

AERES University of Applied Sciences

**The impact of horse assisted coaching on the
resilience of humans**

Bachelor thesis

To obtain the degree of a
Bachelor of Science (B.Sc.)
In the degree program International Equine Business Management

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Preface

My name is Katharina Krämer and I am a fourth-year “International equine business management” student at the AERES University Applied of Sciences in Dronten, the Netherlands. My thesis research is about the impact of horse-assisted coaching on the resilience of humans.

The goal of this thesis research is to find out to what extent horse-assisted coaching can strengthen the resilience of humans.

I point out, that I processed the feedback of the two assessors of the AERES University of Applied Sciences. Therefore, I request a new assessment of chapter 2: Approach. The research method is a combination of a quantitative case study and qualitative interviews. The implemented workshop as a case study was adjusted to eight participants from different working backgrounds. The study took place in May 2018 and used the *Resilience Scale* (RS) and the *Resilience Appraisals Scale* (RAS) as a tool to measure the development on resilience before and after the horse-assisted coaching. The interviews were conducted with four companies and one resilience coach and the reason for choosing these persons is given. The used *Resilience Scale*, *Resilience Appraisals Scale* and structure of interview can be found in the appendixes 1, 2 and 4. The information regarding answering the subsidiary questions is adjusted and justified.

The thesis research is based in the HR sector and written in cooperation with Schröer Consulting. They offer a wide range of services in the human resource sector and as a special the horse-assisted coaching.

Finally, I would like to thank my supervisor Mrs. Henka Rooze, docent at AERES University of Applied Sciences and the whole team of Schröer Consulting.

K. Krämer

Katharina Krämer

Summary

Nowadays, psychic disorders are one of the most common and cost-intensive disorders and the reason number two why employees are unable to work. Humans are the most precious capital of most companies. Consequently, it is crucial to maintain their health and prevent them from psychic diseases.

This paper investigates the potential of horse-assisted coaching to train and improve human's resilience. Resilience is the maintenance or fast recovery during or after stress or adversities and is a dynamic process of adaption and can be taught through training. Science has shown, that horse-assisted coaching is a possibility to develop the cognitive, physical, and social challenges, which face humans in their everyday life.

The research method consists of a workshop "How to learn resilience with horses? – A short concept" in combination with the *Resilience Appraisals Scale* (RAS) and the *Resilience Scale* (RS) as a tool to examine the respondents' answers. The study tested within a group of eight persons with different working background. In addition, a small range of interviews with four companies and one resilience coach was implemented. The center of research answers the question: to what extent is horse-assisted coaching a suitable tool to train the resilience? Depending on the participant's character, the effects of horse-assisted coaching can vary between no effect for a minority and medium to high effects for the majority. The results point out the positive impact of horse-assisted coaching on six participants' resilience on short-term. Further research has to show long-term effects and validate the results of the study.

The cooperating partner of this study, Schröder Consulting, will offer the developed workshop as a promising service in its service portfolio. Moreover, the concept of the workshop was passed on to other consulting agencies and the European Association of Horse Assisted Education (EAHAE). In conclusion, the study delivers results from a resilience coach, participants from an experiment (workshop) and interviewees working in the production industry and industry 4.0 environment.

Psychische Erkrankungen zählen heute zu den häufigsten und kostenintensivsten Erkrankungen. Psychische Erkrankungen sind die zweithäufigste Ursache für Arbeitsunfähigkeit. Zugleich sind Mitarbeiter häufig das wertvollste Kapital der Unternehmen. Folglich müssen Unternehmen handeln um ihre Human Resources zu schützen und gesund zu halten.

Diese Arbeit untersucht das Potential von pferdegestütztem Coaching auf die Resilienz. Resilienz ist die Aufrechterhaltung oder Wiederherstellung der psychischen Gesundheit trotz Stress und Widrigkeiten. Resilienz ist ein dynamischer Prozess und kann trainiert werden. Neue Erkenntnisse aus der Forschung zeigen das Potenzial mit pferdegestütztem Coaching moderne Herausforderungen wie Stress und soziale Probleme bewältigen zu können.

Diese Studie besteht im Kern aus zwei Elementen. Einerseits wurde ein Workshop veranstaltet: „Wie erlerne ich Resilienz mit Pferden? – Ein Kurzkonzept“. In diesem Workshop kamen zwei Messmethoden für die Teilnehmer zum Tragen, nämlich die Resilienzabschätzungsskala (RAS) und Resilienzskala (RS). An der Studie haben 8 Arbeitnehmer verschiedener beruflicher Hintergründe teilgenommen. Zudem wurden qualitative Informationen über Interviews mit 4 Firmen und einem Resilienz Coach gesammelt. Zentrale Untersuchungsfrage der Studie war: Zu welchem Ausmaß ist pferdegestütztes Coaching das richtige Werkzeug um Resilienz zu trainieren. Das Ergebnis zeigt, dass abhängig vom Charakter des Teilnehmers die Effekte des pferdegestützten Coachings ausbleiben können, was für eine Minderheit zutrifft, oder medium bis stark ausfallen. In der Studie verzeichnen sechs der acht Teilnehmer einen positiven Einfluss durch pferdegestütztes Coaching, eine Person zeigte keinen Einfluss und eine Person wurde negativ beeinflusst auf kurze Zeit. Zukünftige Studien müssen diese Ergebnisse validieren und Langzeiteffekte evaluieren.

Der Kooperationspartner dieser Studie, Schröder Consulting, hat den Workshop als Dienstleistung in sein Angebotsportfolio mitaufgenommen. Zudem wurde das Workshop Konzept sowohl an andere Beratungsfirmen weitergegeben als auch an die *European Association of Horse Assisted Education* (EAHAE). Zusammenfassend liefert diese Untersuchung Ergebnisse von Resilienzcoaches, Seminarteilnehmern und Interviewten im Umfeld Produktionsindustrie und Industrie 4.0.

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Chapter 1 Introduction

Psychic disorders are one of the most common and cost-intensive disorders. This stated the annual health report 2017 by the DAK (Storm, 2017). DAK is a German health insurance for employees and every year they publish a health report. Psychic disorders are the reason number two why employees are unable to work. In addition, the number of absent days because of psychic disorders are still increasing and constitutes one of the most noticeable developments in the last years (Storm, 2017) (figure 1). For example, in the last sixteen years, the unemployability rose because of psychic disorders nearly doubled (Lohmann & Birkner, 2010) (figure 2).

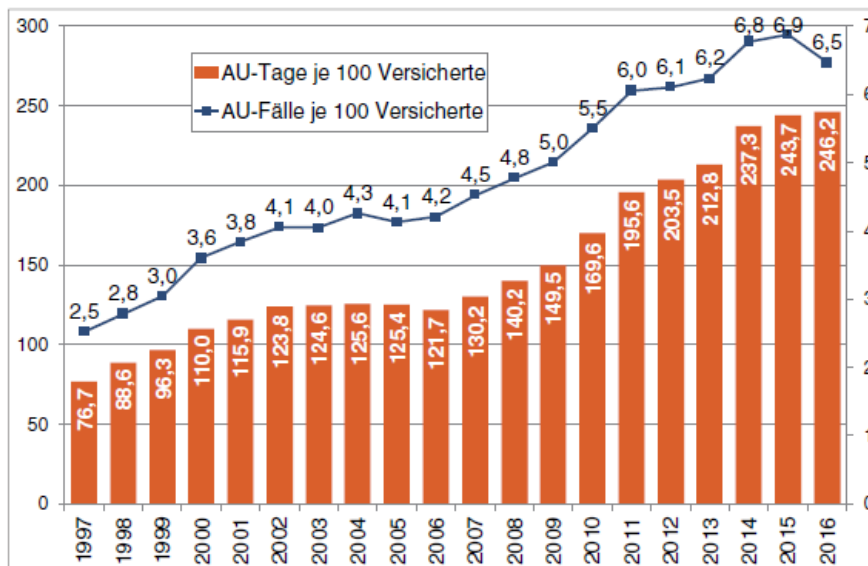


Figure 1: Unemployability days and cases per 100 years of insurance because of psychic disorders (Storm, 2017)

ARBEITSUNFÄHIGKEITSFÄLLE

DURCH PSYCHISCHE ERKRANKUNGEN 1994-2010

(Indexdarstellung), AOK-Mitglieder

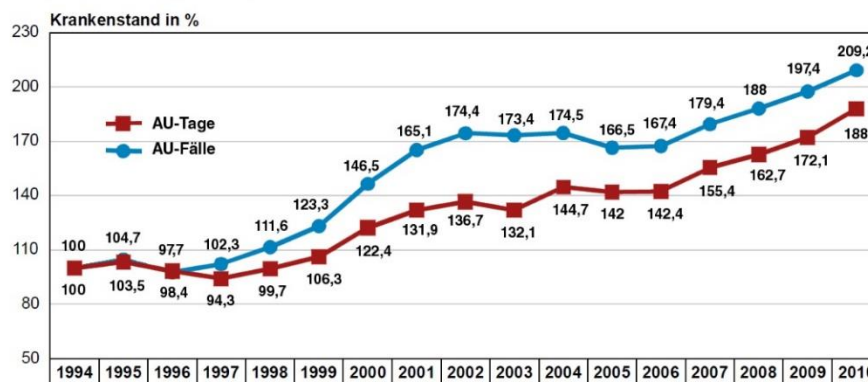


Figure 2: Unemployability because of psychic disorders in the years 1994 – 2010 (Lohmann & Birkner, 2010)

Therefore, psychic disorders form a subject of attention and action. Since the 25th of July 2015, a new law of prevention is active. § 5 of the labour protection asks companies to support employees in their everyday professional life to behave healthier conducive. It is a German law to implement the EU-guidelines concerning industrial safety (Isabella Helmreich, Kunzler, & Lieb, 2017).

Humans are the most precious capital of most companies and consequently, it is crucial to maintain their health and prevent them from psychic diseases. Besides, the companies cannot disdain the factor of costs of rehabilitation. In addition, psychic therapy does not deliver the guarantee that employees do not suffer from a regression (van Dixhoorn, Duivenvoorden, Pool, & Verhage, 1990).

In time of industry 4.0, the HRM (Human Resource Management) sector is a subject to change. The term industry 4.0 describes the upcoming changes of the landscape of the industry, mainly in the manufacturing and production sectors. The fourth industrial revolution will be caused by the internet, where the contact between machines and humans in Cyber-Physical-Systems (CPS) in sizable networks is possible (Brettel, Friederichsen, Keller, & Rosenberg, 2014). Mainly, there are five trends in economy and technology, which play a key role in industry 4.0. These are digitalization, changes in added value networks, individualization of client demands, changes of business models and embedded systems (Brettel et al., 2014). Especially for Germany, this changes in the manufacturing sector is of great significance because it conduces over 25% of the GDP and delivers about 7 million jobs. However, in future, "labour work will change in content but will still remain irreplaceable, especially in view of customization resulting in an increasing need for coordination." (Brettel et al., 2014).

Human resource management (HRM) is defined as "a strategic and coherent approach to the management of an organization's most valued assets – the people working there, who individually and collectively contribute to the achievement of its objectives." (Armstrong, 2007). All processes included in managing people in companies are described by the term HRM. According to Storey (1989), HRM is a "set of interrelated policies with an ideological and philosophical underpinning."

Within the scope of the final internship in the HR sector, the increase of unemployability based on psychic diseases is impossible to be overlooked. Schröer Consulting knows, what maintains an efficient and effective and therefore successful company in times of industry 4.0. It is needed to start professionalizing the company's human resources composition (Schröer Consulting, n.d.). Schröer Consulting, a company specialized in HR, leadership workshops, employee training and horse-assisted coaching, already adapted to the megatrend health. They offer their clients a tool called *risk evaluation of psychic load* to invest in people ('Schröer Consulting - GO! Gesunde Organisation', n.d.). With this program, Schröer Consulting offers companies an individual concept on three levels to maintain the physic and psychic health of business leaders, company leaders and employees. In general, Schröer Consulting is located in Bocholt, Germany and offers customized and individual concepts regarding human resource management. The team exists of experts in different specialties with long-term experience in management functions. They know the company perspective and can provide support exactly fitting to the company needs (Schröer Consulting, n.d.). Schröer Consulting essentially supported this thesis in terms of network, the process of writing, provide scientific literature and the possibility to perform the workshop regarding resilience and horse-assisted coaching.

Working circumstances change as well and therefore, the ability to adapt to changes is crucial. Digitalization and globalization push humans to new limits of efficiency. In consequence, psychological diseases are on the upswing. Companies have to find new ways to handle the stress of their employees. In relation to the new challenges of industry 4.0 the demands and workload of employees increases and intensifies. This can cause more and more stress and psychological trouble for employees. Significant work-related subjects are the speed and amount of work, the working hours, changes in leadership styles, the demand for multitasking and restructuring in working systems. These subjects can cause stress and adversities, which finally can lead to mental disorders (Lohmann-Haislah, 2012).

At this point, the term of resilience is introduced. Resilience is the maintenance or fast recovery during or after stress or adversities. Resilience has the potential to be the “magic” formula to prevent people from psychic disorders. Resilience is a dynamic process of adaption and can be taught through training (Kalisch, 2017).

However, not everybody develops a psychic illness from adversities and stress – there are even people who grow from stress or adversities. This is the reason, why resilience needs more attention and should be used as a method of prevention of psychic diseases (Kunzler, Helmreich, & Lieb, 2016). Even the federal ministry of health discovered the importance of prevention from psychic diseases and the support of health. This means the reduction and prevention of factors of risk and the reinforcement of protective factors and healthy personal living conditions. Since the 25th of July 2015, the law of prevention is active in Germany to implement the EU-guidelines concerning industrial safety. This law is responsible to support citizens in their everyday professional life to behave healthier conducive. Protection and maintenance is not an individual issue anymore, it is becoming an issue for employers and industries. This fact underlines the importance of measures to maintain and strengthen the psychic health and support individual resources. Resilience offers these possibilities (Isabella Helmreich et al., 2017).

