

Ph.D Thesis.

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Title:

Stress-inducing thinking processes, and methods for changing these.

1. Summary:

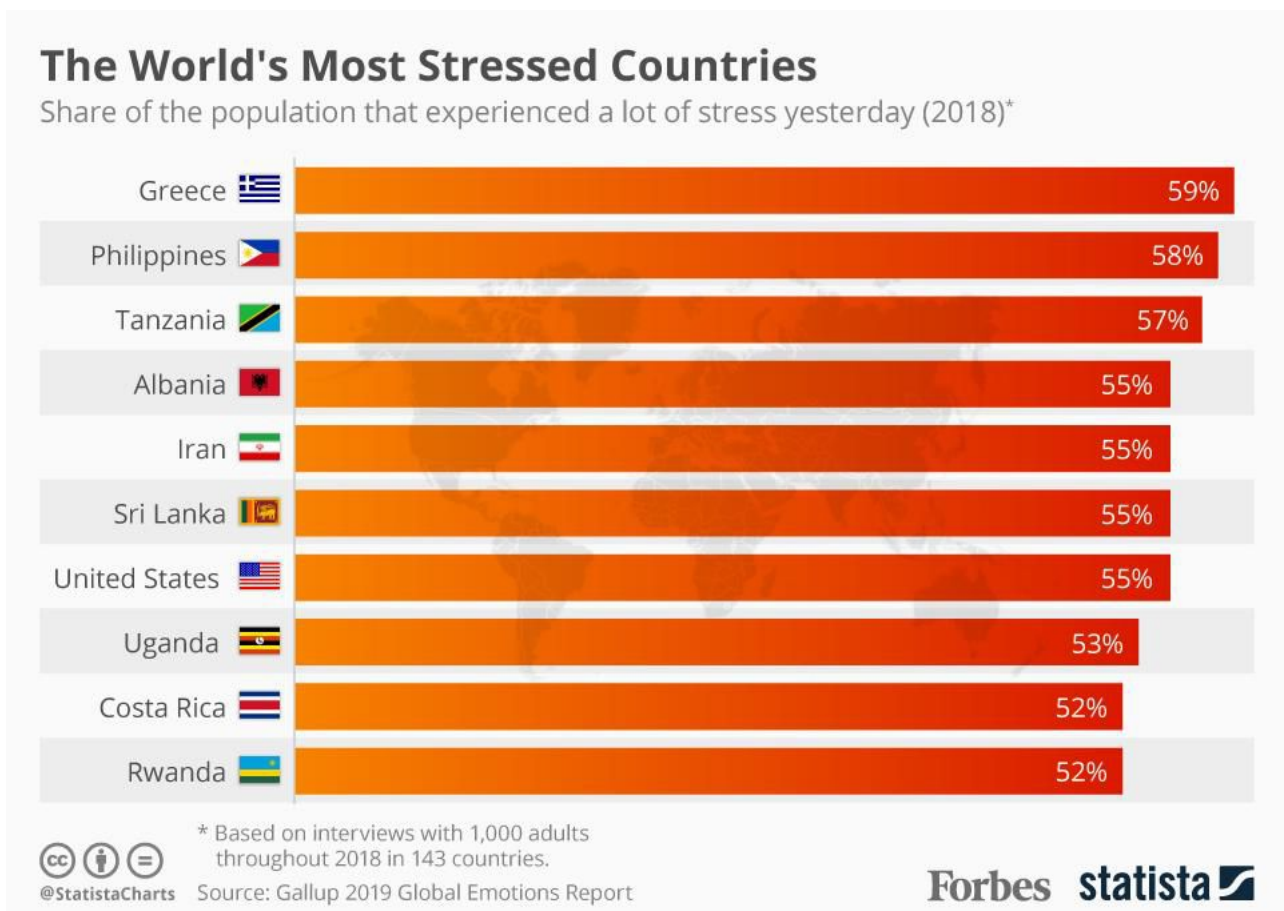
Background:

More and more people are experiencing stress, and stress has become a global epidemic. WHO estimates that stress will globally be the biggest cause of sickness absence in 2020.

Stress has evolved to be a global problem. According to Forbes and Gallup World Poll 2018, the number of people who experience stress have grown radically.

The global stress level shows that 39% of the world population experience stress daily, reaching the rates on the scale from 1 -10.

