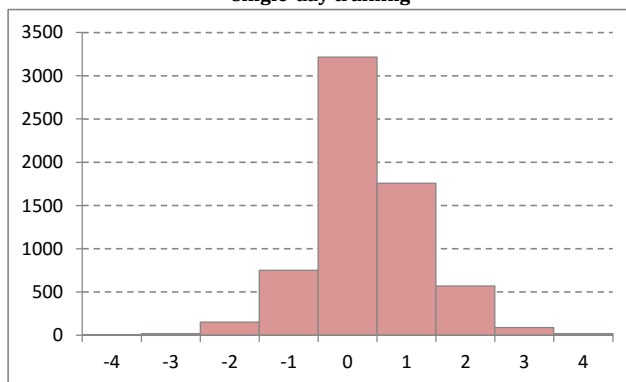
It can be seen accordingly that the participants agreed with the statement to a significantly higher extent after than before the training ($t = -26.769$, $df = 6587$, $p = 0.000$), with the change being again between weak and medocre in terms of power ($abs(\text{Cohen's } d) = 0.36$, $abs(r) = 0.18$).

Graph 99 The averages of single-day participants before and after the training (*The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day.* 1: completely disagree 5: completely agree)



48.8 per cent of participants have not changed their opinions regarding the issue, whereas 14.2 per cent of participants agreed somewhat less and 37 per cent agreed more with the statement after the training.

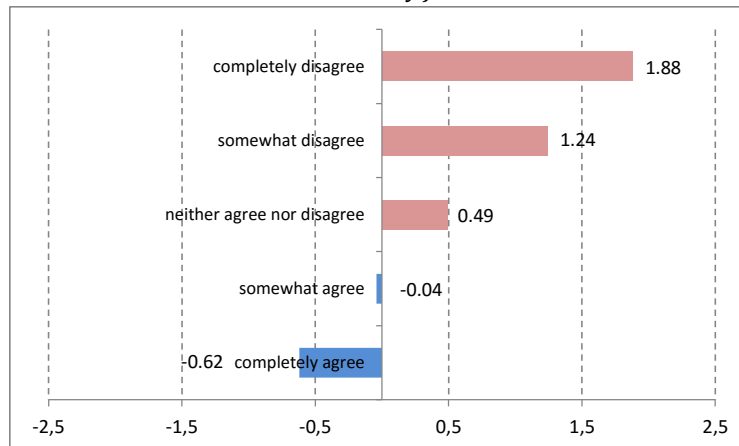
Graph 100 The histogram indicating the distribution of the changes in opinion (*The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day.*), single-day training



Those who had not agreed with the statement at all before the training have moved towards agreement in an extent about three times greater on average than those who had completely agreed with the statement at the beginning of the training and then have moved in the direction of disagreement ($p_{\text{Games-Howell}}=0.000<0.05$).

Graph 101 The average change in opinion by categories of answers before the single-day training (*The way people are thinking about right and wrong can be changed, therefore,*

they can view previously accepted procedures personally benefiting them self-critically the other day.)



The global dispersion of the participants' opinions has not changed regarding this issue, and the training has not brought together the participants' opinions (before: 0.878, after: 0.885, $p_{\text{Pitman-Morgan-test}}=0.46 > 0.05$). The same can be said about the average dispersion of the training group as well: the dispersion of opinions within the training groups on average was the same before and after the training.

Examining the issue with the various background variables, such as the participants' type of organizational body, the time spent there, and their gender, there were no significant differences along either of them regarding change in opinion achieved on average.

The current statement is also similar to the previous one in that the trainers had not differed from each other before the training with regard to what kind of opinions their respective participants had on the examined issue. Nevertheless, there were trainers who achieved greater or smaller changes in opinion regarding the participants' agreement with the statement.

All trainers could achieve significant changes in opinion with the exception of two trainers, however, in their case the problem again was that very few participants had been allocated to them, hence compared to their number the participants' change in opinion was not deemed significant.

However, in the case of Trainer 13, 1, 4, 8, 20 and 21 it can be observed, that they could achieve remarkably significant changes in opinion among participants compared to their stance before the training.

Table 23. The change in opinion measured at the respective trainers (*The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day.*), single-day training, in descending order of effect size