In the last ten years, the horse-assisted coaching gained a lot of awareness and popularity in Europe. However, the relationship between humans and horses is a historically part of many cultures around the world. Current research has shown, that horse-assisted coaching is a possibility to develop the cognitive, physical, and social challenges of humans. These challenges are also the factors of resilience and resources, which can be trained. Consequently, the interaction with horses provides humans the chance to heal from psychic disorders, learn in an experiential environment, work on personal growth and development (Lac, 2017).

This topic about resilience and horse-assisted coaching is important to employees, who are faced with the changes in industry 4.0. Adaption to the changes, an increase of demands and workload endanger employees to develop mental illnesses due to the high amount of stress and adversities. Especially the manufacturing sector is affected by the developments of industry 4.0, but, also forms with about 7 million jobs an important sector. With this research paper, they get access to information about the prevention in the scope of resilience and the method of horse-assisted coaching to learn new strategies of stress-coping.

To solve the new challenges resilience is a promising solution asking for deeper research. This paper investigates the potential of horse-assisted coaching to train and improve human’s resilience.

Contemporary, the companies receive the possibility to save money and human capital in the long-term by using horse-assisted coaching. Therefore, this thesis report should justify to health insurances, that horse assisted coaching is an admitted tool to maintain humans psychic healthy. Health insurances should consequently financially support companies, which are willing to provide their employees a horse-assisted coaching.

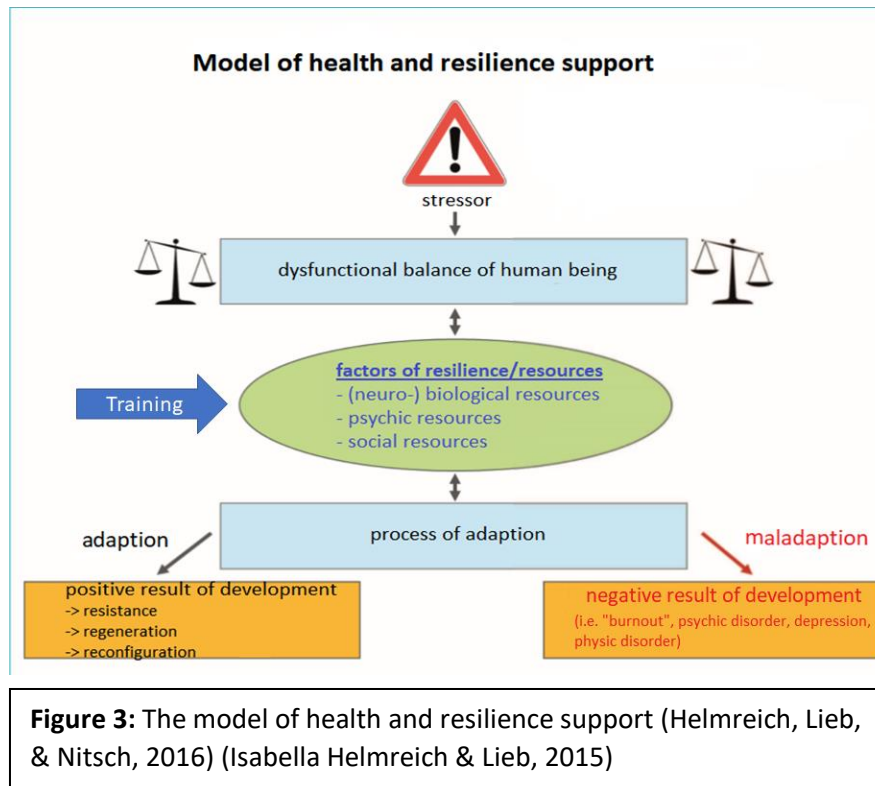
The research method consists of a workshop “How to learn resilience with horses? – A short concept” in combination with the *Resilience Appraisals Scale* (RAS) and *Resilience Scale* (RS) as a tool to examine the respondents’ answers. RAS is developed by (Johnson, Gooding, Wood, & Tarrier, 2010) and is measured by the three subscales “Social Support”, “Emotion Coping” and “Situation Coping”. The RS consists of the seven factors of resilience. The resilience will be measured before and after the horse-assisted coaching to be able to outline an improvement. To investigate the need of companies concerning the resilience, interviews will be held.

The following paragraphs consist of the theoretical framework, the knowledge gap and action problem, the demarcation of the research, the key and subsidiary questions and finally, the thesis goal.

1.1 Theoretical framework and knowledge gap/action problem

The theoretical framework is based on what is already known about the subject and what is not. In addition, the action problem and the demarcation of the scientific research are outlined.

1.1.1 Theoretical framework



In literature exist a lot of definitions of resilience. In general, the term is of Latin origin "resilire" (= rebound, return) (Helmreich, 2016). In this research paper, the definition of the German neuroscientist Raffael Kalisch is used. His latest book "Der resiliente Mensch" focuses on the newest insights from brain research and psychology. According to him, "Resilience is the maintenance or fast recovery of psychic or mental health during or after adversities or significant stress (i.e., short-term/acute or long-term/chronic, social

or physical stressors)." (Kalisch, 2017) (A. Chmitorz et al., 2018). In addition, resilience is viewed as a dynamic process of adaption. Further, it is an outcome, which is modifiable and teachable and is partially dependent on multiple resilience factors. The factors include internal factors, personality traits, and beliefs. These factors are seen as resources, which protect people from the negative impact of stressors. According to behavior research, a stressor is every incident or situation to endanger the organism and therefore results in an answer to stress. In figure 3 the model of resilience is graphically outlined.



Figure 4: The seven factors of resilience (Pätzold, 2015)

Definitions of factors of resilience are numerous. This paper uses the seven factors of (Reivich & Shatté, 2002). The US-scientists belong to the pioneers of resilience research and deliver the approach of the most common concept of resilience in German literature and organization sector. Conferring to (Reivich & Shatté, 2002) resilient people can be recognized by the 7 factors from figure 4.

Emotion regulation implies the ability to manage the internal

world to maintain the productivity, even under pressure. Resilient humans have a developed set of personal skills to take control of emotions, attention, and behavior. *Impulse control* is "the ability to manage the behavioral expression of thoughts and emotional impulses, including the ability to delay gratification." In addition, *impulse control* relates to the first factor *emotion regulation*. *Realistic optimism* is the ability to maintain a positive view of the future and the planning of it. It is related to the factor *self-efficacy* and contains accuracy and realism. *Causal analysis* is "the ability to accurately identify the causes of adversity." Resilient humans have got the ability to get outside their habitual thinking styles and identify this way more probable causes and potential solutions. *Self-efficacy* has to do with the sense of effectiveness in the world and the belief to solve problems and succeed. "Resilient people believe in themselves and as a result, build others' confidence in them." *Empathy* is "the ability to read other's behavioral cues to understand their psychological and emotional states and thus build better relationships." Those humans are in a state to read the nonverbal language to build a deeper connection with other people and are more in balance with their personal emotional situation. *Reaching out* means "the ability to enhance the positive aspects of life and take on new challenge and opportunity." Obstacles to reaching out are an embarrassment, perfection, and self-handicapping (Jackson & Watkin, 2004).

Why is resilience becoming more and more important? Since 2006, the term "resilience" is getting increasingly popular in Germany (Heller, 2015). The concept of resilience as psychic resistance force has its roots in the 1950s. The longitudinal study with children and teenager by the US development psychologist Emmy Werner is the basis of this. She ascertained that one-third of the children grew up to healthy and successful adults despite serious factors of risks. These children have got certain personal and social resources/protective factors, which reduced the negative impact on circumstances of development. Nowadays, it is known that (neuro-) biological, psychic and social resources represent protective factors, which prevent from developing a stress-induced disorder. The protective factors influence the process of adaption to the stressor in a positive way (Helmreich, Lieb, & Nitsch, 2016).

Why is resilience a prominent issue? Every year 38,2% of the European population suffers from a psychic disorder (Kunzler et al., 2016). Depression is one of the most common psychic diseases – more than four million people in Germany suffer from this illness (Isabella Helmreich & Lieb, 2015). During the span of 2000 to 2013 the number of unemployment and medical certificates decreased because of psychic complaints and diseases. They are the three reasons for unemployment (Isabella Helmreich & Lieb, 2015).

How can you measure resilience? Based on the definition of professor Kalisch “Resilience is the maintenance or fast recovery of psychic or mental health during or after adversities or significant stress”, there are two things, which are measurable. Firstly, the psychic health and secondly, the adversities. For a better method of measuring resilience, the term *adversities* is replaced with the term *stressors*. As earlier mentioned, a stressor is every incident or situation to endanger the organism and therefore, results in an answer to stress. Stressors are dependent on individuals and what they understand as a danger (Kalisch, 2017). It is not the point to focus on the change or not change of psychic health regarding the impact of stressors. The point is, to proportion the changes to the extent of stressors, which a human is exposed to. The more stressors the more the chance to develop symptoms of disorders of stress. According to that, it is necessary to consider the stressors to be finally able to measure resilience. The relation between symptom-change and load is deciding. To make a point about the resilience of a human, it is crucial to investigate the load and psychic health during a longer period. The reaction of psychic health in relation to stressors is during those long-time studies investigated. A resilience-questionnaire is thus not a suitable tool to measure resilience. They miss the load and the effect of this load on the psychic health. Furthermore, they do not provide a method of prevention. To perform a resilience study, it is necessary to think of the sample group. In which phase of their life they are, and which stressors are the most important?

How is resilience measured today? Currently, there are three relevant and actual long-term studies concerning information-gathering about resilience in Germany. First of all, “LORA” – a study to capture psychic resilience. Second, the „Mainzer Resilienz-Projekt“ (MARP) to gather information regarding psychic health and factors of stress. Finally, the “Gutenberg Brain Study” investigates the genetic and environmentally determinant of brain health. All three studies consist of the evaluation of psychic health and factors of stress.

There exist two studies in literature regarding the measurement of resilience. The first one is in scope with “Population-based validation of a German version of the Brief Resilience Scale” (Andrea Chmitorz et al., 2018). In this study, the Brief Resilience Scale (BRS) is developed to assess the personal ability to recover from stress despite adversities. Scores in line of BRS are mental health measures, coping, social support, and optimism. The BSR includes six items: “1 “I tend to bounce back quickly after hard times”, item 2 “I have a hard time making it through stressful events”, item 3 “It does not take me long to recover from a stressful event”, item 4 “It is hard for me to snap back when something bad happens”, item 5 “I usually come through difficult times with little trouble”, item 6 “I tend to take a long time to get over set-backs in my life”. These items are rated on a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). The BSR measure the ability to bounce back or regain from stress and therefore, has its focus more on the process of positive adaption than on factors of psychic health in spite of adversities (Andrea Chmitorz et al., 2018).

The second study is “Resilience as positive coping appraisals: Testing the schematic appraisals model of suicide (SAMS)” by Johnson (Johnson et al., 2010). The study implies the *Resilience Appraisals Scale* (RAS) as a central tool to investigate the respondents’ answers to 12 measurement questions. Resilience is measured on three subscales namely “Social Support”, “Emotion Coping” and “Situation Coping”. The answers are rated on a 5-point scale from “strongly disagree” to “strongly agree”. The results of this study identified the positive self-appraisals as a possible resource of resilience, which can prevent humans from the negative influence of stress and adversities (Johnson et al., 2010).

How can resilience be trained? There are two studies in literature regarding the training of resilience. The first one is an “Application of the Pennsylvania resilience training program on medical students” by Li Peng (Peng et al., 2014). The “effects of the Penn Resilience Program (PRP) on the positive and negative emotions, emotion regulation style, and resilience among Chinese medical students” were investigated. The study compared “Resilience, positive and negative emotions, and emotional regulation styles scores” before and after training with help of a questionnaire survey.

The training consists of “connecting thoughts and emotions, challenging irrational thinking and beliefs, cognitive training, a review of lessons 1–3, self-confidence and interpersonal contact, coping strategies, behavior modification exercises, a review of lessons 5–7, problem-solving exercises, and a review of the entire PRP curriculum.”(Peng et al., 2014). Therefore, this PRP training shows the possibility to learn and train resilience.

The second study “Mindfulness-based resilience training to reduce health risk, stress reactivity, and aggression among law enforcement officers: A feasibility and preliminary efficacy trial” by Michael Christopher (Christopher et al., 2018) assess the feasibility of the Mindfulness-Based Resilience Training (MBRT). During this training “self-report and physiological data were collected at baseline, post-training, and three months following intervention completion.” The mindfulness training consists of the Mindfulness-Based Stress Reduction framework and implies “sessions contained experiential and didactic exercises, including body scan, sitting and walking meditations, mindful movement, and group discussion.” (Christopher et al., 2018). Participants of the training “experienced greater reductions in salivary cortisol, self-reported aggression, organizational stress, burnout, sleep disturbance, and reported increases in psychological flexibility and non-reactivity at post-training” (Christopher et al., 2018) This fact makes the MBRT a feasible method to train resilience. However, the results of the training did not maintain in the control group three months after the study. Therefore, a follow-up training or intensifying sessions are needed to maintain the profit of a foregoing training (Christopher et al., 2018).

At this point, the horse-assisted coaching is introduced. This study investigated if horse-assisted coaching could be a follow-up training or intensifying sessions to maintain the gain of a resilience training. Since the 90’s workshops exist for company leaders with help of horse-assisted coaching. Here is the location of the roots of horse-assisted coaching as it is meant in this research paper. Horse-assisted coaching is a process in the sense of the personal development and self-knowledge with the horse as a partner. The horse has the role of a mediator because of its unbiased and honest reactions towards humans. It simply mirrors the current feelings, thoughts, and behavior of individuals. This way, horses give objective feedback to humans, who are thus more willing to reflect their selves. Thusly, the horse has the function of a mediator and applies for a target-oriented process. It has the role to signify a situation or process in the daily work life of the clients (Konir, 2012).

Objectives of horse assisted coaching are:

- “activation of individual resources in different ranges of personality
- stimulation and supporting the development and changing processes, also in relation to professional situations
- clarification and overcoming of personal and professional problems and crisis”

According to the current brain research, it is important to use as much as possible senses and both halves of the brain to be able to learn the optimal way.

