



LUNDS UNIVERSITET  
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## **Mental training – a tool to handle life?**

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## **Abstract**

The purpose of this paper was to investigate if there were differences in the ability to handle a stressful situation, and in mental health, between students in a school with a mental training curriculum and students with a standard curriculum. Totally 37 last-year high-school students participated, 25 in the intervention group and 12 in the control group. The two groups were tested on mindfulness, life satisfaction, positive and negative affect, subjective well-being, avoidance, negative mood regulation, and situation anxiety. They also took a verbal fluency test under time pressure in order to create a stressful situation. The results showed significant differences between the intervention group and the control group in verbal fluency performance, mindfulness, life satisfaction, subjective well-being, positive affect, and avoidance. However, no differences were found in situation anxiety, nor in negative mood regulation.

Key words: Mental training, prevention in adolescents

## **Sammanfattning på svenska**

Samhällsutvecklingen leder till ett ökande informationsflöde, och ökande krav på beslut och åtgärder i olika situationer. Vuxna är bättre rustade än ungdomar att hantera sådana psykologiska stressituationer. Syftet med denna undersökning har varit att undersöka om det förelåg någon skillnad mellan två grupper gymnasieelever under sista året på naturvetenskapligt program. Interventionsgruppen, som fått mental träning varje dag under sina tre år i gymnasiet, bestod av 25 elever vid ett gymnasium i Stockholm. Kontrollgruppen från ett gymnasium i Lund bestod av 12 elever som ej fått mental träning. De båda grupperna jämfördes med ett verbalt flödestest som mäter exekutiva funktioner samt formulär som mätte medveten närvaro, livstillfredsställelse, hälsa, positiva och negativa känslor, reglering av negativa känslotillstånd, undvikande beteende samt slutligen situationsångest. Trots ett litet antal försökspersoner samt grupper som var olika stora fanns en signifikanta skillnader mellan de två grupperna. Interventionsgruppen presterade nästan dubbelt så bra på verbala flödestestet, de hade större medveten närvaro, hade större livstillfredsställelse, bättre hälsa,

större positiva affektioner och mindre undvikande beteende. Grupperna skiljdes sig dock ej i upplevd reglering av negativ känslostress och situationsångest.

Nyckelord: Mental träning, förebyggande interventioner för barn och ungdomar

## Introduction

There is a growing recognition and concern about the increase of mental health problems in adolescents (Arnett, 1999; SCB, 2006). The mental health problems generally include emotional and anxiety disorders, adjustment problems, depression, and suicidal ideation (Kim, 2003). An international study shows that this negative trend seems to be strongest in Sweden when compared to ten other European countries (WHO, 2004; Treutiger, 2006; Bremberg, 2009).

During the last decades the Swedish society has been undergoing rapid socio-transition with major changes in social and economic structures, traditional values, family structures, and education curriculum. Never before has a generation had such a high standard of living, never have so many young people suffered from anxiety, depression, and psychosomatic diseases (WHO, 2004; SCB, 2006). Older generations grew up living in traditional families, living in a known environment, and seldom moving away from the town they were born in. They only needed to make few choices, and had a feeling of living in a secure world. Today's adolescents have the whole wide world open to them, with thousands of choices, where there is no limit to what you can become or to what you can achieve. Old values have changed, opening up even more choices and opportunities (Dickinson et al., 2003). The never ending information flow from radio, television, and, above all, the internet, tell young people how they ought to look, and how happy they should be. The pressure is enormous to make the right choices and be successful. Even though the world wide communication keep people connected all the time, their anonymity has increased (Bremberg, 2009). Adolescents are more vulnerable and less resilient than adults to this psychological distress. The outcome is that more adolescents develop serious mental health problems such as disruptive behaviour, problems related to communication and sleep, low self-concept, attention and learning disorders, and depression, as a result of prolonged anxiety (SCB, 2006; Bremberg, 2009).

