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The Influence of Horse Assisted Education on the Perception of Self-Efficacy in People Holding Leadership Positions

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Abstract

Introduction and purpose

Self-efficacy is defined as an indicator of what a person thinks they can do in various circumstances (Bandura, 1997). The present study examines whether participation in Horse Assisted Education workshops dedicated to the development of leadership competencies contributed to changes in the perception of self-efficacy.

Materials and methods

This study uses the GSES along with the LSES scale, which was constructed for the purposes of this study to measure the perception of self-efficacy within four leadership functions (Griffin, 1984). The 24 study subjects participated in Horse Assisted Education leadership competency development workshops. Measurement with the use of questionnaires was carried out three times – prior to the workshop, after the workshop and two weeks after the workshop.

Results

No changes in terms of generalized perception of self-efficacy were shown in the first and the second measurement, whereas the third measurement showed a significant increase. Measurements performed with the LSES questionnaire showed an increase in the perception of self-efficacy in performing leadership functions immediately after the workshops. A detailed analysis of changes within each of the presented leadership functions showed growth in the perception of self-efficacy in the second measurement with regard to motivating skills, and in the third measurement – in relation to planning and organizing work, with no changes in terms of controlling skills.

Conclusions

The results of the present study show that Horse Assisted Education can be used as an effective tool to strengthen the perception of self-efficacy in leadership skills. It is necessary to conduct research that takes into account replication on a larger population, and to test the effectiveness of the method in other applications.

Keywords: Self-efficacy, leadership, development, horse assisted education, equine assisted activities, education

Introduction

In the global economy, there is an ongoing trend of creating the so-called “organizations of the future,” understood as enterprises capable of adapting to the realities of their environment, whose operations are based on observations of the market changes (Moczydłowska, 2015). The primary resource for enabling such vision of an enterprise of the future is human capital. According to Moczydłowska (2015), in today’s world, workers should be perceived as co-creators of the company, capable of intelligent, rapid and flexible response to the changes in their environment, rather than simple assets that bring benefit to the company. Leadership staff is a particularly important group of workers. According to Patterson, West, Lawthom and Nickell (1997), human resources management system of a company (including such factors as selection and training of employees, variety of tasks, motivation) is responsible for as much as 19% of changes in profitability and 18% of productivity. It is therefore of crucial importance for company growth to invest in the leadership staff, since it is their task to determine how other employees manage their potential (Luthans & Youssef, 2004).

The theory of social learning and self-efficacy

Albert Bandura (2007) noted that, according to the theory of social learning, it is both incorrect to view human behaviour as controlled by internal forces (character traits, urges), and to assume that behaviour is dependent solely upon external factors (reinforcement). In fact, the way people act and react is multi-faceted and depends on an interaction between these factors. For instance, the competencies that form an element of the personality structure (Cervone & Pervin, 2011) can be considered only in relation to the situational context. It is impossible to declare that a particular person is generally more competent, and another person is generally less competent. Bandura (1997, p. 32) notes that except basic reflexes, people are not equipped with an innate repertoire of behaviours. Behaviours must be learned, while new reaction patterns can be acquired – either by direct experience or by observation. Through this kind of learning, human beings formulate certain beliefs and expectations regarding themselves and the world that surrounds them. From the point of view of the theory of Bandura (1997), those expectations that concern the Self are of particular importance. They have a direct impact on the way individuals operate, what activities they engage in, and whether they reach their goals or not. Such expectations as to their own capabilities and ways of handling specific tasks in the future were identified by Bandura (1997) as a particularly significant psychological construct referred to as self-efficacy.

Bandura defines self-efficacy (1997, p. 37) as an indicator of what a person believes he or she is capable of doing in various circumstances. He concludes that perception of self-efficacy is a key factor formulating the system of competency of any given person. For this particular reason, different people with similar skills, or even the same person in different circumstances, can achieve varying results during the same activities, depending on how they assess their capabilities. This is of immense importance for the efficiency of leadership staff. As shown by meta-analysis of 114 studies on the relationship between self-efficacy and work-

or career-related achievements, there is a moderately strong relationship between these two constructs (Stjakovic & Luthens, 1998). The higher the perception of self-efficacy, the higher the work results of the studied individuals. At the same time, the researchers noted that the mean level of correlation between the analysed studies of 0.38 is a result that exceeds the correlations achieved previously with regard to other personality constructs in the professional environment. In other studies, it was also proved that perception of self-efficacy is positively correlated with the effectiveness of work and employee engagement (Carter, Nesbit et al., 2016). The study also showed that self-efficacy and employee engagement is the cause of as much as 39% of product sales.

Despite this undeniable connection between self-efficacy and professional achievements, there have been relatively few studies concerning the direct relationship between the perception of self-efficacy and the effectiveness of the leadership staff. One of such studies was conducted by McCormick, Tanguma, and Lopez-Forment (2002). The authors showed that the sense of self-efficacy is positively correlated with how frequently leadership roles are taken and the extent of leadership experiences.