Corresponding to Edelman (2016) the following aspects play an immense role in relation to the development of personality.

- “the not-intended learning (learning of observation/ implicit learning)
- the building of experiences through active analysis with the environment
- the emotional and social conditions of learning
- the experiences in processes of interaction”

With horse-assisted coaching all levels of learning are implemented and form thus a whole situation of learning. This also has a positive influence on the process of learning theoretical aspects in between the coaching units. The brain scientist prof. dr. Hüther confirms that new things just can be implemented in the brain if the emotional centers of the brain are also activated.

Enthusiasm enables the release of messengers in the brain, which is necessary for the processes of reconstruction in the neuronal network system. This fact gives one the one hand, a justifiable reason of the sustainable aspect of horse assisted coaching and on the other hand, provides an ideal learning environment to train resilience of humans (Konir, 2012).

Horse-assisted coaching is already used in the scope of burnout prevention, either in a team or individual coachings. The high-pressure successful employees impose on their selves is a typical symptom of burnout. Horses offer the possibility of reflection, that successful work is a combination out of high commitment and meaningful breaks. The preventive approach to burnout consists of a new definition of performance and time. In addition, horses form a role model within the scope of the differentiation of enthusiasm and overload. Horses are able to feel stress, but their main focus is their own wellbeing. Even to learn new strategies for coping with stress can be experienced and learned. This is possible due to the controlled confrontation with situations of stress. Horses just search the closeness to people, who radiate a sense of calm. It forms thus an indicator for successful methods of coping strategies (Konir, 2012).

In this research paper, the transaction model of stress and coping by Lazarus & Folkman is used. This is represented in figure 5. According to them, this model describes the relation of requirements and resources and highlights the cognitive assessment process.

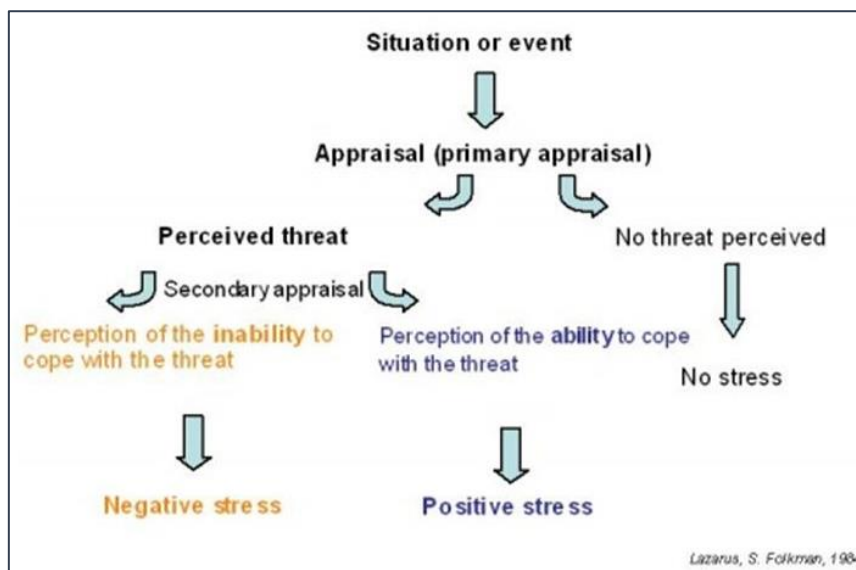


Figure 5: Transaction Model of Stress and Coping – Lazarus & Folkman, 1984 (Hunt, n.d.)

During the “primary appraisal” people assess situations as threatening, challenging, damaging or irrelevant. Stressors at the working place can consist of the areas working organization, working environment, working tasks and role conflict or social relationships. After the “primary appraisal”, the requirements of the situation are matched with the available resources in a subjective process of evaluation. This is the “secondary appraisal”, which refers to the individual characteristics like competences, social resources, persuasion and more. In case of a shortage of resources, a reaction to stress is caused. This stress is negative, whereas an abundance of resources causes a reaction of positive stress. Dependent on the situation, personal traits, and perception of people a strategy of coping is chosen. This is a trial to cope with a stressor and therefore the behavior of coping cannot be measured by success but rather on the intention of the action. The coping behavior can either be problem-oriented or emotion-oriented. The problem-oriented behavior focuses on solutions and emotion-oriented behavior focuses on the reduction of load. For example, through resistance, abnegation or the search for emotional support. The success or failure determines the learning or intensifying of selection of coping strategies.

In addition, it guarantees a dynamic adaption to new situations, which can be rated new every time; in a positive and negative way. This reassessment is called “reappraisal” (Lohmann-Haislah, 2012).

Symptoms of stress can be recognized in four levels of reaction. At the emotional level, the person feels insecure, scared, irritated and can suffer from mood changes, aggression, and depression. At the cognitive level, the person can suffer from a disturbance of concentration, performance, memory, and perception. In addition, reveries, nightmares and blindage effect can occur. Reactions of the muscular system are also symptoms of stress. Humans can develop general tensivity, pain in the neck, back and head, muscle tremor, fatigability, the propensity of convulsions and the inability to relax. The last level is the psychosomatic disorders.

They include tachycardia, allodromy, high blood pressure, cardiovascular trouble, an increase of infarction risk, gastritis, stomach-bowel ulcers, indigestion and insomnia (Lohmann-Haislah, 2012).

To be able to define and classify psychic disorders the ICD-10 is used. This is the 10th revision of the “International Statistical Classification of Diseases and Related Health Problem” and is a medical classification list by the World Health Organisation (WHO). The list covers codes for illnesses, signals, indications, irregular discoveries, grievances, community conditions, and exterior reasons for damage or illnesses (‘DIMDI - ICD-10-WHO’, n.d.).

As earlier mentioned the DAK publishes annual health reports. In the report of 2013, the focus is on psychic disorders and their rate of frequency. The research paper just deals with the disorders named in the report of the DAK. These are the disorders of psyche and behavior with a focus on the categories of affective disorders, neurotic, somatoform and load disorders and as a special category burnout. Affective disorders consist of symptoms concerning a change of mood or an affectivity to depression. Most of these disorders tend to be a regression and have a connection with debilitating situations and incidents (‘ICD-10-GM-2018 F30-F39 Affektive Störungen - ICD10’, n.d.). Neurotic, somatoform and load disorders have one or two causal factors. Firstly, a debilitating life event and secondly a special change of life. They can evoke an acute reaction of load and therefore a continuing unpleasant situation. This, in turn, can elicit a disorder of adaption and causes problems of the social functionality (‘ICD-10-GM-2018 F43.- Reaktionen auf schwere Belastungen und Anpassungsstörungen - ICD10’, n.d.).

Together with the depression, the disorder of adaption experienced the highest increase in diagnoses, which reasons the number of unemployment days (Marschall, Nolting, & Hildebrandt, 2013).

Burnout is seen as a separate illness and describes problems in terms of difficulties of coping with life. It is a state of total exhaustion (‘ICD-10-GM-2018 Z73 Probleme mit Bezug auf Schwierigkeiten bei der Lebensbewältigung - ICD10’, n.d.). The phenomena of burnout gained in the last eighteen years more and more awareness (Marschall et al., 2013).

1.1.2 Knowledge gap/action problem

Until now, there is no information available if and to what extent horse assisted coaching can affect the resilience of humans. In addition, there is neither a tool or method in literature known, which can train the resilience in the long term. The study of “Mindfulness-Based Resilience Training” reveals, that there is the need for a follow-up training to maintain training gains. Moreover, the Pennsylvania resilience training program stated, that a cognitive style change could lead to an improvement of resilience. Consequently, there are numerous tools and methods available to measure the resilience.

Finally, the measurement tool RAS of Johnson and the *Resilience Scale* (RS) are used and combined with the planned workshop of horse-assisted coaching. By doing this, it is tested if horse-assisted coaching can be a follow-up training to keep training profits.

1.1.3 Demarcation

The bridge between resilience and horse-assisted coaching is the focus of this research. The focus is on Germany and therefore, the chosen literature is based on definitions and latest news, which are relevant for Germany. The reason to focus on Germany is due to the fact, that more than four million people in Germany suffer from the psychic disease depression. Besides, psychic disorders nearly doubled in the last sixteen years and caused an increase in unemployment. Therefore, there is a high need for future research and approach to preventing humans from psychic diseases. Another reason to choose Germany is because of the network and information provided by Schröder Consulting.

This thesis research should deliver a justification to admit horse-assisted coaching as a suitable and sustainable tool to maintain humans psychic healthy. The necessity of a sustainable and alternative tool in comparison to psychotherapy should be emphasized.

1.2 Key questions and subsidiary questions

In this paragraph, the key question and subsidiary questions are formulated to give a framework about what was investigated in the past.

Key question:

- To what extent is horse assisted coaching a suitable tool to train the resilience?

To train means in this context the three subscales “Social Support”, “Emotion Coping” and “Situation Coping”, which also refer to the seven factors of resilience.

To answer the key question the following subsidiary questions are developed. They are systematically investigated and answered and can finally answer the key question.

Subsidiary questions:

- What are possible impacts of horse assisted coaching on humans?
- How can the impact of horse assisted coaching on resilience be measured?
- What makes horse assisted coaching a suitable tool in the background of resilience?

1.3 Thesis goal

This paragraph formulates the answer the research expects. In addition, this part describes the value of the paper for the reader.

This thesis gives the companies an overview and insights of horse-assisted coaching and its positive and supportive impact on the resilience. The focus is on companies in Germany, which have problems with their employees based on a high load of stress. This is due to the changes, which are associated with industry 4.0. Mainly, the manufacturing and production sectors are affected by these changes (‘Digitaler Wandel: Industrie 4.0 und das Internet der Dinge | BDI’, 2018) therefore, the research is aiming at the manufacturing and production sectors.

This scientific research aims to inform companies in the manufacturing and production sectors. However, mental illnesses can occur in every branch and in any kind of people. The whole business environment is interested in mentally healthy people that can provide and sustain the efficiency and effectivity of companies.

Horse-assisted coaching could be a suitable tool to train and improve the resilience in a sustainable manner to maintain the mental health of humans.

Chapter 2 Approach

Chapter two includes the material and method, which describes how the research was done. The chapter explains the measurement scale, relationship of investigation, measurement strengths and measurement dimensions relevant for the workshop first. Then, the approach chapter describes the workshop itself and critically reflects on the limitations of the methodology. Next, the researcher clarifies the interviews. Finally, the approach matches research questions with research methods used in this paper.

During the process of writing the thesis report a workshop “How to learn resilience with horses? – A short concept” was developed. Eight persons with different working background participated in the workshop. This workshop took place in May 2018. Hereby, the *Resilience Scale* (RS) with the seven factors (see appendix 1) and the *Resilience Appraisals Scale* (RAS) of Johnson with twelve questions (see appendix 2) were filled in before and after the horse-assisted coaching. The resilience appraisals scale was combined with the most important stressor. The eleven main stressors of the persolog® stress profile concerning work life were used for this. The persolog® stress profile consists of mental overload, vague task allocation, the strong pressure of responsibility, insufficient support, social conflicts, insufficient appreciation, excessive control, high demands, job insecurity, the insufficient scope for decision-making and insufficient scope of action (Geier & Downey, 2011). The persolog® stress profile rests on the behaviourism by professor John G. Geier and draws on the model of the stress of Lazarus.

The study investigated how horse-assisted coaching (independent variable) influenced the resilience (dependent variable) of the unit of research, thus the respondent. This question required a tool to measure the resilience before and after the horse-assisted coaching impacted the unit of research. The next paragraph describes the focal tool to measure psychological resilience.

This research paper applied the *Resilience Appraisals Scale* (RAS) as a central tool to investigate the respondents' answers. RAS is a state of the art tool developed by (Johnson et al., 2010). The authors measured resilience on three subscales namely “Social Support”, “Emotion Coping” and “Situation Coping”. To get a better understanding of the 12 measurement questions, see table 1. The responses were rated as in the original study on a 5-point scale from “strongly disagree” to “strongly agree”. Reasons to apply RAS were manifold. Beyond the (1) currency of the RAS measurement, other good reasons to choose for RAS were its (2) simplicity of measurement, (3) the scientific reputation and relevance of the Johnson paper, (4) appropriately tested in past studies and naturally (5) the fit into this study. (1) The currency of this study was validated by advancements and applications of the authors of this tool in the last years. Moreover, Elsevier is known to publish qualitative studies. (2) Furthermore, it was hard to find a tool that evaluates any part of the human psyche with twelve questions only. Asking respondents only twelve questions helped to obtain the respondent's attention. Other studies relied on numerous questions, which caused the danger to lose the respondents interest and consequently reliability of the respondent. (3) 117 citations proved the scientific reputation and relevance of the paper. (4) E.g. the test indicated a good fit for a study Chi-Square $\chi^2(51, n=118) = 55,12, p=0,322$. The Confidence Interval of .10 was larger than .95 (Johnson et al., 2010).

The results are gathered on two dimensions: 1.) the RAS dimension and 2.) the RS dimension. The data was gathered on two points in time, once immediately before the workshop and once immediately after the workshop. Consequently, the data show the personal development over the time of the workshop. The RAS and RS are pure self-appraisal and are subjective measure points. This minimizes the validity and reliability of the results.

Table 1: Items from the Resilience Appraisal Scale (RAS)

Item	Subscale
1. If I were to have problems, I have people I could turn to	Social Support
2. My family or friends are very supportive of me	Social Support
3. In difficult situations, I can manage my emotions	Emotion Coping
4. I can put up with my negative emotions	Emotion Coping
5. When faced with a problem I can usually find a solution	Situation Coping
6. If I were in trouble, I know of others, who would be able to help me	Social Support
7. I can generally solve problems that occur	Situation Coping
8. I can control my emotions	Emotion Coping
9. I can usually find a way of overcoming problems	Situation Coping
10. I could find family or friends, who listen to me if I needed them to	Social support
11. If faced with a set-back, I could probably find a way round the problem	Situation Coping
12. I can handle my emotions	Emotion Coping

These 12 items from the resilience appraisal scale were asked before and after the horse-assisted coaching. Also, the seven factors from the resilience scale were asked before and after the horse-assisted coaching.