Gallup conducted in 2018 a study with a total of more than 151,000 participants in 140 countries. The countries where the population is experiencing the greatest stress is listed in the following table:



Gallup's entire report is available here: https://www.gallup.com/analytics/248906/gallup-global-emotions-report-2019.aspx?utm_source=link_news9&utm_campaign=item_249098&utm_medium=copy

A large number of facts show that the global growth in just stress is sharply escalated the past 30-40 years.

STRESS

2: STRESS RELATED FACTS AND STATISTICS

- The Stress in America survey results show that adults if continue to report high levels of stress and many reports that their stress has increased over the past year - *the American Psychological Association*.
- 75% of adults redovisade experiencing moderate to high levels of stress in the past month and nearly half reported that their stress has increased in the past year - *the American Psychological Association*.
- Stress is a top health concern for US teens between 9th and 12th grade, psychologists say that if they do not learn healthy ways to manage that stress now, it could have serious long-term health implications - *the American Psychological Association*.
- 80% of workers feel stress on the job and nearly half say they need help in learning how to manage stress. And 42% say their co-workers need Such help - *American Institute of Stress*.
- Stress levels in the workplace are rising with 6 in 10 workers in major global economies experiencing increased workplace stress. With China (86%) having the highest rise in workplace stress - *The Regus Group*
- Alarmingly 91% of adult Australians feel stress in at least one important area of their lives. Almost 50% feel very stressed about one part of Their life - *Lifeline Australia*.
- Australian medarbejdere are absent for an average of 3.2 working days each year through stress. This workplace stress costs the Australian economy approximately \$ 14,2 billion *Medibank*
- An estimated 442,000 individuals in Britain, who worked in 2007/08 believed they were experiencing work-related stress at a level that was making them ill - *Labor Force Survey*.
- Approximately 13.7 million working days are lost each year in the UK as a result of work-related illness at a cost of £ 28.3 billion per year - *National Institute for Health and Clinical Excellence*.

Generally, the efforts we have made in relation to stress, has not produced the results we wanted, and we must therefore search of looking at stress from other perspectives than previously.

There have been quite a few studies that have examined various causes of stress affected people leaving work and how they subsequent return again to their jobs.

Malene Friis Andersen in 2015, completed a Ph.D research about people that suffers from stress and their return to work, and writes in her thesis:

"Long-term sickness absence caused by CMD (CMD covers conditions such as depression, anxiety, stress, stress-related disorders, adjustment disorder) is an increasing

problem in several countries. Long-term sickness absence is a key risk factor for early retirement. Research shows that only 50% of those who are away from work for more than six months because of mental ill health comes back to work, and several studies have identified a strong correlation between depression and disability. Studies also indicate an increased incidence of stress as well as a link between stress and increased risk of sickness absence. CMD-related sick leave and retirement is a substantial economic cost to society and the individual companies,

This study included 17 respondents, which I am aware is not far enough to be called evidence-based, it does offer an indication of the extent and impact that stress-related sick leave has both individual and society in general.

Yun Ladegaard completed in 2018 one Ph.D research also focused on Work Related Mental Disorders, and concludes:

"Psychosocial hazards are Acknowledged by companies as an area of concern.

Nearly 80% of managers in a European survey having Expressed concern about work-related stress, while nearly 20% consider violence and harassment to be a major concern. HOWEVER, fewer than 30% of European work places to have procedures to deal with psychosocial hazards]; More than 40% of European managers consider psychosocial hazards to be difficult to manage more than physical hazards in the work-environment. Finally, the Second European Survey of Enterprises on New and Emerging Risks (ESENER II) has concluded that managing WRMD and psychosocial-risks remains one of the most challenging issues in occupational health and safety. This survey has identified problems with difficult patients, customers, and pupils, time pressure, a reluctance to talk openly about issues and psychosocial risks."

So there is previously conducted research into the factors that can create stress, which in this context is defined as work-related stress, and which is measured by the company's, should be taken to prevent as well as to handle the stress that employees return to work.

In very many cases, there is a tendency to impose the company and its executives is responsible that stress occurs in the individual employee.

This has had a positive effect, namely that many companies have increased focus on, among other leadership development, and made many efforts aimed at the psychological work. Targeted efforts towards the prevention of stress and mental dissatisfaction has

had a limited effect shows several studies, but after all an effect.

There has been no preventive targeted actions against the individual, and the treatments that are used to help individuals who experienced inappropriate stress, have tended to be directed towards the external factors such as the individual has been a relational part of. These external factors can occur in many different ways: the amount of duties, immediate superior's behavior and handling of employee dismissal, employment, illness, divorce, changed housing situation, economic challenges, etc.