Horse Assisted Education

Horse Assisted Education (HAE) is a method proposed by its German creators and pioneers, Gerhard and Karin Krebs (Wiatrowska & Popławska, 2013). It is a method that belongs to a wide group of developmental and therapeutic activities where the key component is the use of horse-assisted exercises. However, Lief Hallberg (2018) distinguishes therapeutic activities from purely developmental ones. She describes activities focusing on learning skills and improving the quality of life, which include the HAE method, as the so-called Equine Assisted Activities.

Numerous studies prove that working in the company of horses brings tangible developmental and therapeutic benefits. In studies conducted by Earles, Wernon and Yetz (2015), people dealing with anxiety and posttraumatic stress disorders were subjected to a six-week therapeutic program involving horses (i.e. Horse Assisted Psychotherapy). The results showed a significant decrease in symptoms of depression, anxiety and PTSD, a reduction in the level of perceived stress, and a decrease in the tendency to resort to alcohol. The participants also became more mindful. Another study that measured cortisol levels in children after an 11-week program involving horses showed that the level of stress hormone after completing the therapy was lower among the children from the experimental group than those from the control group (Pendry, Smith & Roeter, 2014). In the case of young adults from the high-risk group (emotional disorders, victims of domestic violence, war veterans, autistic people) after a 5-week training with horses, positive changes were noted in terms of basic hope and self-efficacy, as well as a decrease in symptoms of depression (Frederick & Hatz, 2012).

In Horse Assisted Education, work is conducted with feet on the ground only and involves various activities performed in the company of horses. The sessions are recorded, so that afterwards the whole group (or a specific person) can discuss and analyse the experiences while watching the activities they were involved in.

The main and most important assumption of HAE is to accept a non-traditional function of the horse. In Horse Assisted Education, horses are treated as trainers that, owing to their special ability to understand non-verbal body language, serve as a kind of reference point for learning about yourself. Agata Wiatrowska (2016), in her book “Koń jako trener” (*“Horse as a Trainer”*) states that horses treat us as a whole and point us to the particular fragments that need attention the most. It could be either defining boundaries, clarity of communication, courage to act, or confidence in the world (Wiatrowska, 2016, p. 11).

Another equally important assumption is learning through experience. This kind of learning is handled by the limbic system. It is responsible for our emotions and rapid responses to those emotions. According to Goleman (2005, p. 50), the limbic system guides us when we are furious, when we submit to passion, when we fall in love, and when we are taken aback by fear or disgust. Memorizing and learning are particularly important functions of the limbic system, since they enable humans (and other mammals as well) to respond in the most adaptive manner to each particular situation. The Hans Altmann model (see Figure 1) perfectly reflects the concept of learning through experience.

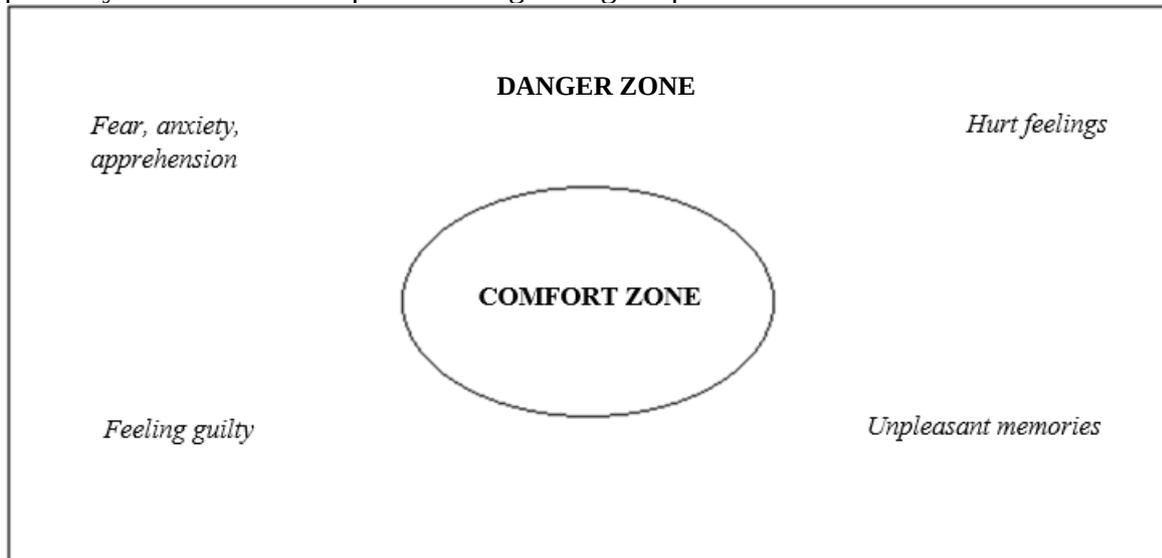


Figure 1. The Comfort Zone model by Hans Christian Altmann

Only by stepping outside of their personal comfort zones (which is generally true in the case of experiences involving horses), people can learn new and more adaptive methods of dealing with various challenges. Agata Wiatrowska (2016) modified this model by dividing the danger zone into two essentially different zones – the learning zone and survival instinct zone (see Figure 2).