The workshop of this research consisted of three parts. In the first part, the participants have chosen their resilience factor which each participant wanted to work on Furthermore, the participants filled in a questionnaire about their RS and RAS scale (see appendix 1 and 2). In the second part, the relationship between the chosen factor and the stressor was tested with a horse. For this purpose, the coach assigned a task to the participants (see appendix 3 for more details). The horse reacted to the assigned participant by its behavior. The participants interpreted the horse reactions by help of a coach. On basis of the horse's reaction coach and participant were able to conclude on participants' focal resilience factor. In the third step, a reflection session with coaches and participants enabled feedback and self-reflection on resilience. The reflection data was gathered by the questionnaires RS and RAS (see appendix 1 and 2).

This was a case study with eight respondents. Therefore, the study had not the scope to be a milestone in resilience and horse coaching. Rather, the study intended to be a cornerstone of future studies and a starting point to dig deeper. On top of that, this study served as the thought-provoking impulse to consider the relevance of the described variables on each other.

In addition, a small range of interviews with four companies and one resilience coach was implemented. The interviews deliver more information about the relevance of resilience for companies. In addition, the interviews examined the need for companies regarding a method or tool to strengthen the resilience of employees. The test persons were selected regarding their industry and knowledge of resilience and horse-assisted coaching. The resilience coach helped to develop and implement the workshop and is a specialist in this area. Two test persons, one of the production sector and one of the Business Intelligence industry got the possibility to attend the horse-assisted coaching. Therefore, they got the possibility to gain knowledge about resilience and horse-assisted coaching and to try this method to train their resilience. One test person just heard of the terms resilience and horse-assisted coaching. The last test person never heard before of the two terms and just got a brief explanation before the interview. The answers of the interviewees deliver valuable insights because of the respondents' connection to industry 4.0. The structure of the interview can be found in appendix 4.

Consequently, the data collection was executed with help of two quantitative questionnaires in context with the resilience workshop and five qualitative interviews.

To answer the subsidiary question in chapter 1.2 and finally, the key question, the following working steps were performed.

- **What are possible impacts of horse assisted coaching on humans?**
 - interviews with resilience coach and companies
 - workshop
 - resilience scale
 - resilience appraisals scale

The information was collected with help of an interview with the resilience coach and the companies, the workshop, the resilience scale and the resilience appraisal scale. The resilience coach was selected because of the knowledge of horse-assisted coaching and the fact that the coach helped to develop and implement the workshop. The interview focused on the experience of a professional. The interviews with companies surveyed if there is knowledge about resilience and horse-assisted coaching and the opinion regarding possible impacts. Altogether, five interviews were conducted. It was important to choose employees from different branches to get a wide range of perspectives. Two employees work in the production sector because of the chosen focus in this thesis. After this, the workshop outlined in a small and quantitative range the possible impacts. Finally, the resilience scale with the seven factors and the resilience appraisal scale with the twelve items had the chance to confirm an impact.

- **How can the impact of horse assisted coaching on resilience be measured?**
 - workshop
 - resilience scale
 - resilience appraisals scale

To answer this question, the workshop, the resilience scale, and the resilience appraisal scale were used. The workshop included the seven factors of resilience in combination with the eleven main stressors. The resilience appraisal scale provided a tool to measure resilience regarding "Social Support", "Emotion Coping" and "Situation Coping". The twelve items were used for this as well. Both steps formed a pre-post comparison and were displayed in a graphic.

- **What makes horse assisted coaching a suitable tool in the background of resilience?**
 - desk research online and subject-specific literature
 - interviews with resilience coach and companies

With this question, the suitability of horse-assisted coaching as a tool was investigated. The information of desk research and subject-specific literature formed the foundation to answer this question. The terms of the search were "resilience", "horse-assisted coaching", "resilience factors" and "measurement tool". Selection criteria were a publishing date not older than ten years and a publication in a scientific context. Information of the desk research needed a reference in the source list. The resilience coach is a specialist of resilience and the method of horse-assisted coaching. The interviews with companies surveyed how the meaning about horse-assisted coaching as a suitable tool looked like. Altogether, four interviews were conducted. It was important to choose employees from different branches to get a wide range of perspectives. At least two employees should work in the production sector because of the chosen focus in this thesis.

Chapter 3 Results

This chapter focuses on the results the approach delivered in coherence with the subsidiary questions.

The data collection exists of two quantitative questionnaires in context with the resilience workshop. The respondents filled in the two questionnaires before and after the horse-assisted coaching. In addition, interviews with one resilience coach and four employees by companies reveal the suitability of horse-assisted coaching as a method to train resilience. In addition, the impact of horse-assisted coaching on the resilience of humans is given.

The results are divided into three topics: 1.) the possible impact of horse-assisted coaching on humans 2.) the measurement of the impact of horse-assisted coaching on resilience and 3.) the suitability of horse-assisted coaching as a method to train the resilience.

Nevertheless, subsidiary question one and two refer to the same results and are displayed in one paragraph.

3.1 Impact and measurement of horse-assisted coaching on humans

The first part of this results section describes the quantitative data gathered for this research. The quantitative data origins from a workshop. The workshop was specially organized to gather information about the effects of horse assisted coaching on psychological resilience. Eight people participated in the workshop. Therefore, the study presents quantitative case data of eight respondents. The results are gathered on two dimensions: 1.) the RAS dimension (see table 2-4) and 2.) the RS dimension (see table 5-7). The data was gathered on two points in time, once immediately before the workshop (see table 2 and 5) and once immediately after the workshop (see table 3 and 6). Table 4 and 7 show the personal development over the time of the workshop, thus table 4 and 7 show the difference in results before and after the workshop. The tables commonly show the dimensions per column and respondents' answers per line. The grand total of table 2, 3, 5 and 6 shows the average of the column or row result. The grand total of table 4 and 7 show the sum of columns and rows. The tables are depicted as highlight tables to better illustrate the content and facilitate understanding of the numbers. The advantages of highlight tables especially excel when illustrating the before and after difference (see table 4 and 7). The scales of the highlight tables are logically the same as in the questionnaires. The result per respondent can be found in appendix 5.

Table 2: Items from the Resilience Appraisal Scale (RAS) before workshop

Characteristic Form

1  5

	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
	If I were to have problems, I have people I could turn to	My family or friends are very supportive of me	In difficult situations, I can manage my emotions	I can put up with my negative emotions	When faced with a problem I can usually find a solution	If I were in trouble, I know of others, who would be able to help me	I can generally solve problems that occur	I can control my emotions	I can usually find a way of overcoming problems	I could find family or friends, who listen to me if I needed them to	If faced with a set-back, I could probably find a way round the problem	I can handle my emotions	
Respondent 1	5	5	4	4	4	5	5	3	5	5	5	5	4,6
Respondent 2	5	5	2	2	4	5	4	2	4	5	3	2	3,6
Respondent 3	5	5	1	3	5	5	3	2	5	5	1	2	3,5
Respondent 4	4	5	3	3	4	4	4	3	4	5	4	3	3,8
Respondent 5	5	4	4	3	5	5	5	4	5	4	5	4	4,4
Respondent 6	4	4	4	3	4	4	4	4	4	4	2	4	3,8
Respondent 7	4	4	3	2	4	4	4	2	4	4	3	2	3,3
Respondent 8	3	4	4	4	4	4	4	4	4	4	3	4	3,8
Grand Total	4,4	4,5	3,1	3,0	4,3	4,5	4,1	3,0	4,4	4,5	3,3	3,3	3,9

Table 3: Items from the Resilience Appraisal Scale (RAS) after workshop

	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
	If I were to have problems, I have people I could turn to	My family or friends are very supportive of me	In difficult situations, I can manage my emotions	I can put up with my negative emotions	When faced with a problem I can usually find a solution	If I were in trouble, I know of others, who would be able to help me	I can generally solve problems that occur	I can control my emotions	I can usually find a way of overcoming problems	I could find family or friends, who listen to me if I needed them to	If faced with a set-back, I could probably find a way round the problem	I can handle my emotions	
Respondent 1	5	5	4	4	4	5	5	4	5	5	5	5	4,7
Respondent 2	5	5	1	2	3	5	4	1	3	5	3	2	3,3
Respondent 3	5	5	2	4	5	5	5	4	5	5	1	4	4,2
Respondent 4	4	5	3	3	4	4	4	4	4	5	4	3	3,9
Respondent 5	5	4	4	3	5	5	5	4	5	4	5	4	4,4
Respondent 6	4	4	4	4	4	4	4	4	4	4	2	4	3,8
Respondent 7	4	4	3	2	4	4	4	2	4	4	4	2	3,4
Respondent 8	4	4	5	5	5	4	5	5	4	4	4	5	4,5
Grand Total	4,5	4,5	3,3	3,4	4,3	4,5	4,5	3,5	4,3	4,5	3,5	3,6	4,0

Table 4: Items from the Resilience Appraisal Scale (RAS) difference in results

Before - After Difference




	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
	If I were to have problems, I have people I could turn to	My family or friends are very supportive of me	In difficult situations, I can manage my emotions	I can put up with my negative emotions	When faced with a problem I can usually find a solution	If I were in trouble, I know of others, who would be able to help me	I can generally solve problems that occur	I can control my emotions	I can usually find a way of overcoming problems	I could find family or friends, who listen to me if I needed them to	If faced with a set-back, I could probably find a way round the problem	I can handle my emotions	
Respondent 1	0	0	0	0	0	0	0	1	0	0	0	0	1
Respondent 2	0	0	-1	0	-1	0	0	-1	-1	0	0	0	-4
Respondent 3	0	0	1	1	0	0	2	2	0	0	0	2	8
Respondent 4	0	0	0	0	0	0	0	1	0	0	0	0	1
Respondent 5	0	0	0	0	0	0	0	0	0	0	0	0	0
Respondent 6	0	0	0	1	0	0	0	0	0	0	0	0	1
Respondent 7	0	0	0	0	0	0	0	0	0	0	1	0	1
Respondent 8	1	0	1	1	1	0	1	1	0	0	1	1	8
Grand Total	1	0	1	3	0	0	3	4	-1	0	2	3	16

Looking at the columns and column totals, table 1 shows that most respondents agree or strongly agree on solving problems (question 2), find a way to overcome problems (question 5), family and friends network backing (question 6), acquaintances support (question 8), family or friends support (question 11) and finally ability to find solutions (question 12). Other resilience topics are evaluated on a moderate level by most respondents while some respondents admit having certain weaknesses in some areas of resilience appraisal. The rows and row total say that some participants evaluate themselves on average better than others from the sample do.

Contrasting the after-results to the before-results the reader recognizes that 6 participants increased their evaluation on the RAS scale after the workshop. One participant evaluated no change, one participant evaluated decreased RAS scale (see table 3).


Change evaluation counts 20 increases in total and 4 decreases. The intensity of evaluation difference ranges between -1 and +2 (see table 4).

Table 5: Items from the Resilience Scale (RS) before workshopCharacteristic Form
1  10

	1 Emotion Regulation	2 Causal Analysis	3 Realistic Optimism	4 Empathy	5 Self-Efficacy	6 Impulse Control	7 Reaching Out	Grand Total
Respondent 1	8	8	8	7	7	7	6	7,3
Respondent 2	5	7	7	7	6	4	2	5,4
Respondent 3	5	3	8	8	7	9	2	6,0
Respondent 4	8	4	9	7	7	3	5	6,1
Respondent 5	6	7	9	9	8	7	6	7,4
Respondent 6	6	6	6	5	6	6	5	5,7
Respondent 7	6	8	3	5	6	5	5	5,4
Respondent 8	4	6	7	6	7	5	6	5,9
Grand Total	6,0	6,1	7,1	6,8	6,8	5,8	4,6	6,2

Table 6: Items from the Resilience Scale (RS) after workshop

	1 Emotion Regulation	2 Causal Analysis	3 Realistic Optimism	4 Empathy	5 Self-Efficacy	6 Impulse Control	7 Reaching Out	Grand Total
Respondent 1	9	9	9	9	8	9	8	8,7
Respondent 2	7	6	7	8	6	4	3	5,9
Respondent 3	7	10	10	9	9	10	10	9,3
Respondent 4	8	6	9	8	8	5	6	7,1
Respondent 5	8	7	9	9	8	9	8	8,3
Respondent 6	7	7	7	6	7	8	6	6,9
Respondent 7	7	8	6	5	6	5	5	6,0
Respondent 8	8	7	8	7	9	7	7	7,6
Grand Total	7,6	7,5	8,1	7,6	7,6	7,1	6,6	7,5

Table 7: Items from the Resilience Scale (RS) after workshop difference in resultsBefore - After Difference
-1  8

	1 Emotion Regulation	2 Causal Analysis	3 Realistic Optimism	4 Empathy	5 Self-Efficacy	6 Impulse Control	7 Reaching Out	Grand Total
Respondent 1	1	1	1	2	1	2	2	10
Respondent 2	2	-1	0	1	0	0	1	3
Respondent 3	2	7	2	1	2	1	8	23
Respondent 4	0	2	0	1	1	2	1	7
Respondent 5	2	0	0	0	0	2	2	6
Respondent 6	1	1	1	1	1	2	1	8
Respondent 7	1	0	3	0	0	0	0	4
Respondent 8	4	1	1	1	2	2	1	12
Grand Total	13	11	8	7	7	11	16	73

Looking at the columns and column totals, table 5 shows that most respondents have good or optimal realistic optimism (factor 3), empathy (4) and self-efficacy (5). The factor reaching out (7) is least of all developed. Other resilience factors are evaluated on a moderate level by most respondents while some respondents admit having certain weaknesses of resilience factors. The rows and row total say that some participants evaluate themselves on average better than others from the sample do.

Contrasting the after-results to the before-results the reader recognizes that all participants increased their evaluation on the RS scale after the workshop (see table 6).

Change evaluation counts 74 increases in total and 1 decrease. The intensity of evaluation difference ranges between -1 and +8 (see table 7).