3: Inappropriate stress - the definition:

Inappropriate stress, I define as a state that is not self-supporting, and which the individual experiences as stressful, both physically and mentally. This undesirable condition can be created by a thinking process which is characterized in, that it deals with thoughts about situations that have not yet occurred and which does not include solutions. Thoughts that are future-oriented and simultaneously negative, categorized as catastrophic thoughts – worst case scenarios, and if the individual does not experience there is a solution or way out of these future situations, the individual will experience perceived powerlessness, lack of control and deadlock, causing agitation, anxiety and stress.

4: Concerns explained:

This type of thinking is defined as worries. Concerns can be defined by two things:

1. It is negative thoughts that are future-oriented
2. There are no solutions contained in the future scenario.

Previous research in worries, stress and anxiety:

Colette R. Hirsch and Andrew Matthews have in their research on the interaction between worry and anxiety, written as follows:

"Worry is a primary cognitive characteristic of anxiety, and has been described as a chain of thoughts and images, negatively affect-laden and relatively uncontrollable" (Borkovec, Robinson, Pruzinsky, & depre, 1983, p. 10). The content of worry typically concerns future events whose outcomes are uncertain, but contain the possibility of one or more negative outcomes (Sibrava & Borkovec, 2006). Re-ported proneness to worry varies continuously across the normal population, without any sudden discontinuity (Ruscio,

Borkovec, & Ruscio, 2001).

Several research groups (eg, Davey, 2006; Ruscio & Borkovec, 2004; Wells, 1995) have noted that excessive worriers sometimes endorse are certain advantages for worry (e.g. that worry helps them to solve problems, or allows dangers to be avoided), despite also endorsing negative beliefs (e.g., that worry is uncontrollable or may be harmful to Health), and have suggested that these beliefs promote worry. Other researchers have further suggested that individuals who worry excessively are intolerant of uncertainty and believe that they must continue to worry until uncertainty has been resolved (Dugas, Gagnon, Ladouceur, & Freeston, 1998).

Aspects of the model two be presented here overlap with previous accounts in which pathological worry (or GAD) is promoted by maladaptive beliefs (Wells, 1995), intolerance of uncertainty (Dugas et al., 1998) and inability to effectively regulate emotion (Mennin, Heimberg, Turk, & Fresco, 2005). Several of these factors may combine to promote worry, as Suggested in the model offered by Berenbaum (2011), although evidence that they are causal rather than being correlates or consequences of worry is inconclusive. In the present model we focus on component processes for which there is evidence that they have a causal role in worry, and that lead to implications for treatment.

High levels of anxiety and worry (eg in GAD) are characterized by selective attention to threatening cues matching emotional concerns (Mathews & MacLeod, 2005), or internally generated representations, such as bodily sensations, mental images or worrisome thoughts (Hayes, Hirsch, & Mathews, 2010; Krebs, Hirsch, & Mathews, 2010; Mathews, 1990). High levels of worry are also associated with the tendency to interpret emotionally ambiguous events as threatening (Eysenck, Mogg, May, Richards, & Mathews, 1991; Hayes, Hirsch, Cancer, & Mathews, 2010; Hirsch, Hayes, & Mathews, 2009; Mathews & MacLeod, 2005). Thus, when thinking about an uncertain future event, worry-prone individuals tend to make relatively threatening Interpretations and their direct attention to potential adverse outcomes, whereas others are likely to interpret the same situation in a more benign manner and be less likely to at'tend negative outcomes."

In a direct study of the latter possibility (Hayes et al., 2008) groups reporting high or low levels of worry were asked two worry, or think about a positive topic, while performing a random key-press task. Lapses of attention result in non-random sequences, such as

repeatedly pressing keys in a fixed sequence, so that the degree of randomness achieved can be used to assess attentional control capacity assigned to the task. While worrying about their main worry topic, habitually high worriers responded less randomly in the key-press task (indicating less attentional control allocated to this task) than when thinking about their positive topic. Low worriers did not differ when thinking about positive or worry topics. However, high worriers were less random than the low worriers even in the positive condition, perhaps due to trait differences in attentional control, or alternatively, because high worriers continued to worry some to some extent even in the positive condition. Either way, these results provide strong support for the hypothesis that worry depletes the attentional control resources available for other tasks, and that this effect is greater in those who worry habitually.