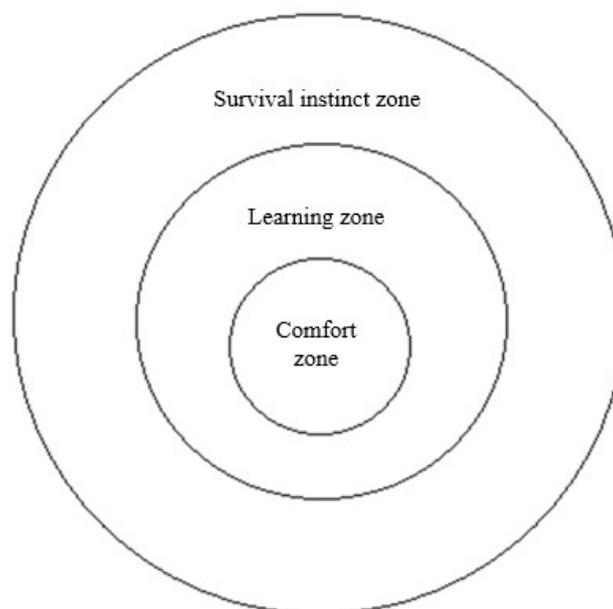


Figure 2. The Learning Zone by Agata Wiatrowska

It assumes that in the learning zone, the level of stimulation associated with the act of stepping out of the comfort zone is optimal enough to enable learning of new skills. On the

other hand, in the survival instinct zone, we lose self-control to save life or other values that are important for us (such as the Ego). Learning through experience is strongly associated with the concept of self-efficacy and the social learning theory of Bandura (2007). It shall be a particularly significant element of the HAE method, since it allows us to presume that usage of this particular method, through activation of the limbic system, can affect leadership behaviours and therefore contribute to changes in the perception of self-efficacy.

An important aspect of Horse Assisted Education is its holistic nature. Both the creators and the propagators emphasize that this method is characterized by low controllability in terms of its course. Workshops designed for managers, despite a strictly defined structure, can trigger processes leading to changes not only within the scope of the particular organization in which the participants perform their professional functions, but also in other areas of their lives. Individuals who attend the workshops, even if such workshops are focused specifically on the development of leadership competencies, generally do not put aside any other relations in which they operate. This means that participation in HAE workshops, regardless of the key subject, has a holistic effect on the individual, influencing their beliefs and ways of doing things in other areas as well, for example with regard to family matters and leisure activities.

Similarly to most modern workshops that aim to improve soft skills, an absolutely indisputable principle of HAE is the total lack of judgement of the participants' actions. Activities cannot be done properly or improperly. What matters is the experience itself, presence in the exercise, meeting with the horse/trainer, living through the emotions and taking action. Since participation in each exercise is fully voluntary for the participants, they can freely decide when they want to try for themselves, and when they simply wish to gain knowledge by observing others. The principle of voluntariness and the lack of distinction between "good" and "wrong" are crucial in this method. Only then it is possible to find yourself in the learning zone, according to the model of Agata Wiatrowska (see Figure 2).

Purposes

The purpose of the study was to analyse influence of Horse Assisted Education on the perception of self-efficacy in people holding leadership positions. Griffin (2010) defines four main functions of a person holding a leadership position, namely:

- Planning (decision-making process, setting organizational goals in a specific time-frame, defining ways to achieve them and the resources necessary for this purpose (Bogdanienko et al., 2010);
- Organizing, which consists of coordinating teams' activities and distributing resources in a way that makes it possible to achieve the assumed goal;
- Leading, understood mainly as motivating and promoting the development of reports;
- Controlling, which involves observing the course of activities leading to the achievement of goals and ongoing evaluation of the activities to enable modifications.

In order to achieve a thorough understanding of how the participants of HAE workshops perceive their self-efficacy, the following research hypotheses were formulated:

1. The generalized perception of self-efficacy in the study subjects will be significantly higher immediately after the HAE workshop than before taking part in it.
2. The generalized perception of self-efficacy in the study subjects will be significantly higher two weeks after the workshop than before taking part in it.
3. The perception of self-efficacy as a leader in the study subjects will be significantly higher immediately after the HAE workshop than before taking part in it.
4. The perception of self-efficacy as a leader in the study subjects will be significantly higher two weeks after the workshop than before taking part in it.

5. The perception of self-efficacy as a leader in the study subjects will be significantly higher within each of the four identified leadership functions (planning, organizing, motivating, developing and controlling) immediately after the HAE workshop than before taking part in it.
6. The perception of self-efficacy as a leader in the study subjects will be significantly higher within each of the four identified leadership functions (planning, organizing, motivating, development and controlling) two weeks after the workshop than before taking part in it.