The second part of this results section describes the qualitative data gathered for this research. Five people participated in the interviews. Therefore, the study presents qualitative data of five respondents.

The qualitative interview with the resilience coach reveals that horse-assisted coaching has a significant impact on the resilience of humans. Insights are needed to think, act and feel in a unique way. Experiences, which “get under the skin”, referring to the brain scientist prof. dr. Hüther, are needed to gain new insights. With horse-assisted coaching, these experiences are provided. Horses are resilient and conquer an exemplary function for humans to live mindfully and healthy.

The consultant by a company in the production sector states that people are more able to deal with themselves with help of horse-assisted coaching. The workshop offered input referring the status of change with resilience. Horses reveal the truth and lead people through the problems.

The consultant by a company in hygienic-quality management sector thinks that the aspect of focusing on a horse enables the deactivation of everyday thoughts. Consequently, feelings can be sensed better, and relaxation can happen.

The consultant by a company in the IT&BI sector says that horse-assisted coaching offers the possibility to improve the resilience. Especially, the improvement of weaknesses is in the foreground. During the workshop, the people chose for a weak resilience factor to work on. However, in general, people are likely to work more on their strengths to gain successes faster. In contrast, horse-assisted coaching places the focus on weaknesses.

The laboratory leader by a company in the nutrition industry thinks that horse-assisted coaching has a positive effect on the resilience of humans. The effect is probably higher as when people visit the psychologist. The horse remains neutral.

All in all, the test persons determine that horse-assisted coaching has a positive impact on the resilience of humans. The interviews can be found in appendixes 4.1 – 4.5.

3.2 Horse-assisted coaching as a suitable tool in background of resilience

According to subject-specific literature, there are four aspects, which play a significant role in relation to the development of personality and learning behavior. (1) “The not-intended learning (learning of observation/ implicit learning) (2) the building of experiences through active analysis with the environment (3) the emotional and social conditions of learning and (4) the experiences in processes of interaction” Edelman (2016).

Horse-assisted coaching implements all four levels of learning and creates, therefore, a whole situation of learning. Referring to the brain scientist prof. dr. Hüther new insights and experiences just can be implemented in the brain if the emotional centers of the brain are also activated. Enthusiasm is an activator of messengers in the brain, which are necessary for the processes of reconstruction in the neuronal network system. Consequently, horse-assisted coaching provides an ideal learning environment to train resilience of humans and additionally, is a sustainable method (Konir, 2012).

The results of the qualitative research in form of interviews display the opinion of one resilience coach and four persons out of the working environment. One consultant by a company in the production sector, one consultant by a company in hygienic-quality management sector, one consultant by a company in IT&BI sector and laboratory leader by a company in the nutrition industry.

The resilience coach reveals that with horse-assisted coaching there is the possibility to produce a mirror of behavior. The horse mirrors immediately the behavior of the human. To recognize the processes, it is necessary to be familiar with the way of communication of horses. This provides the basis to be able to help at the right leverage point to start a change. However, if a person is not that familiar with the way of communication of horses, there is still the experience of feelings. This is necessary to change circumstances. It is possible to read the own inner soul life, own behavior and patterns with help of the horse. In addition, the horse creates a shelter, and this gives the space to train things which are difficult to train with other humans. In case if humans are authentic and are honest about their selves the horse will react in a cooperative and helpful way.

The consultant by a company in the production sector refers to the experiences gained during the workshop. The resilience factor “emotion regulation” bothered this person already an extended period of time and during the workshop was space to work on it. The exercise with the horse did not work like the imagination and requirement. Still, it was insightful, because of the knowledge, that there is still potential to grow. The new insights needed time to unfold and make its presence felt. With help of the horse-assisted coaching, it was possible to deal better with problems.

The consultant by a company in hygienic-quality management sector thinks that horse-assisted coaching offers everybody the possibility to think about themselves. In addition, it is possible to observe the horse with help of questions by the coach. As a result, the thoughts are directed to observe themselves and to effect an inner reflection.

The consultant by a company in IT&BI sector states that horse-assisted coaching provides a mirror to reflect the own behavior, especially the subconscious facets. This reflection of the subconscious behavior only happens in combination with horse-assisted coaching. The reflection of the profound behavior offers the possibility of a profound analysis. Likewise, it is an advantage that the mirror of horses is not deformable, and the person can see themselves par for par.

The laboratory leader by a company in the nutrition industry names horse-assisted coaching a soft version to explain or teach something to somebody. It is a gentle way, which suits 90% of people better than a brusque way.

All in all, the test persons state that horse-assisted coaching is a suitable tool to train the resilience of humans. The interviews can be found in appendixes 4.1 – 4.5.

Setting the results of the quantitative and qualitative research in context to each other they state a compliant picture. This consist of the outcome that horse-assisted coaching has mainly a positive effect but a negative impact on the resilience of humans, as well. To what extent the effect is positive or negative can be dependent on (1) the individual human (2) the chosen resilience factor to work on and (3) on the existing resilience appraisal. Resilience can be measured with RAS and RS and horse-assisted coaching is a suitable tool to train the resilience.

Chapter 4 Discussion

The chapter discussion focusses on the chosen approach and the results.

The study identifies to what extent horse-assisted coaching is a suitable tool to train the resilience. Besides, the thesis confirms, that horse-assisted coaching improves the resilience in a sustainable manner to maintain the mental health of humans.

The examined reasons for horse-assisted coaching are in line with the sub-questions. This method of coaching can have a positive or negative impact on humans. The impact can be measured with help of the resilience appraisals scale and the resilience scale. However, horse-assisted coaching offers all levels of learning. Horse assisted coaching delivers with the activating of emotional centers of the brain the opportunity to implement new insights and experiences in the long-term.

Subsidiary question one and two refer to the same results and are discussed in one paragraph.

4.1 Impact and measurement of horse-assisted coaching on humans

The quantitative research results point into a clear direction. Horse assisted coaching influences most participants' resilience positively on a short-term. Meanwhile, one respondent was affected negatively, and one respondent was not affected at all. However, horse assisted coaching for affecting resilience is an appropriate tool because seven out of eight respondents reacted positively and negatively. Six of the eight respondents were able to improve their resilience. Therefore, horse assisted coaching harbors the potential to improve resilience. The results state that more research in the area has potential. Depending on the participant's characters, the effects of horse assisted coaching can vary between no effect for a minority and medium to high effects for the majority.

The participation in this study was voluntary, which may mean that there could have been an over or underrepresentation of specific types of respondents. The fact that the sample size was small (eight respondents in the workshop and five respondents in the interviews) minimizes the validity and reliability of the results. This is because the workshop was just designed for eight people in reference to the capacity of the two trainers. Besides, the workshop was specially created for the thesis research and needed to take place in a required period. The interviews took place after the workshop and thus, had a small timeframe. Consequently, the target group was not reached completely, because just three respondents in the workshop and two respondents in the interviews were from the production sector. Limited results of the production sector were available. This method was suboptimal, and it is suggested in future studies that the workshop is offered especially for employees in the production sector. They form the most important source and it can be speculated that they have a medium knowledge and are competent because they work in an industry with strong automatization due to industry 4.0.

The workshop was just a short training. Thus, a short-term observation of the development of resilience and if horse-assisted coaching has an impact on resilience. Further research should investigate if horse-assisted coaching is a method which can train resilience in the long-term. Another limitation is that humans who already indicate a high existing resilience do not have the potential of development in comparison to a person, who indicates a low existing resilience.

The performed interviews give subjective opinions about the impact of horse-assisted coaching on the resilience of humans. It is noticeable to ascertain, that all respondents determine that horse-assisted coaching has a positive impact. However, the answers of the resilience coach and the two respondents, who also attended the workshop could have on the hand a biased view and on the one hand are more able to estimate the impact than the other respondents. The one respondents without any knowledge about resilience and horse-assisted coaching may not be able to estimate the impact to the whole extent and therefore, has a limited view.

4.2 Horse-assisted coaching as a suitable tool in background of resilience

Desk research and subject-specific literature do not deliver any information about the impact of horse-assisted coaching on the resilience of humans. In addition, it is not known if horse-assisted coaching is a suitable tool to train the resilience on the long-term. Therefore, the desk research delivered information about the topics itself without any correlation on each other. Information of desk research and subject-specific literature, thus, formed the foundation.

The Pennsylvania resilience training program states, that a cognitive style change could lead to an improvement of resilience. The present study confirms that, horse-assisted coaching offers a cognitive style change. In addition, Edelmänn (2016) states that four aspects play a significant role in relation to the development of personality and learning behavior: (1) “The not-intended learning (learning of observation/ implicit learning) (2) the building of experiences through active analysis with the environment (3) the emotional and social conditions of learning and (4) the experiences in processes of interaction”. These aspects were confirmed in the present study.

The present study approved the fact of professor Kalisch, that resilience is trainable. Though, just on the short-term because the study had not the scope to verify on the long-term.

Likewise, it could not be confirmed in the present study, that horse-assisted coaching is a suitable follow-up training to maintain training gains. The study of “Mindfulness-Based Resilience Training” consequently, could not be confirmed with the present study. The shortcoming of the long-term focus in this study could be a reason for this. In future research, the focus on the long-term effect to maintain training gains is needed. The present study confirms an effect on the short-term of training and improving the resilience with horse-assisted coaching.

The conducted interviews give subjective opinions about the suitability of horse-assisted coaching as a method to train the resilience of humans. However, it is remarkable, that each test person solely indicates affirming opinions concerning the suitability. Question 4 of the interview was: “What makes horse-assisted coaching as a suitable method to train the resilience?” The positive intention of this question could have influenced the people only giving positive answers. This minimizes the validity and reliability of the given answers in the scope of the research.

Likewise, the answers of the resilience coach and the two respondents, who also attended the workshop could have on the hand a biased view and on the one hand are more able to estimate the suitability than the other respondents. The only respondent without any knowledge about resilience and horse-assisted coaching may not be able to estimate the suitability to the whole extent and therefore, has a limited view. Finally, the statements of the respondents are not generalizable.

In view of the results of this study, it may be worthwhile to further investigate the outcomes of the RAS and the RS at a later point in time. By doing this, the effect in the long-term could be investigated. In addition, it is important to go more in detail by investigating the sustainable and positive way of horse-assisted coaching and the suitability of a follow-up training to keep training profits. Furthermore, in order to construct a valid framework for horse-assisted coaching as a sustainable and alternative tool in comparison to psychotherapy, it is necessary to gain insight into the view of statutory health insurances. It is important to know whether they choose for a new and promising method or stick to the current methods of psychotherapy.

Chapter 5 Conclusions

The conclusion shortly answers the key question and the subsidiary questions.

This thesis research gives an overview of the increasing importance of resilience in regard of industry 4.0 and the gain of unemployability caused by psychic illnesses. Horse-assisted coaching is described as a suitable tool to train the resilience of humans and prevent employees from developing a psychic disorder. The *Resilience Appraisals Scale* and the *Resilience Scale* are introduced in the scope of a workshop to evaluate the progress of resilience in combination with the horse-assisted coaching as training method. Interviews added individual opinions and a wider range of view on the topic.

The goal of this thesis is to provide companies new insights of resilience and horse-assisted coaching. In addition, the positive and supportive impact of the horse assisted coaching on the resilience of humans is displayed. This thesis proves on a short-term that horse-assisted coaching is a suitable tool to train and improve the resilience in a sustainable manner to maintain the mental health of humans. The results intend to be a starting point for future studies.

Possible impacts of horse-assisted coaching on humans can either be positive or negative. However, horse-assisted coaching provides experiences, which "get under the skin", referring to the brain scientist prof. dr. Hüther, to gain new insights, which are again needed to think, act and feel in a unique way. This impact can be measured with help of the *Resilience Appraisals Scale* including 12 items concerning social support, emotion coping and situation coping. These three subscales also refer to the seven factors of resilience. Horse-assisted coaching is a suitable tool to train the resilience because it implements all four levels of learning and creates, therefore, a whole and ideal situation of learning. This offers integrating new insights and experiences in the brain in a sustainable way. Moreover, horse-assisted coaching presents the possibility to receive a neutral inner reflection of own behavior, especially subconscious facets.

To what extent horse-assisted coaching is a suitable tool to train the resilience is dependent on (1) the individual human (2) the chosen resilience factor to work on and (3) on the existing resilience appraisal.

The study showed the role of horse-assisted coaching in improving the resilience of humans with elements of the *Resilience Appraisals Scale (RAS)* elaborated by (Johnson et al., 2010). The results of the study intend to be a starting point for future studies.

While the data present a consistent picture, they are limited to the eight participants, which attended the workshop where the research was conducted and may not be generalizable. Furthermore, the data are based on respondent's self-appraisal concerning the improvement of resilience, not on scientific research. While the workshop used the tool *Resilience Appraisals Scale (RAS)* by Johnson and *Resilience Scale (RAS)* on a small sample size, the results are not representative, nor are the medium and long-term effects of horse-assisted coaching on the resilience observed under repeat coachings.

This research highlights the potential of horse-assisted coaching as a method to train the resilience and generate further interest in efforts to address constraints to prevention possibilities of psychic diseases.

Overall, the study is successful and satisfying due to the results and next steps. Schröer Consulting will offer the developed workshop as a promising service in its service portfolio. Moreover, the concept of the workshop was passed on to other consulting agencies and the European Association of Horse Assisted Education (EAHAE).

Chapter 6 Recommendations

This study investigates the effects of horse-assisted coaching on resilience on two points in time. Future research has to investigate the medium and long-term effects of the relationship between horse-assisted coaching and resilience. Longer-term studies promise to prove the sustainability of the effects.

The workshop was limited to eight participants. Five people participated in the interviews. Due to the small sample size, the results are not generalizable. In future research, a larger sample has to validate the results to generalize this research.

A feedback session after the workshop made clear that the input from the researcher to the participants was broad. Consequently, future workshops should split the content on a two-day workshop.

Finally, this study intended to be a cornerstone of future studies and a starting point to dig deeper. On top of that, this study is the first attempt to investigate the impact of horse-assisted coaching on the resilience of humans as a suitable method to maintain the psychic health.