Leigh and Hirsch (2011) replicated the above finding using a non-spatial random interval generation task and not only confirmed that worry in its usual verbal form depleted attentional control resources in high worriers, but also found that thinking about worry topics in imagery form had less effect in this latter conditioning, high worriers did not differ from non-worriers. Additionally the groups did not differ when performing the random interval generation task alone. These findings suggest that any trait-like impairment of attentional control in pathological worry (cf. Bishop, 2009) is exacerbated by the capture of attentional resources by worry itself. Furthermore, it seems that worry in verbal form is particularly problematic in this respect, unlike alternatives such as imagery."

Colette R. Hirsch, Andrew Mathews, Belinda Lequertier, Gemma Perman, Sarra Hayes:

"Beliefs about worry. Inappropriate beliefs about either the positive benefits or the negative consequences of excessive worry are not part of the diagnostic criteria for GAD, although some previous researchers (eg, Ruscio & Borkovec, 2004; Wells & Carter, 2001) have found evidence suggesting that such beliefs can be both characteristic of the disorder and possibly play a part in maintaining it. Given these previous suggestions, we included a further examination of this issue using an established questionnaire measure (Meta Cognitions Questionnaire, MCQ; Wells & Carter, 2001) to test the extent to which beliefs about worry distinguish those meeting GAD diagnosis on clinical interview from equally high worriers not so diagnosed."

The method used was:

Penn State Worry Questionnaire (PSWQ)

The PSWQ is a 16-item questionnaire measure of trait worry (e.g., "Once I start worrying, I can't stop"), each with a five-point answer scale from 1 (not at all typical of me) to 5 (very typical of me) yielding a total score between 16 and 80. The PSWQ has good Psychometric properties in student, community, and clinical sam-ples, with high Internal consistency, short-term retest reliability, and convergent and criterion related validity (Brown, Antony , & Barlow, 1992; Davey, 1993).

Caroline Stokes & Colette R. Hirsch published in 2009 a study of worries and their understanding of the interaction between anxiety and concerns that may occur both verbally and imaginary.

"Worry is a primary characteristic of anxiety, and are described as a cognitive process " concerned with future events where there is uncertainty about the outcome, [but] the future being thought about is a negative one " (Dugas, 2004 p.5). Individuals with high levels of worry, both with and without a diagnosis of generalized anxiety disorder (GAD), experience worry as persistent, pervasive and uncontrollable. The extent of uncontrollability of worry is one feature that distinguishes high worriers and individuals with GAD from those without excessive worry (Borko-VEC, Robinson, Pruzinsky, & depree, 1983). For example, high worriers instructed two worry to have a greater number of negative subsequent intrusions during an attention task than non-worriers (Borkovec et al., 1983; Pruzinsky & Borkovec, 1990; York, Borkovec, Vasey, & Stern, 1987).

The question remains of why individuals prone to worry find it so difficult to disengagement from their worry once it begins. Although anticipation of probable danger is adaptive, it is unclear why excessive worry persists when it often causes distress and kill few apparent bene fits. Many studies have demonstrated that the phenomenology of worry consists largely of verbal thought. For example, Borkovec and INZ (1990) demonstrated that both individuals with GAD and non-worriers reported a predominance of verbal thought during a period of worry, compared to a period of relaxation in which Participants with GAD reported near the equal amounts of imagery and verbal thought, and non-worriers reported a predominance of imagery. These findings were later replicated by East and Watts (1994) and extended by Behar, Zullig, and Borkovec (2005) who compared a period of worry with a trauma recall condition. Again, they found that worry is experienced primarily as verbal thought, in contrast to trauma recall experienced as primarily in images."

Stress seen in isolation, is a condition that is normal for mankind, and connected to our survival instinct.

We can divide this into three factors referred to. Proff. Firdaus Dhabhar, University Of Stanton:

1. Stressor: an external factor, often without the individual's influence
2. Stressperception: our assumption and thinking about the external stressor
3. Biological stress response: activation of our fight or flight response.

Our interpretation of the external stressor is therefore crucial to how we respond both physically and mentally. The physical response includes the release of stress hormones such as; adrenaline, noradrenalin, cortisol and oxytocin. This is intended to create both a physical and psychological state which is optimal in terms of being able to act in this situation.