Materials and methods

The study involved 24 individuals, seven men and seventeen women, all of whom were employees of enterprises with at least one direct report. All the study subjects participated in one-day personal development HAE workshops that lasted 6-8 hours. These workshops were organized at an equestrian centre near Warsaw for groups of five to eight participants.

The principal part of the study consisted of a single-day personal development workshop for people holding leadership positions in organizations, to which the study subjects were invited. It was a HAE workshop titled “The Art of Leadership.” Just like the method itself, the workshop was designed by Gerhard and Karin Krebs, and is accredited by the European Association of Horse Assisted Education (EAHAE), also established by them. Two questionnaires were used to measure the variables – the General Self-Efficacy Scale, or GSES (Schwarzer, Jerusalem and Juczyński, 1997), and the Leadership Self-Efficacy Scale, or LSES, which was created for the purposes of the study (Annex 1).

The LSES scale was constructed on the basis of four subscales that describe the basic leadership roles according to Ricky Griffin (2010). It was decided to replace the term “leading” with “motivating and developing,” since it was clearer for the study subjects to understand the essence of this subscale and constitutes a key element of leading as defined by the author of the theory (Griffin, 2010, p. 13). Afterwards, five statements describing the skills necessary for each leadership role were stated, upon which the LSES questionnaire was built, with a total of twenty test items. To verify the relevance of the statements, five competent referees were asked to rate how strongly in their opinion the given item was associated with the specific leadership role on a scale of 1 to 5. The compatibility of the referees’ opinions was verified using the Kendall’s coefficient of concordance (W). The items showed a satisfactory concordance among the competent referees: $W(19, N=5) = 0.635$; $p < 0.01$. The questionnaire used a seven-point Likert scale, with only the extreme values were defined (1 – I am definitely unable to; 7 – I am definitely able to). Cronbach's alpha internal consistency coefficient was used to assess the reliability of the LSES scale. Since all measurements were carried out three times during the study, three Cronbach's alpha coefficients were calculated for each of the scales, and then a mean value was derived. All the scales showed a high level of internal consistency ($\text{Alpha} > 0.75$).

Three questionnaire measurements were carried out: immediately before the workshop, immediately after the workshop and two weeks after the workshop.

Results

During the first phase of the analysis of results, the basic descriptive statistics for individual scales were calculated within the three successive measurements. Also, the Shapiro–Wilk test was used to verify the normality of distribution. The results of the calculations are presented in Table 1.

Table 1. *Descriptive statistics for dependent variables in individual measurements*

Dependent variable	Min.	Max.	M	SD	S _k	K	W	p
Measurement 1								
GSES	21	40	32.71	4.69	-0.23	-0.32	0.95	0.297
LSES	25	40	33.17	4.4	-0.18	-1.24	0.95	0.273
Planning	22	40	34.33	4.44	-1.03	0.75	0.9	0.019
Organizing	38	130	105.04	21.63	-1.36	1.64	0.87	0.005
Motivating and developing	38	131	106.83	19.93	-1.75	3.54	0.83	0.001
Controlling	46	132	108.46	19.59	-1.41	2.08	0.87	0.006
Measurement 2								
GSES	12	32	25.62	5.09	-0.88	0.05	0.91	0.044
LSES	14	33	26.04	4.81	-0.84	-0.21	0.92	0.049
Planning	13	33	27.33	4.53	-1.14	1.78	0.9	0.017
Organizing	9	34	26.58	6.6	-1.35	1.03	0.82	0.001
Motivating and developing	10	35	26.62	5.83	-1.05	1	0.91	0.034
Controlling	13	35	27.88	5.4	-1.21	0.92	0.86	0.003
Measurement 3								
GSES	7	34	25.62	6.55	-1.06	0.64	0.91	0.034
LSES	7	33	27.21	6.21	-1.61	2.42	0.82	0.001
Planning	11	33	26.62	5.51	-1.02	0.61	0.9	0.023
Organizing	8	34	27.21	5.56	-1.53	3.41	0.85	0.003
Motivating and developing	7	34	26.96	5.73	-1.62	3.6	0.85	0.003
Controlling	9	34	26.62	5.92	-1.26	1.48	0.88	0.008

Note. Measurement 1 = Before the workshop; Measurement 2 = Immediately after the workshop; Measurement 3 = Two weeks after the workshop. Min. = minimum; Max. = maximum; M = mean value; SD = standard deviation; S_k = skewness; K = kurtosis; W = Shapiro–Wilk test result; p = level of statistical significance

The verification of hypotheses was performed using a one-way analysis of variance with repeated measurement and using contrast analysis. In the analysis of variance, the intra-group factor was the time of measurement (before the workshop, after the workshop, two weeks after the workshop).

Table 2 presents the results of the analysis of variance.