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Appendixes

Appendix 1: Resilience Scale (RS) – empty

This is a worksheet including the seven factors of resilience. Assess yourself regarding each factor. This appraisal takes place before and after the horse-assisted coaching to evaluate the progress.

Please tick: 1 = few 10 = optimal

Emotion regulation

	1	2	3	4	5	6	7	8	9	10
Before										
After										

Causal analysis

	1	2	3	4	5	6	7	8	9	10
Before										
After										

Realistic optimism

	1	2	3	4	5	6	7	8	9	10
Before										
After										

Empathy

	1	2	3	4	5	6	7	8	9	10
Before										
After										

Self-efficacy

	1	2	3	4	5	6	7	8	9	10
Before										
After										

Impulse control

	1	2	3	4	5	6	7	8	9	10
Before										
After										

Reaching out

	1	2	3	4	5	6	7	8	9	10
Before										
After										

Appendix 2: Resilience Appraisals Scale (RAS) – empty

Please state in how far you agree with the statements below. This is pure self-appraisal.

Please tick: 1 = strongly disagree 3 = neutral 5 = strongly agree

1.) If I were to have problems, I have people I could turn to.

	1	2	3	4	5
Before					
After					

2.) My family or friends are very supportive of me.

	1	2	3	4	5
Before					
After					

3.) In difficult situations, I can manage my emotions.

	1	2	3	4	5
Before					
After					

4.) I can put up with my negative emotions.

	1	2	3	4	5
Before					
After					

5.) When faced with a problem I can usually find a solution.

	1	2	3	4	5
Before					
After					

6.) If I were in trouble, I know of others, who would be able to help me.

	1	2	3	4	5
Before					
After					

7.) I can generally solve problems that occur.

	1	2	3	4	5
Before					
After					

8.) I can control my emotions.

	1	2	3	4	5
Before					
After					

9.) I can usually find a way of overcoming problems.

	1	2	3	4	5
Before					
After					

10.)I could find family or friends, who listen to me if I needed them to.

	1	2	3	4	5
Before					
After					

11.)If faced with a set-back, I could probably find a way round the problem.

	1	2	3	4	5
Before					
After					

12.)I can handle my emotions.

	1	2	3	4	5
Before					
After					

Appendix 3: Guideline of the workshop “How to learn resilience with horses? – A short concept”

“How to learn resilience with horses? – A short concept”

1 day (8h)	What?	How?	Who?
9.30- 9.45	Welcome/ Introduction/ Topic Entrance: Story Introduction of participants 2 emotion cards: 1 state of mood, 1 expectation	Verbal and Flip-Chart Emotion cards	Katharina, Pia, Anja Pia Katharina
9.45- 10.00	Agenda and entrance Agenda Term of resilience (R. Kalisch) Model 7 factors of resilience Model resilience German resilience center Why do we need resilience in everyday-life? What are pros and cons?	Introduction with Flip Flip-Chart Flip-Chart by Pia Flip-Chart Brainstorming Brainstorming	Katharina Katharina Pia Katharina Pia Pia
10.00- 10.30	What can we learn about resilience by horses?	Outside with horses (observing and evaluating) 1.) Breathing exercise 2.) Evaluation exercise	Anja
10.30- 11.15	Entrance in model of resilience Filling in Resilience Appraisals Scale (Johnson) and Resilience Scale Transferring from the horse exercise: Which insights can be added to the 7 factors of resilience?	Working sheet Collection in plenum and brainstorming at Flip-Chart	Katharina Anja

11.15- 11.30	Break		
11.30- 12.05	Main stressors Introduction of 11 main stressors: short test, 15 min Investigation of personal topic: Connection of Resilience Scale with main stressor, 10 min Formulating the individual topic, 10 min	Working sheet	Pia
12.05- 13.30	Phases of change Introduction change model Examples of changes Working out the benefit of resilience Greeting horses Horse exercise: Where am I in process of change with my topic? Evaluation of horse exercise Editing the individual topic with the 7 factors of resilience Reviewing and if needed adjustment of individual topic, 5min Choosing the fitting factor of resilience, 5min	Introduction with Flip Collection in plenum Collection in plenum Outside with horses (divide group) Leading exercise with 6 phases of change (pylons with cards of change phases) Working sheet Working sheet	Katharina Katharina Pia Anja Anja Pia Pia
13.30- 14.30	Lunch		

Appendix 4: Structure of the interview

- Question 1:** How important is resilience nowadays, especially in scope of industry 4.0?
- Question 2:** What is the speciality of horse assisted coaching in comparison to coaching without horses?
- Question 3:** Which impact can resilience have on humans and their resilience?
- Question 4:** What makes horse-assisted coaching as a suitable method to train the resilience?
- Question 5:** How large do you think is the need/benefit of horse-assisted coaching by companies (e.g. for company leaders and employees)?
- Question 6:** How can you get the attention of companies regarding to the method of horse-assisted coaching?

Appendix 4.1: Interview with resilience coach

Question 1: How important is resilience nowadays, especially in scope of industry 4.0?

Employees are working under increasingly high pressure which means that deadlines are intentionally short or even too short to reach. Time is one of the most valuable resources and no company owns it. Company leaders themselves are under pressure to reach their numbers. Many sectors are under change and people have to adapt. Resilience is a chance to survive change.

Question 2: What is the speciality of horse assisted coaching in comparison to coaching without horses?

Horse assisted coaching exposes the truth to the participants of the workshops. Nobody can hide towards the mirror of the horses. You can directly interpret the reactions of the horse. On top of that the participants of the workshops can see how the horses behave differently by each participant which is a kind of evidence that the horse mirrors the focal person. Through the horse the participants get a better perception of themselves. In many cases the direct confrontation of one's deep problems over the horse to oneself takes let's feelings popping up. Often people are overwhelmed by these feelings.

Question 3: Which impact can resilience have on humans and their resilience?

Horse assisted coaching has a deep impact. People need the recognition of their problems and feelings to get out of their usual thinking circle. The usual thinking circle works like a cage and horses can break this cage because horses are resilient.

Question 4: What makes horse-assisted coaching as a suitable method to train the resilience?

Well, I think that the greatest value is the mirroring effect of the horse. Horses open the people to themselves and one's own feelings. The horses allow space for change. Also change in feelings. And the feelings are necessary to make the change. Horses provide a kind of safe room to make the change because horses are honest and authentic. As gregarious animals horses cooperate.

Question 5: How large do you think is the need/benefit of horse-assisted coaching by companies (e.g. for company leaders and employees)?

The need is enormous. Many companies already registered the need because it saves money through keeping their employees healthy. From my experience I know that horse assisted coaching improves team working, too. After participating in our workshops, the participants reach their own goals and usually the company goals too. Therefore, we see a better performance which pays out in cash. But horse assisted coaching triggers many other abilities too. Such as Confidence and self-confidence, cooperation, satisfaction, regulation abilities and not at least productivity.

Question 6: How can you get the attention of companies regarding to the method of horse-assisted coaching?

Attention grabbing is not that easy as it seems. However, health is a big issue. You need to be healthy to come to work and be economic. Resilience has a big benefit. Nonetheless, we are pioneers on this area. It's hard to market something that's greatly unknown yet. We have to clarify the needs and advantages. The added value. We have to enlighten the people, employees and company leaders.

Appendix 4.2: Interview with consultant in production industry

Question 1: How important is resilience nowadays, especially in scope of industry 4.0?

Extremely important, especially in the last years because of many changes. This addresses resilience and the status of resilience gets more and more important.

Question 2: What is the speciality of horse assisted coaching in comparison to coaching without horses?

I have got a lot of experiences with theoretic coaching and often the connection to practice misses. With horse-assisted coaching you fill this gap and it creates another atmosphere of working. It combines theory with practice and forces people to deal with themselves. It makes it easier to empathize with new things and allows a change of perspective. It makes us clear where we stand in life.

Question 3: Which impact can resilience have on humans and their resilience?

As I already said, horse-assisted coaching allows us to deal with us self. We gain input about our status of change. In relation to resilience the horses open us the eyes and lead us through the problem.

Question 4: What makes horse-assisted coaching as a suitable method to train the resilience?

It is a great reflection of ourselves and therefore, really insightful. These insights need a time to work and it really works in a sustainable manner. I was able to determine a new value in my life and to add to my attitude of life. I now have the feeling to deal better with problems.

Question 5: How large do you think is the need/benefit of horse-assisted coaching by companies (e.g. for company leaders and employees)?

The need is huge and there are a lot of workshops available. Horses offer shielded surroundings and Working space. They let us realize the truth and provide a standpoint and ways of solution. Horses know the “why” and let us pause and think about the standpoint and the target. In some cases, people need to adjust their way.

Question 6: How can you get the attention of companies regarding to the method of horse-assisted coaching?

I think with help of word-of-mouth. You need to report positive experiences and examples. In addition, I would use social media like Facebook and Youtube.

Appendix 4.3: Interview with consultant in hygienic-quality management

Question 1: How important is resilience nowadays, especially in scope of industry 4.0?

I think that, resilience is the strength of an inner attitude. It is a new term in the working environment and especially industry 4.0 requires new ways of dealing with changes.

Question 2: What is the speciality of horse assisted coaching in comparison to coaching without horses?

With horses it is possible to focus on things alongside the thoughts of everyday life. Horses offer the possibility to be authentic and this than happens totally unconscious.

Question 3: Which impact can resilience have on humans and their resilience?

Actually, I think it has the positive aspect of cutting out the everyday life. This offers space for relaxation.

Question 4: What makes horse-assisted coaching as a suitable method to train the resilience?

It gives people the possibility to think about themselves, to face themselves and allow inner reflection. Here fore, an experienced coach is needed, who asks targeted questions.

Question 5: How large do you think is the need/benefit of horse-assisted coaching by companies (e.g. for company leaders and employees)?

I think it is very important to consider employees. Horse-assisted coaching is just one possibility to offer employees the chance to develop themselves. However, this method is special and in company with animals.

Question 6: How can you get the attention of companies regarding to the method of horse-assisted coaching?

I would suggest example video with an extensive description of the way of working and the impact on employees. You need to build up confidence in the potential clients.

Appendix 4.4: Interview with consultant in It & BI industry

Question 1: How important is resilience nowadays, especially in scope of industry 4.0?

I think that, resilience is a crucial factor and the resilience factors were expected by companies to be already existing. The resilience factors are very important for company leaders because they transfer them to their employees.

Question 2: What is the speciality of horse assisted coaching in comparison to coaching without horses?

The horse mirrors the people very good and inhibits that people to deceive oneself. Horses are herd-animals and orientate themselves by humans. A good coach, who asks the right questions is crucial and offers a lot of support.

Question 3: Which impact can resilience have on humans and their resilience?

I think that horse-assisted coaching provides the possibility to extent the resilience and improve weaknesses. People tend to work rather on strengths. But with horse-assisted coaching the focus is on the weaknesses.

Question 4: What makes horse-assisted coaching as a suitable method to train the resilience?

It is a great mirror of behaviour, especially for the subconscious part of behaviour. Horses are in state to reflect profound behaviour and therefore, admits a profound analysis of behaviour. Also, the mirror of the horse is not deformable.

Question 5: How large do you think is the need/benefit of horse-assisted coaching by companies (e.g. for company leaders and employees)?

The need is dependent on the individual weaknesses and the processing of the coaching.

Question 6: How can you get the attention of companies regarding to the method of horse-assisted coaching?

I would suggest usage of marketing channels like a website, Facebook and Flyer. I think word-of-mouth is important and personal networking. You should share results, experiences in conversations

Appendix 4.5: Interview with leader of laboratory in nutrition industry

Question 1: How important is resilience nowadays, especially in scope of industry 4.0?

Extremely important, because an employee, who is not working is not able to deliver performance and who is ill is distracted from the performance he should deliver. Therefore, this is extremely important.

Question 2: What is the speciality of horse assisted coaching in comparison to coaching without horses?

I can imagine, that horse and animals in general have a calm effect on humans because humans, who try to teach other humans something consists of an own meaning and with animals is this not the case. They are neutral. The surrounding is more pleasant.

Question 3: Which impact can resilience have on humans and their resilience?

Actually, I think it has a positive effect. I estimate the effect even higher as with a psychologist to get an advice. Because you have a neutral person, or neutral object in front of you.

Question 4: What makes horse-assisted coaching as a suitable method to train the resilience?

In first instance, I can not think of an answer. – It is a soft version, I would say. To careful explain something to somebody in a way and not face the other in a brusque way will be successful by over 90% of humans. People let them show and explain things but if you have to say it multiple times it does not work.

Question 5: How large do you think is the need/benefit of horse-assisted coaching by companies (e.g. for company leaders and employees)?

I see this sceptical because a lot of people would not try this way of coaching because they can not understand the benefit and significance. Therefore, I see this – as long as there is not explicit explaining of this coaching there is nobody willing to do this voluntary. Beforehand, a definition of the benefit and effect of the horse and the dealing with results is needed. I do not believe that you should try the coaching without the required background information, that this is conscious by the people. What you could achieve with this. I say so, if somebody would like to get a 100% analysis of the horse, I see the benefit at 80%.

Question 6: How can you get the attention of companies regarding to the method of horse-assisted coaching?

Actually, basically, if you try to convince company leaders you need to convince them of the benefit and address them personally. Probably, offering a test coaching to show advantages and then invite company leaders attending a coaching. Because the background information is missing. However, a lot of long-established do not see this opportunity. They just stick to their way of doing. 30, 40 years of being company leader lead to the fact that they do not like to face experiments. The young people hereafter could change their focus, in my opinion. A system, which runs since 30 years: Why should I change something?

Appendix 5: Resilience questionnaires per respondent

Resilienz Skala

Studien Exemplar

(R1)

Wie schätzen Sie sich selbst ein?