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ⁵¹	Effect size(r) ⁵²
Trainer 13	3,32	3,85	0.53	327	***	0.60	0.29
Trainer 4	3,30	3,76	0.46	516	***	0.53	0.26
Trainer 21	3,34	3,78	0.44	406	***	0.51	0.25
Trainer 1	3,41	3,83	0.42	97	***	0.50	0.24
Trainer 8	3,27	3,64	0.37	41	*	0.49	0.24
Trainer 20	3,35	3,76	0.31	469	***	0.49	0.24
Trainer 14	3,26	3,63	0.37	544	***	0.42	0.21
Trainer 9	3,49	3,84	0.35	37	*	0.40	0.20
Trainer 10	3,43	3,62	0.19	233	**	0.40	0.20
Trainer 15	3,40	3,75	0.35	185	***	0.40	0.20
Trainer 17	3,36	3,69	0.33	255	***	0.37	0.18
Trainer 6	3,48	3,80	0.32	205	***	0.35	0.17
Trainer 24	3,36	3,68	0.32	319	***	0.35	0.17
Trainer 3	3,44	3,73	0.29	281	***	0.34	0.17
Trainer 22	3,41	3,69	0.28	235	***	0.32	0.16
Trainer 2	3,33	3,6	0.27	553	***	0.29	0.14
Trainer 16	3,44	3,69	0.25	97	**	0.29	0.14
Trainer 5	3,37	3,61	0.24	352	***	0.28	0.14
Trainer 19	3,36	3,60	0.24	359	***	0.27	0.13
Trainer 18	3,38	3,61	0.23	271	***	0.24	0.12
Trainer 7	3,42	3,61	0.19	433	***	0.22	0.11
Trainer 11	3,37	3,51	0.14	272	*	0.14	0.07
Trainer 12	3,45	3,52	0.07	31	n.s.	-	-
Trainer 23	3,58	3,65	0.07	53	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

n.s.: no significant change occurred

The occurred change ($F=3,391$, $df_1=23$, $df_2=6547$, $p=0.000<0.05$, $SS_B/SS_T=0.01$) was explained by the respective participants' allocation to the respective trainers significantly yet very weakly with about 1 per cent.

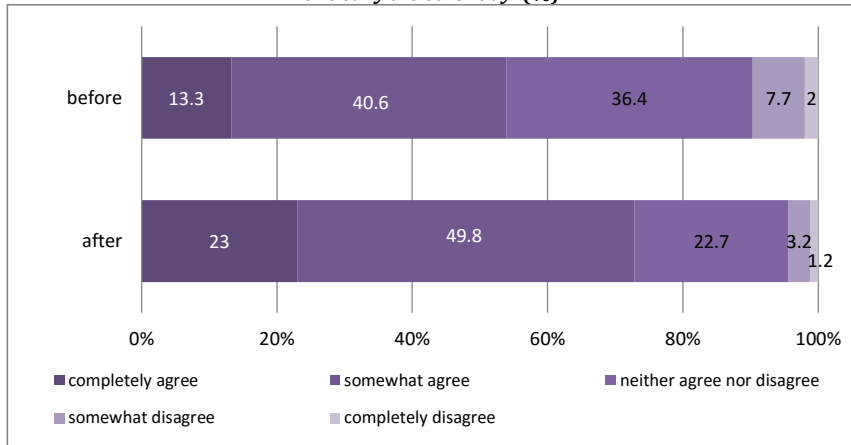
3.8.2 Two-day training

After the two-day training the ratio of participants who rather or completely shared the view that *the way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day* has significantly increased. While 5 out of 10 participants had agreed with this statement at the beginning of the training, this ratio was 7 out of 10 after the training (chi-square = 138.107, $df=4$, $p=0.000$).

⁵¹its absolute value

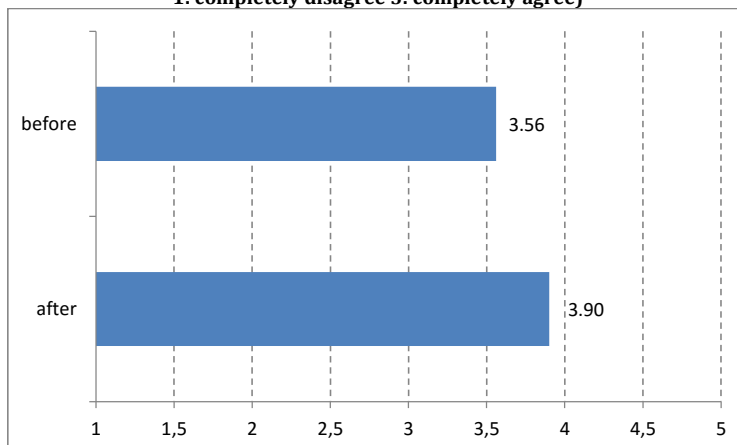
⁵²its absolute value

Graph 102 The distribution of the answers by two-day training participants before and after the training: *The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day.* (%)



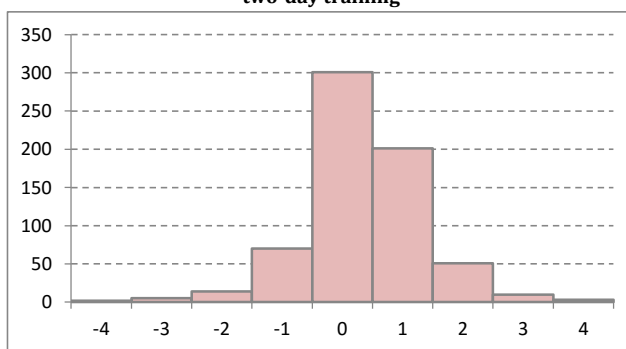
Accordingly, it should not come as a surprise that the participants' average agreement with the statement has significantly increased compared to the status before the training ($t=-8.650$, $df=656$, $p=0.000$), with the impact of the two-day training being about the same as that of the single-day training ($abs(\text{Cohen's } d)=0.40$, $abs(r)=0.20$). The participants have moved from a moderate agreement on average to level of rather agreement on average.