"Nature gift us a stress response two help us survive - NOT to kill us" - Prof. Firdaus Dhabhar

The human brain is not always able to distinguish between fiction and reality, which turns out when we, for example, are watching a movie where we become frightened. We respond to the visual, as if it happened in reality. Precisely this is what happens when we have thoughts about future that are negative, and does not contain a solution for this scenario. We respond physiologically as if it were reality.

5: Supportive studies:

A: University of Wisconsin.

Studies conducted by the University of Wisconsin (Abiola Keller, Kristin Litzelman, Lauren E. Wisk, Torsheika Maddox, Erika Rose Cheng, Paul D. Creswell, and Whitney P. Witt) in the period from 1998 to 2006 confirms that our assumptions and beliefs is essential to our stress response.

In this study, researchers followed 30,000 US adults ages 18 to 65 years over a period of 8 years. Initially, the researchers asked participants how much stress they had experienced in the past year, with a rating on a scale from 0 to 10 using the PSS method.

Participants were also asked whether they thought that stress was dangerous or harmful to them.

The scale is defined as follows:

0-3 = normal stress perception

4 - 6 = moderate stress perception

7 - 10 = severe stress perception

The researchers then followed the 30,000 participants in the period from 1998 to 2006, and the conclusion showed that the participants who had answered that they had experienced stress of 7 or more, suffering from severe stress and simultaneously thought that stress was harmful to them, had an increased mortality rate of 43%.

The participants who had the same stress perception, but who did not think that stress was harmful to them, had no increased mortality compared to the rest of the population - in fact, they had the lowest mortality rate of all.

The conclusion the researchers drew was that it is the individual's beliefs that are essential for the individual's response.

B: Harvard University, Faculty of Psychology:

Subsequently Harvard University's psychology department completed a control study with 50 respondents (Jeremy P. Jamieson, Department of Psychology, Harvard University Matthew K. Nock, and Department of Psychology, Harvard University Wendy Berry Mendes).

50 respondents aged 21-24 years (N = 50) with a distribution (N = 25 men) and N = 25 women) participated in this study.

Initially scientists let all 50 respondents expose a psychosocial stress test, and measured their physiological response to the stress test. The researchers then selected 25 of the 50 respondents completely randomly, and taught them to think differently about their bodily reactions. They conducted in continuation of this yet another stress test of the total group, and once again measured their physiological stress response. This showed that the participants who had learned to think differently about their stress response, no longer responded as before, nor as the other group of 25 participants who now served as the control group.

The study is referred to as "Mind Over Matter".

This is extremely interesting since the specific thinking processes created by these beliefs, are not defined and/or mapped previously.

Beliefs are metacognitions and meta-cognitive therapy has shown impressive results for several years, and there has been written many articles based upon studies on the effectiveness of this treatment (Nordahl, Hans & Wells, Adrian).

META COGNITIVE PSYCHOLOGY AND THINKING

6: Metacognitive psychology's origins:

Meta Cognitive Therapy and this psychological theory, is initially identified and defined by Professor Adrian Wells and Professor Gerald Matthews in 1989. They believed that GAD (Generalized Anxiety) was created by some underlying thoughts of lack of control and safety behavior was the reason why it was helpful to monitorize for potential threats in any situations that could be interpreted as being dangerous, to avoid these. In 1995 the Professor Hans M. Nordahl and Adrian Wells began their cooperation, and developed the theoretical foundation that defines Metacognitive therapy dealing with therapeutic programs for numerous other mental disorders besides GAD.

Meta Cognitive psychology is a psychological theory that defines some essential elements: CAS - Cognitive Attentional Syndrome and Metacognitions.

CAS is explained by the fact that our focus / attention is directed at something specific. We have a neurological condition previously defined as $7 \pm 2 = 5 - 9$. It is the number of simultaneous attention points our brain neurological is capable of handling. When all 5-9 are focused towards for example, concerns, we have limited mental capacity for other cognitive processes.

Wells and Nordahl has conducted several studies where the meta-cognitive therapy is used as treatment for ADHD, GAD, OCD, PTSD mm

There are not previously conducted research on the individuals thinking that can reveal whether there is a defined type of thinking process present when people experience stress. In this research, there is a distinction between mental content and thought process.

Thought content is defined as the object the thinking is regarding, and the way individuals

think about it, defined as the thought process.

7: Thinking processes - definitions and specific elements:

A thinking process contains a number of elements:

1. Thought content - what the individual thinks upon
2. Thought Time Perspective - which direction the content of the thoughts is about;
past present Future
3. Metacognitions – beliefs/convictions about the thinking from a meta perspective.