Bitte ankreuzen: 1 = wenig 10 = optimal

Akzeptanz

	1	2	3	4	5	6	7	8	9	10
Vorher								X		
Nachher									X	

Lösungsorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher								X		
Nachher									X	

Optimismus/ Vertrauen

	1	2	3	4	5	6	7	8	9	10
Vorher								X		
Nachher									X	

Netzwerkorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher									X	

Verantwortung übernehmen

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher								X		

Selbstregulierung

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher									X	

Zukunft gestalten

	1	2	3	4	5	6	7	8	9	10
Vorher						X	-			
Nachher								X		

Geben Sie bitte an, wie sehr Sie den folgenden Aussagen jeweils zustimmen.

Bitte ankreuzen: 1 = Stimme überhaupt nicht zu 3 = Neutral 5 = Stimme vollkommen zu

1.) Wenn ich vor einem Problem stehe, habe ich genug Menschen in meinem Umfeld, die mich dabei unterstützen eine Lösung zu finden.

	1	2	3	4	5
Vorher					X
Nachher					X

2.) Meine Freunde und Familie unterstützen mich immer und ich kann mich immer auf sie verlassen.

	1	2	3	4	5
Vorher					X
Nachher					X

3.) In schwierigen Situationen habe ich meine Emotionen unter Kontrolle.

	1	2	3	4	5
Vorher				X	
Nachher				X	

4.) Ich kann mit meinen negativen Emotionen umgehen/ sie tolerieren.

	1	2	3	4	5
Vorher				X	
Nachher				X	

5.) Wenn ich mit einem Problem konfrontiert werde, finde ich für gewöhnlich eine Lösung.

	1	2	3	4	5
Vorher				X	
Nachher				X	

6.) Wenn ich in Schwierigkeiten stecke, habe ich Bekannte, welche mir helfen können.

	1	2	3	4	5
Vorher					X
Nachher					X

7.) Normalerweise kann ich auftretende Probleme lösen.

	1	2	3	4	5
Vorher					X
Nachher					X

8.) Ich kann meine Emotionen kontrollieren.

	1	2	3	4	5
Vorher			X		
Nachher				X	

9.) Normalerweise finde ich einen Weg, um meine Probleme zu bewältigen

	1	2	3	4	5
Vorher					X
Nachher					X

10.) Ich habe Freunde und Familie, welche mir zuhören, wenn ich es brauche.

	1	2	3	4	5
Vorher					X
Nachher					X

11.) Wenn ich mit einem Rückschlag konfrontiert werde, würde ich wahrscheinlich einen Weg finden, das Problem zu umgehen.

	1	2	3	4	5
Vorher					X
Nachher					X

12.) Ich kann mit meinen Emotionen umgehen.

	1	2	3	4	5
Vorher					X
Nachher					X

Wie schätzen Sie sich selbst ein?

Bitte ankreuzen: 1 = wenig 10 = optimal

Akzeptanz

	1	2	3	4	5	6	7	8	9	10
Vorher					X					
Nachher							X			

Lösungsorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher						X				

Optimismus/ Vertrauen

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher							X			

Netzwerkorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher								X		

Verantwortung übernehmen

	1	2	3	4	5	6	7	8	9	10
Vorher						X				
Nachher						X				

Selbstregulierung

	1	2	3	4	5	6	7	8	9	10
Vorher				X						
Nachher				X						

Zukunft gestalten

	1	2	3	4	5	6	7	8	9	10
Vorher		X								
Nachher			X							

Geben Sie bitte an, wie sehr Sie den folgenden Aussagen jeweils zustimmen.

Bitte ankreuzen: 1 = Stimme überhaupt nicht zu 3 = Neutral 5 = Stimme vollkommen zu

1.) Wenn ich vor einem Problem stehe, habe ich genug Menschen in meinem Umfeld, die mich dabei unterstützen eine Lösung zu finden.

	1	2	3	4	5
Vorher					X
Nachher					X

2.) Meine Freunde und Familie unterstützen mich immer und ich kann mich immer auf sie verlassen.

	1	2	3	4	5
Vorher					X
Nachher					X

3.) In schwierigen Situationen habe ich meine Emotionen unter Kontrolle.

	1	2	3	4	5
Vorher		X			
Nachher	X				

4.) Ich kann mit meinen negativen Emotionen umgehen/ sie tolerieren.

	1	2	3	4	5
Vorher		X			
Nachher		X			

5.) Wenn ich mit einem Problem konfrontiert werde, finde ich für gewöhnlich eine Lösung.

	1	2	3	4	5
Vorher				X	
Nachher			X		

6.) Wenn ich in Schwierigkeiten stecke, habe ich Bekannte, welche mir helfen können.

	1	2	3	4	5
Vorher					X
Nachher					X

7.) Normalerweise kann ich auftretende Probleme lösen.

	1	2	3	4	5
Vorher				X	
Nachher				X	

8.) Ich kann meine Emotionen kontrollieren.

	1	2	3	4	5
Vorher		X			
Nachher	X				

9.) Normalerweise finde ich einen Weg, um meine Probleme zu bewältigen

	1	2	3	4	5
Vorher				X	
Nachher			X		

10.) Ich habe Freunde und Familie, welche mir zuhören, wenn ich es brauche.

	1	2	3	4	5
Vorher					X
Nachher					X

11.) Wenn ich mit einem Rückschlag konfrontiert werde, würde ich wahrscheinlich einen Weg finden, das Problem zu umgehen.

	1	2	3	4	5
Vorher			X		
Nachher			X		

12.) Ich kann mit meinen Emotionen umgehen.

	1	2	3	4	5
Vorher		X			
Nachher		X			

Wie schätzen Sie sich selbst ein?

Bitte ankreuzen: 1 = wenig 10 = optimal

Akzeptanz

	1	2	3	4	5	6	7	8	9	10
Vorher					X					
Nachher							X			

Lösungsorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher			X							
Nachher										X

Optimismus/ Vertrauen

	1	2	3	4	5	6	7	8	9	10
Vorher								X		
Nachher										X

Netzwerkorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher								X		
Nachher									X	

Verantwortung übernehmen

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher									X	

Selbstregulierung

	1	2	3	4	5	6	7	8	9	10
Vorher									X	
Nachher										X

Zukunft gestalten

	1	2	3	4	5	6	7	8	9	10
Vorher		X								
Nachher									X	

Geben Sie bitte an, wie sehr Sie den folgenden Aussagen jeweils zustimmen.

Bitte ankreuzen: 1 = Stimme überhaupt nicht zu 3 = Neutral 5 = Stimme vollkommen zu

1.) Wenn ich vor einem Problem stehe, habe ich genug Menschen in meinem Umfeld, die mich dabei unterstützen eine Lösung zu finden.

	1	2	3	4	5
Vorher					X
Nachher					X

2.) Meine Freunde und Familie unterstützen mich immer und ich kann mich immer auf sie verlassen.

	1	2	3	4	5
Vorher					X
Nachher					X

3.) In schwierigen Situationen habe ich meine Emotionen unter Kontrolle.

	1	2	3	4	5
Vorher	X				
Nachher		X			

4.) Ich kann mit meinen negativen Emotionen umgehen/ sie tolerieren.

	1	2	3	4	5
Vorher			X		
Nachher				X	

5.) Wenn ich mit einem Problem konfrontiert werde, finde ich für gewöhnlich eine Lösung.

	1	2	3	4	5
Vorher					X
Nachher					X

6.) Wenn ich in Schwierigkeiten stecke, habe ich Bekannte, welche mir helfen können.

	1	2	3	4	5
Vorher					X
Nachher					X

7.) Normalerweise kann ich auftretende Probleme lösen.

	1	2	3	4	5
Vorher			X		
Nachher					X

8.) Ich kann meine Emotionen kontrollieren.

	1	2	3	4	5
Vorher		X			
Nachher				X	

9.) Normalerweise finde ich einen Weg, um meine Probleme zu bewältigen

	1	2	3	4	5
Vorher					X
Nachher					X

10.) Ich habe Freunde und Familie, welche mir zuhören, wenn ich es brauche.

	1	2	3	4	5
Vorher					X
Nachher					X

11.) Wenn ich mit einem Rückschlag konfrontiert werde, würde ich wahrscheinlich einen Weg finden, das Problem zu umgehen.

	1	2	3	4	5
Vorher	X				
Nachher	X				

12.) Ich kann mit meinen Emotionen umgehen.

	1	2	3	4	5
Vorher		X			
Nachher				X	

Wie schätzen Sie sich selbst ein?

Bitte ankreuzen: 1 = wenig 10 = optimal

Akzeptanz

	1	2	3	4	5	6	7	8	9	10
Vorher								X		
Nachher								X		

Lösungsorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher				X						
Nachher						X				

Optimismus/ Vertrauen

	1	2	3	4	5	6	7	8	9	10
Vorher									X	
Nachher									X	

Netzwerkorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher								X		

Verantwortung übernehmen

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher								X		

Selbstregulierung

	1	2	3	4	5	6	7	8	9	10
Vorher			X							
Nachher					X					

Zukunft gestalten

	1	2	3	4	5	6	7	8	9	10
Vorher					X					
Nachher						X				

Resilienz Abschätzungs Skala

Studien Exemplar

Geben Sie bitte an, wie sehr Sie den folgenden Aussagen jeweils zustimmen.

Bitte ankreuzen: 1 = Stimme überhaupt nicht zu 3 = Neutral 5 = Stimme vollkommen zu

- 1.) Wenn ich vor einem Problem stehe, habe ich genug Menschen in meinem Umfeld, die mich dabei unterstützen eine Lösung zu finden.**

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

- 2.) Meine Freunde und Familie unterstützen mich immer und ich kann mich immer auf sie verlassen.**

	1	2	3	4	5
Vorher					<input checked="" type="checkbox"/>
Nachher					<input checked="" type="checkbox"/>

- 3.) In schwierigen Situationen habe ich meine Emotionen unter Kontrolle.**

	1	2	3	4	5
Vorher			<input checked="" type="checkbox"/>		
Nachher			<input checked="" type="checkbox"/>		

- 4.) Ich kann mit meinen negativen Emotionen umgehen/ sie tolerieren.**

	1	2	3	4	5
Vorher			<input checked="" type="checkbox"/>		
Nachher			<input checked="" type="checkbox"/>		

- 5.) Wenn ich mit einem Problem konfrontiert werde, finde ich für gewöhnlich eine Lösung.**

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

- 6.) Wenn ich in Schwierigkeiten stecke, habe ich Bekannte, welche mir helfen können.**

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

- 7.) Normalerweise kann ich auftretende Probleme lösen.**

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

- 8.) Ich kann meine Emotionen kontrollieren.**

	1	2	3	4	5
Vorher			<input checked="" type="checkbox"/>		
Nachher				<input checked="" type="checkbox"/>	

9.) Normalerweise finde ich einen Weg, um meine Probleme zu bewältigen

	1	2	3	4	5
Vorher				X	
Nachher				X	

10.) Ich habe Freunde und Familie, welche mir zuhören, wenn ich es brauche.

	1	2	3	4	5
Vorher					X
Nachher					X

11.) Wenn ich mit einem Rückschlag konfrontiert werde, würde ich wahrscheinlich einen Weg finden, das Problem zu umgehen.

	1	2	3	4	5
Vorher				X	
Nachher				X	

12.) Ich kann mit meinen Emotionen umgehen.

	1	2	3	4	5
Vorher			X		
Nachher			X		

Wie schätzen Sie sich selbst ein?

Bitte ankreuzen: 1 = wenig 10 = optimal

Akzeptanz

	1	2	3	4	5	6	7	8	9	10
Vorher						X				
Nachher								X		

Lösungsorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher							X			

Optimismus/ Vertrauen

	1	2	3	4	5	6	7	8	9	10
Vorher									X	
Nachher									X	

Netzwerkorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher									X	
Nachher									X	

Verantwortung übernehmen

	1	2	3	4	5	6	7	8	9	10
Vorher								X		
Nachher								X		

Selbstregulierung

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher									X	

Zukunft gestalten

	1	2	3	4	5	6	7	8	9	10
Vorher						X				
Nachher								X		

Resilienz Abschätzungs Skala

Studien Exemplar

Geben Sie bitte an, wie sehr Sie den folgenden Aussagen jeweils zustimmen.

Bitte ankreuzen: 1 = Stimme überhaupt nicht zu 3 = Neutral 5 = Stimme vollkommen zu

1.) Wenn ich vor einem Problem stehe, habe ich genug Menschen in meinem Umfeld, die mich dabei unterstützen eine Lösung zu finden.

	1	2	3	4	5
Vorher					<input checked="" type="checkbox"/>
Nachher					<input checked="" type="checkbox"/>

2.) Meine Freunde und Familie unterstützen mich immer und ich kann mich immer auf sie verlassen.

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

3.) In schwierigen Situationen habe ich meine Emotionen unter Kontrolle.

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

4.) Ich kann mit meinen negativen Emotionen umgehen/ sie tolerieren.

	1	2	3	4	5
Vorher			<input checked="" type="checkbox"/>		
Nachher			<input checked="" type="checkbox"/>		

5.) Wenn ich mit einem Problem konfrontiert werde, finde ich für gewöhnlich eine Lösung.

	1	2	3	4	5
Vorher					<input checked="" type="checkbox"/>
Nachher					<input checked="" type="checkbox"/>

6.) Wenn ich in Schwierigkeiten stecke, habe ich Bekannte, welche mir helfen können.

	1	2	3	4	5
Vorher					<input checked="" type="checkbox"/>
Nachher					<input checked="" type="checkbox"/>

7.) Normalerweise kann ich auftretende Probleme lösen.

	1	2	3	4	5
Vorher					<input checked="" type="checkbox"/>
Nachher					<input checked="" type="checkbox"/>

8.) Ich kann meine Emotionen kontrollieren.

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

9.) Normalerweise finde ich einen Weg, um meine Probleme zu bewältigen

	1	2	3	4	5
Vorher					X
Nachher					X

10.) Ich habe Freunde und Familie, welche mir zuhören, wenn ich es brauche.

	1	2	3	4	5
Vorher				X	
Nachher				X	

11.) Wenn ich mit einem Rückschlag konfrontiert werde, würde ich wahrscheinlich einen Weg finden, das Problem zu umgehen.

	1	2	3	4	5
Vorher					X
Nachher					X

12.) Ich kann mit meinen Emotionen umgehen.