Table 2. Results of the analysis of variance for individual dependent variables

Dependent variable	Measurement 1		Measurement 2		Measurement 3		ANOVA			
	M	SD	M	SD	M	SD	df _m	df _e	F	p
GSES	32.71	4.69	33.17	4.4	34.33	4.44	1.59 ^a	36.53 ^a	4.87	0.019
LSES	105.04	21.63	106.83	19.93	108.46	19.59	1.53 ^a	35.18 ^a	2.68	0.095
Planning	25.62	5.09	26.04	4.81	27.33	4.53	2	46	5.77	0.006
Organizing	26.58	6.6	26.62	5.83	27.88	5.4	2	46	3	0.06
Motivating and developing	25.62	6.55	27.21	6.21	26.62	5.51	2	46	2.65	0.085
Controlling	27.21	5.56	26.96	5.73	26.62	5.92	1.26 ^a	28.97 ^a	0.58	0.492

Note. ^aGeisser-Greenhouse degrees of freedom correction factor. M = mean value; SD = standard deviation; df_m = number of degrees of freedom of the model; df_e = number of degrees of freedom of the error; F = F-statistics in the analysis of variance with repeated measurement; p = level of statistical significance.

The analysis showed the main statistically significant effects of the time of measurement on the variable measured on the GSES scale and on the Planning variable. In the case of dependent variables: the LSES scale and subscales: Organizing and Motivating and developing, the main effects were at the level of statistical tendency ($0.05 < p < 0.10$). The results of the analysis show that the mean values on the aforesaid scales differed depending on the time when the measurement was made. Since the study hypotheses were of a targeted nature, the following types of planned comparisons were carried out in the next phase:

- Contrast 1: Mean values before the workshop vs. the results immediately afterwards and two weeks after the workshop (considered jointly);
- Contrast 2: Mean values immediately after the workshop vs. the results two weeks after the workshop.

The results of these contrasts are shown in Table 3.

Table 3. Analysis of contrasts for individual dependent variables

	GSES	LSES	Planning	Organizing	Motivating and developing	Controlling
Contrast 1	0.347* (0.155)	0.868* (0.426)	0.354* (0.151)	0.222 (0.173)	0.431* (0.203)	-0.139 (0.157)
Contrast 2	0.583* (0.268)	0.812 (0.738)	0.646* (0.262)	0.625* (0.300)	-0.292 (0.351)	-0.167 (0.272)

Note. Contrast 1 = Measurement 1 vs (Measurement 2 + Measurement 3) / 2/ Contrast 2 = Measurement 2 vs Measurement 3. The standard error for the given parameter is shown in parentheses.

*p < 0.05.

In the case of the GSES scale and the Planning subscale, both these contrasts were statistically significant. Immediately after the workshop and two weeks after the workshop, the mean results for both the variables were higher in the study subjects than before the workshop. The analysis also showed that the mean results for the GSES scale and the

Planning subscale were significantly higher in the last measurement than in the measurement made after the workshop. Figures 3 and 4 present a graphical interpretation of these results.

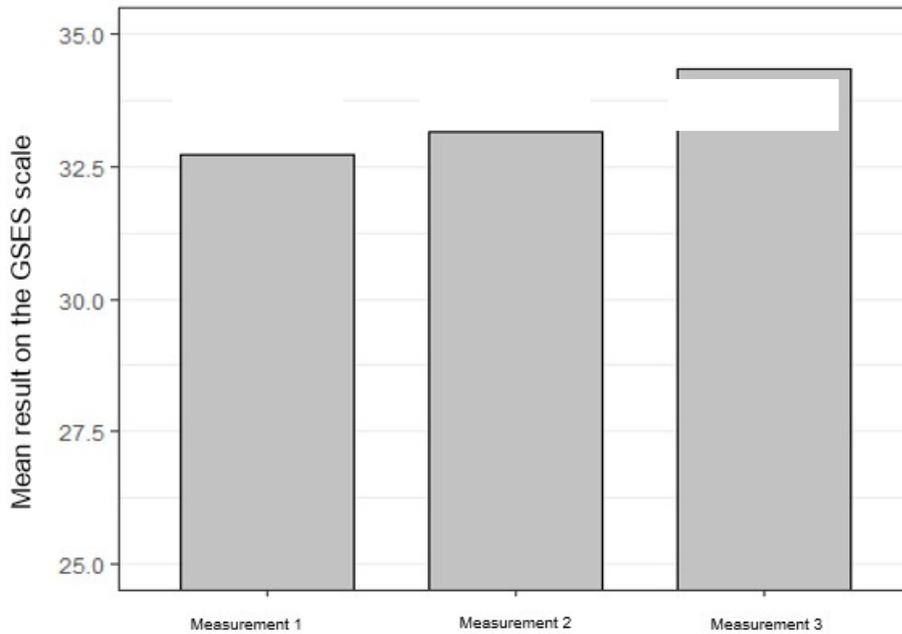


Figure 3. The mean result on the GSES scale before participating in the workshop (Measurement 1), immediately after the workshop (Measurement 2) and two weeks after the workshop (Measurement 3).