My hypotheses are therefore based on uncovering the thought process that is present at the experience of stress:

- Are the thoughts primarily directed at the past, present or future.
- Is there metacognitions present that there is value in having these thoughts (worries)
- Is there metacognitions present a lack of mind control, in other words that the individual does not experience being able to control his thoughts
- Is there a desire to control his thoughts by stress (change of the negative metacognition: lack of control of thoughts)

Since there has been developed a method (MINDstrain) to change these metacognitions, is my second hypothesis, therefore, to examine the extent to which this is possible, and with which processing speed is this possible.

RESEARCH

8: *Purpose of the study:*

This study was aimed to investigate the thinking processes that are present when an individual is experiencing inexpedient stress, and if these types of thinking will create unnecessary stress, and whether it is possible to bring individuals out of this type of thinking, effectively and judiciously.

9: Hypotheses the study investigates:

My research has provided two hypotheses:

1. Stress is caused by a defined process of thinking - worries
2. Thought process that creates stress, can be changed with the MINDstrain method

Overall, my hypothesis is, that there is a very specific thought process that is stress-inducing in individuals who experience inadequate stress. Stress is a naturally occurring condition both physically and mentally, which enables us to overcome a potential challenge. Inappropriate stress I define as a state that is either created imaginary - the individual's perception of a not yet occurred situation, but as we experience as real, and thus can elicit a physical and psychological response, or that we imagine that the existing situation is worse than what it factually is, then it is no longer appropriate for us.

Just to have our cognitive attention to situations that are future-oriented, and not containing a solution or opportunity to get out of this horror scenario, we will create a sense of powerlessness, helplessness and loss of control which in itself could be anxiety provoking and stressful.

Negative thoughts are future-oriented and simultaneously do not contain a solution, is described in this context as a concern.

10: Specific thinking processes that create stress:

The Thinking process I wanted to uncover, consists of the following elements:

- Thought Content
- Specific metacognitions are divided into two categories:
 1. A negative belief that the individual cannot control his thoughts - his focus, and in some cases, a negative conviction that thought contents can be harmful
 2. A "positive" belief that there is some kind of value in having these thoughts. This conviction is by no means positive, but it is experienced as such, because it justifies that the thinking (concerns/worries), are present and necessary.

Can the individual identify that there are concerns present at the experience of stress,

recognizing that it is thoughts that are future-oriented, then it is possible to identify which of the above metacognitions also present.

Just one of the two metacognitions is active, will worry-thinking be continued.

I also wanted to uncover, given that the foregoing is true, whether it is possible with the help of the MINDstrain method that focuses exclusively on metacognitions, bringing people experiencing concern thinking, effectively out of this thinking process.

Study 1 and 2 have been intended to investigate and uncover the primarily negative future-oriented thoughts present at stressful experience, and on the two metacognitions is identifiable. Study 3 has been designed to investigate the effect of using the MINDstrain method to clients who have experienced stress. These clients have entered into a stress coaching session where they initially experienced stress with moderate to severe stress on the scale from 0 to 10.

11: Study Description of the three studies included in this research:

I have completed three different studies where study 1 was conducted retrospectively by analyzing clients who have been in a stress treatment.

Study 2 is implemented as a web-based survey where respondents have completed an 8-point questionnaire. Study 3 is carried out by obtaining data from an app as the MINDstrain coaches used in connection with client coaching.

Studies 1 and 2 is thus made to expose the thinking process that has been present at experiences stress, and Study 3 is conducted to investigate the effectiveness of the MINDstrain method to change the thinking process, thereby causing the client out of inappropriate stress.

Study 1:

I have studied retrospectively 476 clients (N = 223 men) (N = 253 women) who have been in a stress treatment in the period December 2013 to January 2018, through a total of 29 therapists, and the notes from these have been carefully read. The notes made during each client session and registered in the finisher's records system, such as WORD, Evernote and the like.

I have had access to these notes anonymous and carefully read these records. This has revealed that there is a common thread in these notes, that there is a clearly defined

type of thinking among these clients - that they WORRY. Whatever has been the cause of the concern (content thinking), has clients had concerns/worries as a common denominator. When asked about what they think of in connection with the stress experience is mostly the past or the future, they have all had an experience that they have had thoughts about the future as catastrophic thoughts, and they have experienced not being able to control these thoughts.