Surveys in Sweden show that psychological mental illness is increasing among teenagers. In 1985 10% of all 15-year-olds had psychological problems which had increased to 20% in the year of 2005. In 1985 20% of 15-20 year-olds reported feeling sad or depressed, and in 2005 this number had increased to 40% (SFI, 2008; Bremberg, 2009). Adolescents with depressive symptoms are more likely to have poor academic performance, unhealthy eating habits, and are more likely to smoke, drink alcohol, and take drugs. Indeed, this mental

health problem in adolescents certainly adds a burden to the health care system and requires immediate attention (Ungdomsstyrelsen, 2007; Bremberg, 2009).

The sense of stress and lack of well-being in adolescents are linked to self-reliance, self-esteem and the pressure in school (SFI, 2008; Bremberg, 2009). More girls than boys report ill health, having problems with stress. It has been reported that 27% of girls feel stressed everyday compared with 14% of boys, and that 17% of girls reported psychosomatic issues due to stress (problem sleeping, headaches, and abdominal pain) compared with 7% of boys (SFI, 2008; Bremberg, 2009).

Low self-esteem in adolescents is associated with strong psychological distress and a higher risk of depression (Rosenberg, 1986; Kim, 2003; SCB, 2006). Adolescents with lower self-esteem have poorer physical health as measured by number of days absent from school due to physical illness (Kim, 2003; Trzesniewski et al., 2006). Low self-esteem derives from a person's own perception, or self-evaluation about self-competence and efficacy. Adolescents with low self-esteem report more depression than of those with higher self-esteem (Byrne, 2000; Kim, 2003). Self-esteem may be one of the important contributory factors for physical and mental well-being in adolescents.

It is argued that the Swedish school system does not help strengthen the resilience among adolescents, and does not give them a tool to handle all the difficult demands of today's society. Schools in general do not train young people to solve problems and to develop self-esteem, stress techniques, or coping strategies (SCB, 2006; Bremberg, 2009).

The public school in this study, with branches all over Sweden, has been inspired to give adolescents tools to handle life by providing them with a mental training programme during their three years of high school. In the intervention school the students have mental training daily, lead by a teacher with special training in the different skills. The mental training includes mindfulness training, qigong, stress reduction techniques, coping strategies, building self-awareness and self-esteem, visualisation, goal setting, and evaluation training. May this be the road to follow? Will the mental training have an effect on the students in a stressful situation?

The aim of this study has been to investigate if students who have been provided with mental training will handle a stressful situation and perform better than students without this skill.

## Theoretical background

### *Mindfulness*

Mindfulness can be defined as an openness to novelty and sensitivity to context and perspective. Mindfulness can, according to Kabat-Zinn " *be thought of as moment-to-moment, non-judgmental awareness, cultivated by paying attention in a specific way, that is, in the present moment and as non-reactively as non-judgmentally, and as openheartedly as possible*" (Kabat-Zinn, 2005 p. 108).

Mindfulness involves cultivating an awareness of everyday happenings and physiological and psychological sensations, overcoming the desire to reduce uncertainty in everyday life, overriding the tendency to engage in automatic behaviour, and engaging less frequently in evaluating oneself, others, and situations (Snyder and Lopez, 2007). Mindfulness will affect the mind in several ways. It will reduce stress and anxiety by increasing relaxation, and help the individual gain self-awareness and thereby uncover negative thinking patterns and negative attitudes (Brown et al., 2007). In a study by Brown, Ryan and Creswell (2007), empirical support for the relation between mindfulness, mental health, and well-being was found. High scores on the mindfulness attention awareness scale (MAAS), measuring mindfulness, were significantly related to less depressive symptoms, less anxiety, and less stress. High scores on the mindfulness scale was also linked to higher levels of well-being, higher levels of positive affects and higher life satisfaction. Several studies also show improved self control and emotional regulation, which affects subjective well-being. (Brown et al., 2007).