	1	2	3	4	5
Vorher				X	
Nachher				X	

Wie schätzen Sie sich selbst ein?

Bitte ankreuzen: 1 = wenig 10 = optimal

Akzeptanz

	1	2	3	4	5	6	7	8	9	10
Vorher						x				
Nachher							x			

Lösungsorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher						x				
Nachher							x			

Optimismus/ Vertrauen

	1	2	3	4	5	6	7	8	9	10
Vorher						x				
Nachher							x			

Netzwerkorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher					x					
Nachher						x				

Verantwortung übernehmen

	1	2	3	4	5	6	7	8	9	10
Vorher						x				
Nachher							x			

Selbstregulierung

	1	2	3	4	5	6	7	8	9	10
Vorher						x				
Nachher								x		

Zukunft gestalten

	1	2	3	4	5	6	7	8	9	10
Vorher					x					
Nachher						x				

Geben Sie bitte an, wie sehr Sie den folgenden Aussagen jeweils zustimmen.

Bitte ankreuzen: 1 = Stimme überhaupt nicht zu 3 = Neutral 5 = Stimme vollkommen zu

1.) Wenn ich vor einem Problem stehe, habe ich genug Menschen in meinem Umfeld, die mich dabei unterstützen eine Lösung zu finden.

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

2.) Meine Freunde und Familie unterstützen mich immer und ich kann mich immer auf sie verlassen.

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

3.) In schwierigen Situationen habe ich meine Emotionen unter Kontrolle.

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

4.) Ich kann mit meinen negativen Emotionen umgehen/ sie tolerieren.

	1	2	3	4	5
Vorher			<input checked="" type="checkbox"/>		
Nachher				<input checked="" type="checkbox"/>	

5.) Wenn ich mit einem Problem konfrontiert werde, finde ich für gewöhnlich eine Lösung.

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

6.) Wenn ich in Schwierigkeiten stecke, habe ich Bekannte, welche mir helfen können.

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

7.) Normalerweise kann ich auftretende Probleme lösen.

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

8.) Ich kann meine Emotionen kontrollieren.

	1	2	3	4	5
Vorher				<input checked="" type="checkbox"/>	
Nachher				<input checked="" type="checkbox"/>	

9.) Normalerweise finde ich einen Weg, um meine Probleme zu bewältigen

	1	2	3	4	5
Vorher				x	
Nachher				x	

10.) Ich habe Freunde und Familie, welche mir zuhören, wenn ich es brauche.

	1	2	3	4	5
Vorher				x	
Nachher				x	

11.) Wenn ich mit einem Rückschlag konfrontiert werde, würde ich wahrscheinlich einen Weg finden, das Problem zu umgehen.

	1	2	3	4	5
Vorher		x			
Nachher		x			

12.) Ich kann mit meinen Emotionen umgehen.

	1	2	3	4	5
Vorher				x	
Nachher				x	

Resilienz Skala

Studien Exemplar

R7

Wie schätzen Sie sich selbst ein?

Bitte ankreuzen: 1 = wenig 10 = optimal

Akzeptanz

	1	2	3	4	5	6	7	8	9	10
Vorher						X				
Nachher							X			

Lösungsorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher								X		
Nachher								X		

Optimismus/ Vertrauen

	1	2	3	4	5	6	7	8	9	10
Vorher			X							
Nachher						X				

Netzwerkorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher					X					
Nachher					X					

Verantwortung übernehmen

	1	2	3	4	5	6	7	8	9	10
Vorher						X				
Nachher						X				

Selbstregulierung

	1	2	3	4	5	6	7	8	9	10
Vorher					X					
Nachher					X					

Zukunft gestalten

	1	2	3	4	5	6	7	8	9	10
Vorher					X					
Nachher					X					

Resilienz Abschätzungs Skala

Studien Exemplar

Geben Sie bitte an, wie sehr Sie den folgenden Aussagen jeweils zustimmen.

Bitte ankreuzen: 1 = Stimme überhaupt nicht zu 3 = Neutral 5 = Stimme vollkommen zu

1.) Wenn ich vor einem Problem stehe, habe ich genug Menschen in meinem Umfeld, die mich dabei unterstützen eine Lösung zu finden.

	1	2	3	4	5
Vorher				X	
Nachher				X	

2.) Meine Freunde und Familie unterstützen mich immer und ich kann mich immer auf sie verlassen.

	1	2	3	4	5
Vorher				X	
Nachher				X	

3.) In schwierigen Situationen habe ich meine Emotionen unter Kontrolle.

	1	2	3	4	5
Vorher			X		
Nachher			X		

4.) Ich kann mit meinen negativen Emotionen umgehen/ sie tolerieren.

	1	2	3	4	5
Vorher		X			
Nachher		X			

5.) Wenn ich mit einem Problem konfrontiert werde, finde ich für gewöhnlich eine Lösung.

	1	2	3	4	5
Vorher				X	
Nachher				X	

6.) Wenn ich in Schwierigkeiten stecke, habe ich Bekannte, welche mir helfen können.

	1	2	3	4	5
Vorher				X	
Nachher				X	

7.) Normalerweise kann ich auftretende Probleme lösen.

	1	2	3	4	5
Vorher				X	
Nachher				X	

8.) Ich kann meine Emotionen kontrollieren.

	1	2	3	4	5
Vorher		X			
Nachher		X			

9.) Normalerweise finde ich einen Weg, um meine Probleme zu bewältigen

	1	2	3	4	5
Vorher				X	
Nachher				X	

10.) Ich habe Freunde und Familie, welche mir zuhören, wenn ich es brauche.

	1	2	3	4	5
Vorher				X	
Nachher				X	

11.) Wenn ich mit einem Rückschlag konfrontiert werde, würde ich wahrscheinlich einen Weg finden, das Problem zu umgehen.

	1	2	3	4	5
Vorher			X		
Nachher				X	

12.) Ich kann mit meinen Emotionen umgehen.

	1	2	3	4	5
Vorher		X			
Nachher		X			

Resilienz Skala

Studien Exemplar

Wie schätzen Sie sich selbst ein?

Bitte ankreuzen: 1 = wenig 10 = optimal

Akzeptanz

	1	2	3	4	5	6	7	8	9	10
Vorher				X						
Nachher								X		

Lösungsorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher						X				
Nachher							X			

Optimismus/ Vertrauen

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher								X		

Netzwerkorientierung

	1	2	3	4	5	6	7	8	9	10
Vorher						X				
Nachher							X			

Verantwortung übernehmen

	1	2	3	4	5	6	7	8	9	10
Vorher							X			
Nachher									X	

Selbstregulierung

	1	2	3	4	5	6	7	8	9	10
Vorher					X					
Nachher							X			

Zukunft gestalten

	1	2	3	4	5	6	7	8	9	10
Vorher						X				
Nachher							X			

Resilienz Abschätzungs Skala

Studien Exemplar

Geben Sie bitte an, wie sehr Sie den folgenden Aussagen jeweils zustimmen.

Bitte ankreuzen: 1 = Stimme überhaupt nicht zu 3 = Neutral 5 = Stimme vollkommen zu

1.) Wenn ich vor einem Problem stehe, habe ich genug Menschen in meinem Umfeld, die mich dabei unterstützen eine Lösung zu finden.

	1	2	3	4	5
Vorher			✓		
Nachher				✗	

2.) Meine Freunde und Familie unterstützen mich immer und ich kann mich immer auf sie verlassen.

	1	2	3	4	5
Vorher				✓	
Nachher				✗	

3.) In schwierigen Situationen habe ich meine Emotionen unter Kontrolle.

	1	2	3	4	5
Vorher				✗	
Nachher					✗

4.) Ich kann mit meinen negativen Emotionen umgehen/ sie tolerieren.

	1	2	3	4	5
Vorher				✓	
Nachher					✗

5.) Wenn ich mit einem Problem konfrontiert werde, finde ich für gewöhnlich eine Lösung.

	1	2	3	4	5
Vorher				✗	
Nachher					✗

6.) Wenn ich in Schwierigkeiten stecke, habe ich Bekannte, welche mir helfen können.

	1	2	3	4	5
Vorher				✓	
Nachher				✗	

7.) Normalerweise kann ich auftretende Probleme lösen.

	1	2	3	4	5
Vorher				✗	
Nachher					✗

8.) Ich kann meine Emotionen kontrollieren.

	1	2	3	4	5
Vorher				✓	
Nachher					✗

9.) Normalerweise finde ich einen Weg, um meine Probleme zu bewältigen

	1	2	3	4	5
Vorher				X	
Nachher				✓	

10.) Ich habe Freunde und Familie, welche mir zuhören, wenn ich es brauche.

	1	2	3	4	5
Vorher				X	
Nachher				✓	

11.) Wenn ich mit einem Rückschlag konfrontiert werde, würde ich wahrscheinlich einen Weg finden, das Problem zu umgehen.

	1	2	3	4	5
Vorher			✓		
Nachher				X	

12.) Ich kann mit meinen Emotionen umgehen.

	1	2	3	4	5
Vorher				X	
Nachher					X

Appendix 6: Checklist Report Writing

Checklist Report Writing

Name: Class: Date:
 Title report:

When you have checked your report using this checklist, you must add this to your report as an appendix. No form means no mark.

Items marked with an * are so-called killing points. IF there are more than five killing points ticked on the checklist, the report must be improved on all failed parts and must be handed in again together with the old version. N.B: No killing points are allowed in the thesis

ASSESSORS: Tick the box of the items which are not sufficient!

<p>1. Use of English:</p> <p><input type="checkbox"/> Does not contain more than 3 grammar errors, spelling mistakes or typos per 1000 words* When more than 3 mistakes per 1000 words are found, the report will be marked a fail.</p> <p><input type="checkbox"/> Contains correct punctuation*</p> <p><input type="checkbox"/> Is attuned to the chosen target group (appropriate style)*</p> <p><input type="checkbox"/> Shows a functional and business-like writing style*</p> <p><input type="checkbox"/> Is not written in the "I" form*</p> <p>2. The report:</p> <p><input type="checkbox"/> Report is properly bound, no staples (hard copy)*</p> <p><input type="checkbox"/> Is free of plagiarism* (check exam regulations)</p> <p>3. The cover:</p> <p><input type="checkbox"/> Displays the title</p> <p><input type="checkbox"/> Author(s) is/ are mentioned</p> <p>4. The title page:</p> <p><input type="checkbox"/> Title is specific*</p> <p><input type="checkbox"/> Author(s) is/ are mentioned in alphabetical order*</p> <p><input type="checkbox"/> Date and place of publication are mentioned*</p> <p><input type="checkbox"/> The sponsor/orderer of the report is mentioned*</p> <p>5. The preface:</p> <p><input type="checkbox"/> Contains personal reason for writing</p> <p><input type="checkbox"/> Contains acknowledgement ("I" form permitted in the preface)</p> <p>6. Table of contents:</p> <p><input type="checkbox"/> All parts of the report are numbered*</p> <p><input type="checkbox"/> The summary and appendices are included</p> <p><input type="checkbox"/> Table of contents is clear</p> <p><input type="checkbox"/> Page numbers are consistent</p> <p>7. The summary:</p> <p><input type="checkbox"/> Is a concise version of the entire report</p> <p><input type="checkbox"/> Contains conclusions</p> <p><input type="checkbox"/> Does not contain personal opinions</p> <p><input type="checkbox"/> Is well structured</p> <p><input type="checkbox"/> Is written business-like</p> <p><input type="checkbox"/> Follows the table of contents</p> <p>8. The introduction:</p> <p><input type="checkbox"/> Is chapter 1*</p> <p><input type="checkbox"/> Invites the reader to read</p> <p><input type="checkbox"/> problem demarcation and justification are clear and specific*</p> <p><input type="checkbox"/> The problem context is clear and to the point*</p> <p><input type="checkbox"/> The aim of the research and the report is clear and specific*</p>	<p><input type="checkbox"/> Research methods/ data collection are described *</p> <p><input type="checkbox"/> The function of the chapters in the report is concisely described *</p> <p>9. The (construction of the) core:</p> <p><input type="checkbox"/> Chapters, paragraphs and subparagraphs are numbered and clearly structured (with a maximum of three levels)*</p> <p><input type="checkbox"/> Enumeration levels are clearly distinguishable*</p> <p><input type="checkbox"/> Chapters and (sub) paragraphs have a fitting title</p> <p><input type="checkbox"/> A chapter covers at least one page</p> <p><input type="checkbox"/> New chapters start on a new page</p> <p><input type="checkbox"/> Sentences are typed in sequence, without hard return within the paragraph</p> <p><input type="checkbox"/> Figures are numbered and have a fitting title, which is put below the figure.*</p> <p><input type="checkbox"/> Tables are numbered and have a fitting title, which is put above the table*</p> <p><input type="checkbox"/> Figures and tables are referred to in the text*</p> <p><input type="checkbox"/> Each appendix is specifically referred to in the content</p> <p><input type="checkbox"/> Pages are numbered*</p> <p><input type="checkbox"/> Pages have a functional layout</p> <p>10. The discussion of results:</p> <p><input type="checkbox"/> Contains a review of relevant sources</p> <p><input type="checkbox"/> Valid argumentation is provided</p> <p><input type="checkbox"/> Contains a critical evaluation of own findings</p> <p>11. The conclusions and recommendations:</p> <p><input type="checkbox"/> The conclusions are based on relevant facts and / or discussion</p> <p><input type="checkbox"/> The recommendations are based on relevant facts and / or discussion</p> <p><input type="checkbox"/> Does not contain any discussion or information that does not appear elsewhere in the report text*</p> <p>12. References:</p> <p><input type="checkbox"/> The text is written according to the APA-rules * (check intranet Library)</p> <p>13. The list of sources:</p> <p><input type="checkbox"/> Is drawn up according to the APA-rules* (check intranet Library)</p> <p>14. The appendices:</p> <p><input type="checkbox"/> Are all numbered</p> <p><input type="checkbox"/> Each have an appropriate title</p> <p><input type="checkbox"/> Do not contain the author's own analyses.</p>
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