Study 2:

I chose to use a web-based questionnaire, Survey Monkey, to uncover the extent to which respondents experienced stress the last 3 months - if they think that their thoughts in stress experience primarily deals with the past or the future, and whether there is a conviction of beneficial value of these thoughts - if they believe they can stop these thoughts, and finally the desire to actually control / stop these stress-inducing thoughts if they could. The thinking-time perspective is an important factor in the discovery of the type of thinking that are present - past- or forward-thinking. This also affects the type of thinking to replace either ruminations (past oriented) or concerns (future-oriented). Very often we are not aware of in which direction from a thinking perspective our thoughts are moving - and we have a tendency to mix up the present with the past or the future. For example, one can find that one believes that "today is the present" – but in reality the morning has occurred and evening not yet happened, since we are in the middle of the day.

Study 3:

All MINDstrain coaches is using an app developed and operated by the Company, Add2Work where all the therapists who work with the MINDstrain method, record their clients, the client's subjective perception of stress on a scale from 0 to 10, as well as the ability to stop / control these thoughts on a scale 0 - 10 This scale is used internationally, and is referred to as PSS 10 (Perceived Stress Scale).

I realize that it is the client's assessment underlying the registration of his experience of stress levels and ability to control his thoughts, but since there is no objective assessment of the client's stress level, this qualitative method as a starting point, assess this on.

These clients are sourced from Securitas Strain Line directly to the individual MINDstrain coach, and does not involve MINDstrain as a company. Data from these clients are carefully analyzed to investigate whether the method can bring each client out of

inappropriate stress quickly and efficiently, as well as the individual client has a perception that they are able to control their thoughts forward in a self-supporting manner, being able to avoid inappropriate stress response. The ability to control one's thoughts is entered in the client's response before, during and after the intervention.

12: Methods used in the studies:

Various methodological approaches have been used due to the different aspects is desired explored. Since stress is not a clinical diagnosis, it will be the client's perception and the condition underpinning the qualitative measurement made from a scale of 0-10, where 0 is nothing, and 10 is the maximum. I could have chosen to use other scaling methods such as, for example Likert using a 7-point rating.

The ranking scale 0-10 I chose from the criterion that the University of Wisconsin used the same scale in their study, and that MINDstrain use this rating for their app where MINDstrain coaches work with stress affected clients.

Study 1:

Practitioners and ego, who has worked with clients in stress coaching sessions, has granted access to their notes with the anonymity of the client, and thus is primarily a qualitative approach to these results. N = 476 is entered in this study.

Study 2:

A survey consisting of eight questions was issued on Apr. 15, 2019 with a deadline on April 30 and distributed via social media such as LinkedIn and Facebook. We thus had no effect on the geography, ethnicity, social status, marital status, mental habitus or general experience of the current stressful experience - in short: the respondents are so random as possible. N = 2313 respondents is concluded in this study.

Study 3:

All therapists working with the MINDstrain method, report their clients and their progression in stress perception and ability to handle their focus, in an app developed and operated by a third party; Add2Work. Initially the coaching of clients, the client is interrogated about their perceived level of stress on a scale from 0 to 10, and on their ability to control their thoughts on the same scale. After each coaching session the coach extradite it's tablet to the client and ask the client to report their experience of the current stress level, as well as the ability to control his thoughts / focus - also on a scale from 0 to 10.

MINDstrain choose to be working on the same scale definition as that used by the University of Wisconsin:

0-3 = normal stress perception

4 - 6 = moderate stress perception

7 - 10 = severe stress perception

N = 322 clients entered in this study.

13: Results of the 3 studies:

Study 1:

476 respondents (N = 190 men) and (N = 286 women) were included in this study. 418 of 476 stated directly that they worried, defined as thinking about something that has not yet occurred and do include a solution to the problem. This represents the imaginary conceptions of the future produced and perceived as being inevitable in that they do not contain a solution or opportunity to avoid this situation. It is in itself disturbing and anxiety provoking, and thus stress-inducing as the perception is experienced as a reality.

Study 2:

2,313 respondents (N = 429 men) and (N = 1860 women) were included in this study, and 79.52% of those surveyed could identify that the experience of inappropriate stress had thoughts that was primarily oriented towards the future. 49.18% of these believed that they had some kind of value, importance or necessity of having these thoughts. 81.73% of respondents would like to stop having these thoughts, if they could control their thoughts. 57% of respondents believe that to be able to stop their thoughts, but do not want it - probably because they are convinced that it is beneficial to have these thoughts, defined as worries.