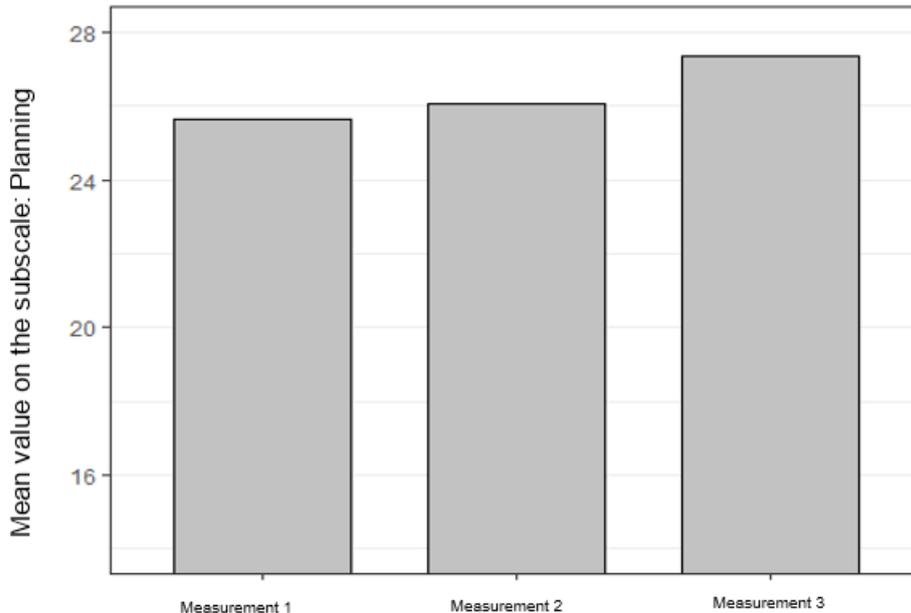


Figure 4. The mean result on the Planning subscale before participating in the workshop (Measurement 1), immediately after the workshop (Measurement 2) and two weeks after the workshop (Measurement 3).

In the case of dependent variables: the LSES scale and the Motivating and developing subscale, only the first contrast was statistically significant. It is shown by the fact that the mean values immediately after the workshop and two weeks after the workshop were higher

than before the workshop, whereas the mean values of the second and the third measurement were similar. These results are summarized in a graphical form on Figures 5 and 6.

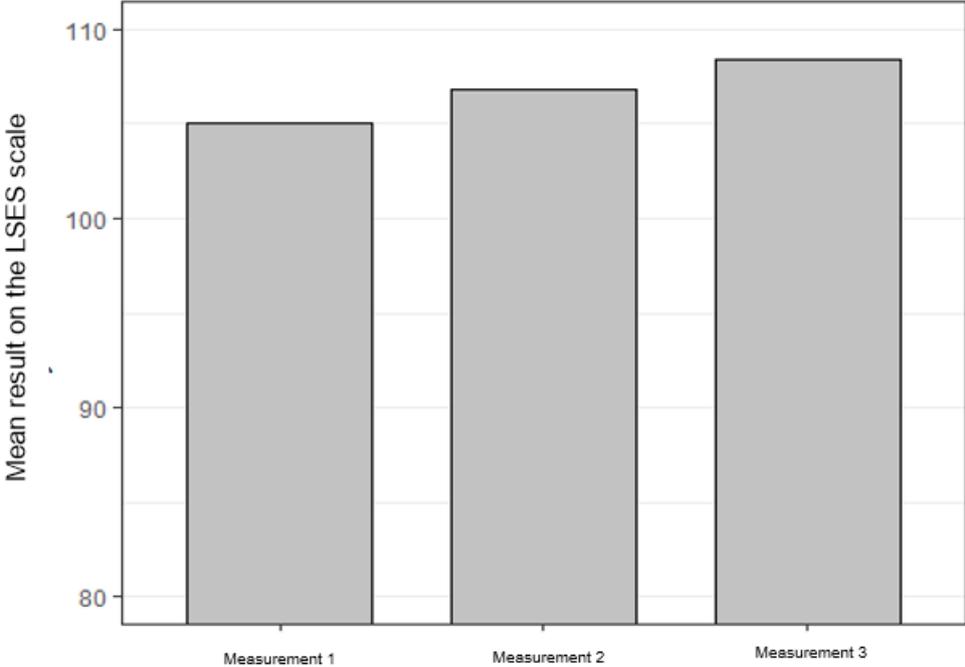


Figure 5. The mean result on the LSES scale before participating in the workshop (Measurement 1), immediately after the workshop (Measurement 2) and two weeks after the workshop (Measurement 3).