Graph 103 The averages of the two-day training participants before and after the training (*The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day.* 1: completely disagree 5: completely agree)



45.8 per cent of two-day training participants have not changed their opinions during the training, displaying the same extent of agreement with the statement after than before the training, while the agreement with the statement has decreased among 13,9 per cent and increased among 40.3 per cent of participants.

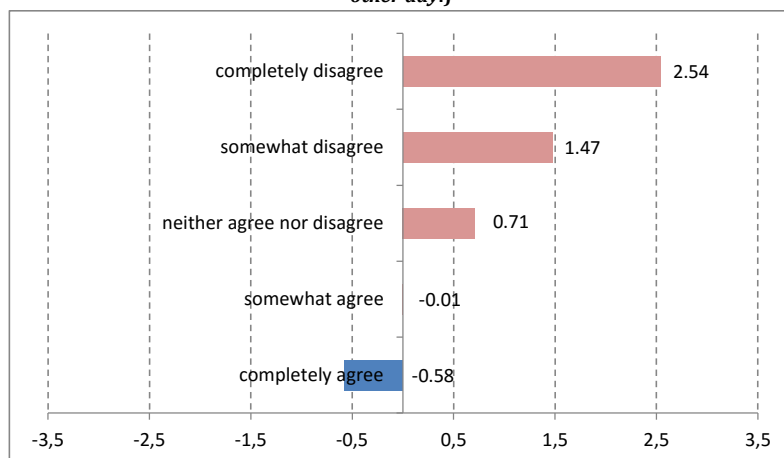
Graph 104 The histogram indicating the distribution of the changes in opinion (*The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day.*), two-day training



The participants who had aligned to the two extreme opinions before the training have not moved away from their original positions on average to the same extent throughout the training: those who had not agreed at all with the statement that the way people are thinking can be changed have moved towards agreement in an almost five-times greater extent on average compared to the distance made by those who had completely agreed with the statement when they have become more pessimistic regarding their opinions ($p_{\text{Games-Howell}}=0.001<0.05$).

Graph 105 The average change in opinion by categories of answers before the two-day training (*The way people are thinking about right and wrong can be changed, therefore,*

they can view previously accepted procedures personally benefiting them self-critically the other day.)



According to the results, the participants' attitudes of have been brought together with just a significant extent throughout the training, since the dispersion measured after the training was significantly smaller than the one measured before the training (before: 0.889, after: 0.825, $p_{\text{Pitman-Morgan-test}}=0.044 < 0.05$), while the average of the dispersions measured within the training groups has not become smaller significantly ($t=1.913$, $df=43$, $p=0.062 > 0.05$).

There was no significant difference indicated regarding the average of the changes in opinion along the lines of the participants' type of organizational body, the time spent there, nor their gender.

Neither before nor after the two-day training was there significant difference between the trainers regarding what kind of attitudes their respective participants had had on average. Of all the trainers, there were only two – again with the lowest numbers of participants – in whose case no significant change in opinion can be displayed, which was by every indication due to the low number of their participants. Out of the other trainers, Trainer 15 stands out under whom the participants' agreement on the issue has increased by 0.5 on average. The impacts of Trainer 23 and 25 were relatively, moderately strong.

Table 24. The change in opinion measured at the respective trainers (*The way people are thinking about right and wrong can be changed, therefore, they can view previously accepted procedures personally benefiting them self-critically the other day.*), two-day training, in descending order of effect size

törölt: 25

	Average (before)	Average (after)	dif.	N	t-test sign.	Cohen's d ⁵³	Effect size(r) ⁵⁴
Trainer 15	3,43	3,93	0.5	121	***	0.58	0.28
Trainer 23	3,56	3,95	0.39	114	***	0.46	0.23
Trainer 25	3,75	4.10	0.35	60	**	0.46	0.23
Trainer 26	3,56	3,88	0.32	109	**	0.36	0.18
Trainer 17	3,56	3,89	0.33	66	*	0.35	0.17
Trainer 8	3,53	3,82	0.29	76	**	0.33	0.16
Trainer 14	3,51	3,81	0.30	42	n.s.	-	-
Trainer 16	3,64	3,82	0.28	69	n.s.	-	-

* p<0.05, ** p<0.01, *** p<0.001

n.s.: no significant change occurred

The occurred change ($F=0.844$, $df_1=7$, $df_2=649$, $p=0.551>0.05$) was not explained significantly by the respective participants' allocation to the respective trainers.

⁵³its absolute value

⁵⁴its absolute value