Study 3:

322 respondents included in this study, conducted by 47 different MINDstrain coaches geographically located all over Denmark. Of these 322 respondents, are 98% of those experienced at a stress level based on a scale from 0 to 10 (0 = none - 10 = max) on an assessment after the session, between 1-3 within 5 sessions of 1 hour of MINDstrain

coaching. 1% of those registered has had the need of six sessions of 1 hour and 1% have needed a total of 7 sessions of hour of coaching. There are no registered clients in need of more than 7 sessions.

When asked about the client's stress experienced at the scale from 0 to 10, is 82% at 3 within 5 hours and 16% at 3 within 5 hours, and 1% to 3 within 5 hours.

All respondents are thus within what is referred to as normal stress perception.

Of the registered is the case of relapse or re-treatment of two clients.

14: Conclusion of the studies:

It can be concluded, that in more than 86% of the total respondents (N = 3111) it can be detected that there is a fixed variable; thinking about the future that do not contain solutions = concerns. This type of thinking is driven by two different metacognitions, underlying beliefs about our thoughts:

1. A negative metacognition: the conviction that it is not possible to control / stop his thoughts, and an element of that thoughts can be harmful / hazardous.
2. A positive metacognition: the conviction that there is a perceived form of value, importance or necessity of having those concerns.

Metacognitions is compared best with beliefs about our thinking, and mixed with the conscious thinking, however beliefs are often unconscious, and challenged therefore very rarely.

- a. The negative metacognition deals with all the conviction of an inability to not being able to control his thoughts - his attention. One will have a feeling of being trapped in his own fantasy, and have no impact on what you consider how long this thinking is going on and when it stops. This metacognition may also contain an element of harmfulness or dangerousness, understood like that the person can have the conviction that one's own thoughts can lead to both physical and psychological damage. The study conducted by the University of Wisconsin revealed that the people who had this kind of metacognition, had an increased mortality rate of 43%. Convictions about not being able to control his own thoughts, and think that the harmfulness will be perceived negatively, and therefore termed this metacognition as being

negative.

- b. The positive metacognition deals with the conviction that it is beneficial for us to worry - that it is necessary or that there is some importance in the worry itself. We can thus justify, excuse and / or explain to ourselves that it is ok to continue to worry. This may in itself be reason for concern thinking continued. Still other reasons can be attributed to that there is a certain sense of the person's identity associated with worry. This could, for instance, be that I'm not a good parent if I don't worry about my children, or that I have to worry about my job, or I'm not a good employee or manager. Even as this metacognition is described and perceived as positive, it is never positive when it maintains the individual in the thinking that can be stressful - namely concerns or worries.

When thinking process identified and metacognitions challenged while evidence of the person that there is no benefit or advantage is worthy of thinking that is present and is stressful, it can be changed.

The person must have changed metacognition showing that it is possible to switch his attention - his focus to a more self-supporting thinking type requires that the negative thought process here defined as worries, replaced by a more self-supporting thinking process - in this case the solution focused thought. When this is done, the perceived stress experience will decrease, and the client experiences to cope with his mental state without inappropriate stress.

INTERVENTIONS STRATEGIES:

15: The MINDstrain-coach's client intervention:

The MINDstrain-coach has in its client work exclusively focus on identifying the thinking process; if the stress experience is primarily oriented towards the past or the future, to have knowledge of the thinking type to be changed and whether the client should use the investigative thinking rather than ruminate over the past, or solution-focused thinking rather than worry about the future.

The intervention is aimed at giving the client recognition that it is possible to change its thinking type, which is oriented towards the negative metacognition which is perceived as loss of control of the ability to control the mind, and to influence the positive

metacognition indicating that it is useful to worry.

When the client by himself experienced and recognized that it is possible to control its attention, and that there is no value in worrying, can learning of the self-supporting thinking process be the replaced thinking process.

Much of the traditional approach to stress - it regards both preventive and curative actions are often oriented toward external factors such as work management, private matters and so on. This can obviously be stressors that can trigger concern thinking and therefore should not be excluded in general, but individual handling of the stress response both physically and mentally, is created individually through the individual's perception of the situation.

Reflections:

Both individuals, businesses and society in general, by empowering the individual to understand the thinking processes better prevent and combat the loss of human resources, and enhance overall well-being and performance by reducing undesirable stress. Quite a lot has no attention to their thinking, i.e. focus on their attention, and thus they can experience being in a thinking process that brings both psychological as physical discomfort.