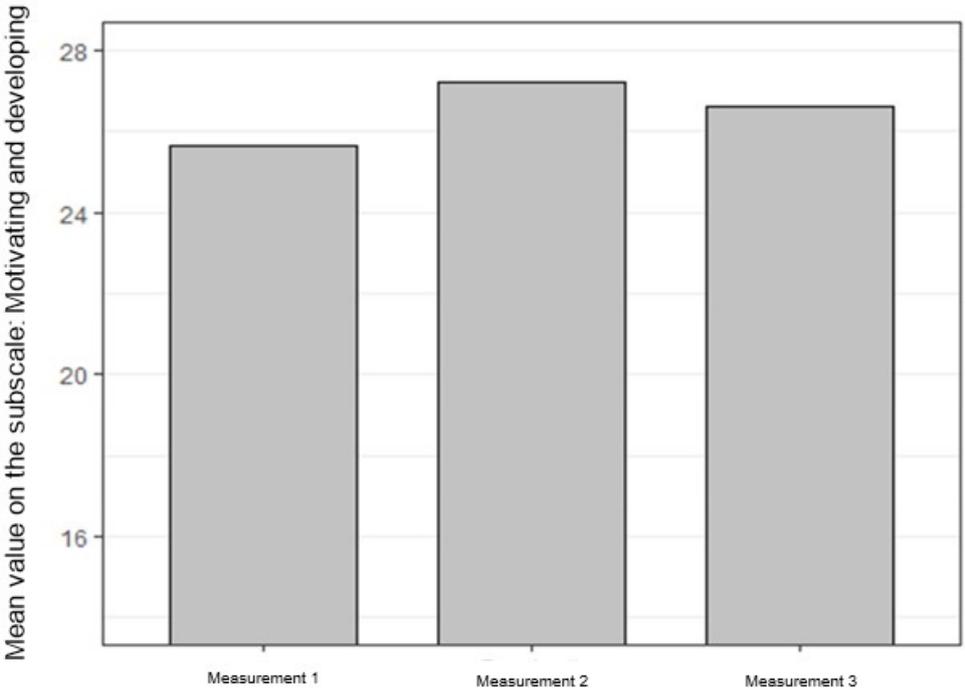


Figure 6. The mean result on the Motivating and developing subscale before participating in the workshop (Measurement 1), immediately after the workshop (Measurement 2) and two weeks after the workshop (Measurement 3).

In the analysis of contrasts concerning the Organizing subscale, only the second contrast was statistically significant, i.e. the difference between the first and the third measurement. Such distribution of results indirectly shows that two weeks after participating in the workshop, the mean results were higher than in the measurements conducted earlier, and thus the self-efficacy of the study subjects increased in the long-term perspective. Figure 7 presents a graphical interpretation of these results.

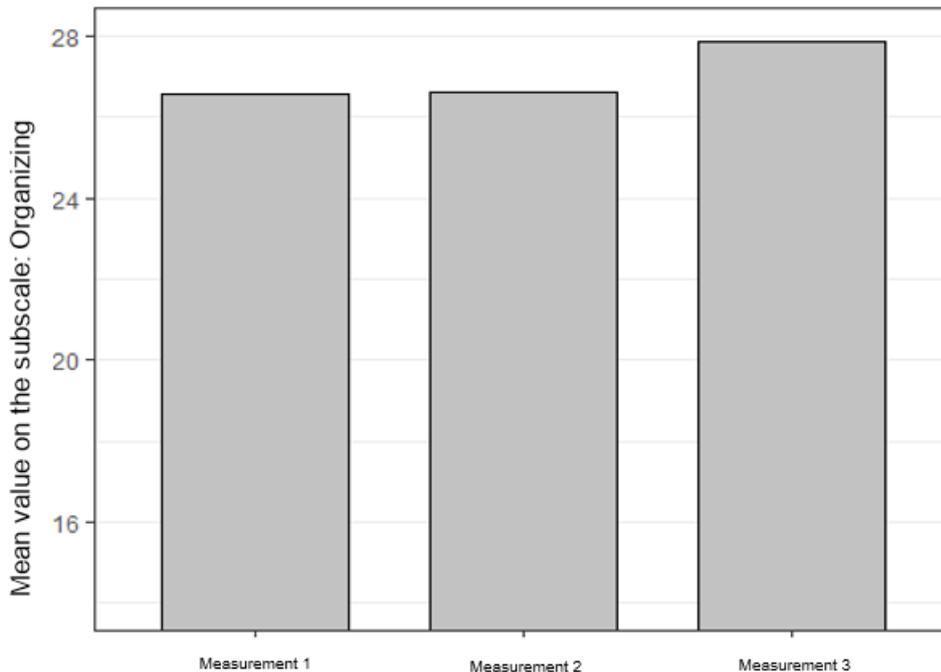


Figure 7. The mean result on the Organizing subscale before participating in the workshop (Measurement 1), immediately after the workshop (Measurement 2) and two weeks after the workshop (Measurement 3).

Discussion

The study on the influence of Horse Assisted Education on the perception of self-efficacy in people holding leadership positions led to an observation of interesting tendencies and dependencies with regard to changes in the perceived self-efficacy of the study subjects. First of all, according to the first and the second hypotheses, the generalized self-efficacy clearly increased in the study subjects after the workshops. In this case, the difference between the second and the third measurement was also significant, which means that the participants stated that their overall self-efficacy was higher two weeks after the workshop than immediately afterwards. The same dependency was present only in the case of one of the subscales of the LSES questionnaire, i.e. the Planning subscale, and it was even stronger than in the case of generalized self-efficacy. In the case of the GSES scale, the result can confirm the assumption of the creators of Horse Assisted Education as to the holistic nature of the method and the difficulty in terms of controlling the character traits and behaviours it is supposed to influence (Wiatrowska and Popławska, 2013). We cannot be certain in which particular aspects the study subjects felt more confident about their self-efficacy, and each sphere of life affected by the changes could translate into an increase in generalized self-efficacy. The changes of the results compared to the second measurement are difficult to explain in the sense that we do not know how it was influenced by situations occurring in the lives of the study subjects between the workshop and the third measurement. It is therefore difficult to judge if the increase was caused by consolidation of the lessons learned from the workshop or by other external factors. The participants declared that they did not take part in

any other workshops or training sessions between the HAE workshop and the third measurement, and therefore we can at least exclude any influence of other training methods on the observed result.

The results obtained on the LSES scale confirmed the assumptions of the third and the fourth hypothesis and showed an increase in the perception of self-efficacy as a leader after the HAE workshop. Since no significant difference between the second and third measurements was noted, it is possible to assume that at least within two weeks the change remained at a similar level and, importantly, the perception of self-efficacy did not decrease in the study subjects. This allows us to presume that HAE proved to be an effective tool for the development of leadership skills.

Due to the numerous differences in the results obtained on the subscales of the LSES questionnaire, the fifth and the sixth hypotheses (increased self-efficacy within each of the subscales immediately after the workshop and two weeks after the workshop) were only partially confirmed. In the case of the Planning subscale, the perception of self-efficacy in the study subjects increased after the workshop, and the difference between the second and the third measurement was also significant. This could be caused by the fact that they started using the knowledge gained during the workshop in their daily work as a leader.

The results obtained on the Organizing subscale differed from those obtained on other scales. It turned out that the perception of self-efficacy of the study subjects in this regard did not change immediately after the workshop; however, a clear increase in terms of this concept was observed two weeks after the workshop. Perhaps the participants of the workshop needed time to experience a change in their organizing skills and the knowledge they gained during the workshop was subconsciously consolidated during this time, which resulted in an increase in self-efficacy that occurred after two weeks.

Controlling was the only subscale where no significant changes could be observed in the participants' perception of self-efficacy. This result could be caused by the general assumption that HAE is focussed on the development of a relational approach and developing a flexible way of managing personnel based on communication and cooperation rather than the manager-subordinate relationship. The test items related to this subscale included such statements as "Require consistent completion of the planned objectives from each of the individual team members" and "Verify the progress of the tasks entrusted to the team on an ongoing basis." It can be assumed that their connotations were in opposition to the feelings that the study subjects experienced after the workshop, which is why there were no changes in relation to the variable in question.

Conclusions

The results of the study can be found useful for many social groups. Primarily, they are a valuable source of information for enterprises and organisations that seek new and efficient methods of promoting employee growth. Members of the leadership staff are a specific group in which companies invest their resources. The study presented in this article proves that the use of Horse Assisted Education to improve the competency of leadership staff contributes to a growth of self-efficacy, which can indirectly influence an improvement of specific skills of leaders, such as planning, motivating or organizing work. Although we cannot assume that this data is fool proof, it is certainly a valuable subject to examine. Perhaps it will be proven that this method not only affects the subjective perception of an individual concerning their abilities in the given field, but also objectively contributes to an increase of such abilities.

The increase in generalized self-efficacy of the study subjects observed during the study can be a valuable source of information for practically anyone who suffers from a deficit in this area. It is possible that HAE can be widely used to improve the perception of self-efficacy not only in company leadership staff or employees, but also in the practice of clinicians working

with people who suffer from dangerously low self-efficacy. The validity of this theory is supported by the results of other studies (Frederick & Hatz, 2012; Geddes, 2010, Hauge, Kvale et al., 2013).

Undoubtedly, there are numerous questions and inaccuracies that should be clarified in subsequent studies. First and foremost, it would be beneficial to conduct a similar study on a larger group of people to enable us to assess with much higher probability whether this method actually brings tangible results. The study could also be more reliable with a control of variables that can potentially affect the results between the second and the third measurement, e.g. by limiting the extent of task at work that could modify the perception of self-efficacy.

Aside from replicating the study on a wider group of subjects and examining the influence of the method on the actual changes with regard to the discussed leadership functions, one of the most interesting and promising directions for future research would be to examine the impact of participation in a long-term developmental HAE program on the perception of self-efficacy (along with other variables, such as basic hope and self-confidence). The study presented in this article succeeded in observing significant differences with just a single workshop that was several hours long. It would be tempting to see the effects of a program lasting several weeks. It is also necessary to conduct research that would verify the effectiveness of this method in other areas, such as coaching or psychotherapy.

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