In a study by Weinstein et al (2009) it was found that mindfulness predicted lower perceived overall stress, lower perceived event-related stress, and the perception of fewer stressors. In addition, the results indicated that individuals higher in mindfulness made greater use of adaptive coping strategies with a lower use of avoidance coping, and higher use of approach coping with stressful experiences. In the same study traits of mindfulness predicted higher day-to-day well-being. Individuals who are more mindful are less likely to appraise their day-to-day experience as stressful and they are also experiencing higher well-being, partly due to more adaptive coping strategies. Mindful people may be less prone to avoidance strategies that take them away from the present moment and/or have more awareness or access to positive problem solving strategies (Weinstein et al., 2009).

### ***Mental well-being***

The World Health Organisation sees positive mental health as a unified state which allows individuals to realise their abilities, cope with the normal stresses of life, work productively and fruitfully, and make a contribution to their community. Another recognised component is the capacity for mutually satisfying and enduring relationships (WHO, 2004).

Mental well-being can be divided into three different parts: emotional well-being, psychological well-being, and social well-being. Emotional well-being consists of life satisfaction, positive affect, the absence of negative affect, and happiness. The feeling of life satisfaction comes when there is a small discrepancy between your desires and needs. Positive affect consist of enthusiasm, joy, and happiness in life, having goals and having a sense of confidence. Negative affect includes absence of symptoms that suggest that life is undesirable and unpleasant. Happiness is having a general feeling and experience of pleasure, contentment, and joy (Snyder and Lopez, 2007).

Psychological well-being consists of self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, and positive relations with others. Self-acceptance contains having a positive attitude toward one self and accepting oneself. Personal growth includes to have the desire to learn change and grow. To have purpose in life is to have goals and have a direction in life. Environmental mastery means to feel competent and be able to manage a complex environment, being able to handle the demands of everyday life. Autonomy is to evaluate yourself by your own standards, to be able to resist social pressure, and to have your own opinion. Lastly, the positive relations to others is to have warm satisfying relationships with others (Snyder and Lopez, 2007).

Social well-being consist of social acceptance, social actualization, social contribution, social coherence, and social integration. Social acceptance is to have positive attitudes toward people and to believe in the good of mankind. Social actualisation is to care about and believe the world is evolving positively (Snyder and Lopez, 2007).

### ***Life satisfaction***

Life satisfaction can be described as a sense of contentment and peace stemming from a small gap between desires and needs. It is a cognitive assessment of your life as a whole, such as relations, love, work, and family. Life satisfaction is a key component in the attainment of positive well-being among youth and is a determinant of many life outcomes

(Diener et al., 1985; Snyder and Lopez, 2007; Proctor et al., 2009). In a literary review (Proctor et al., 2009) a negative correlation was found between life satisfaction and low self-esteem, high social anxiety, stressful experiences, loneliness, and adaptation problems. It also showed a positive relation between good life satisfaction and good health, high self-esteem, high mastery, high degree of parental support, and positive self concept.

### ***Stress and coping***

Stress exists when people are confronted with situations that tax or exceed their ability to manage them (Lazarus, 1966, 1999; Lazarus and Folkman, 1984). Whenever a person is hard-pressed to deal with some obstacle or impediment or looming threat, the experience is stressful.

Coping can be defined as affect regulation strategies that operate by altering physiological experiential or behavioural responses to stressful situations (Lazarus and Folkman, 1984). Problem focused coping is directed at the stressor itself, trying to remove it or diminish its impact if it cannot be evaded. According to Lazarus (2006) the aim of emotion-focused coping is to minimize distress triggered by stressors. This is done by relaxation, seeking emotional support, express negative emotions, focus on negative thoughts. Effective emotion-focused coping diminishes negative distress making it possible to consider the problem more calmly, thus yielding better problem focused coping. The two coping strategies are complementary coping functions rather than two fully distinct and independent coping categories (Lazarus, 2006).

In other papers coping has been broadly classified into avoidance and approach types, where avoidance coping reflects a defensive form of relation that involves ignoring, distorting or escaping threatening stimuli whereas the approach coping involves a cognitive emotional or behavioural turning toward stressful situations. Three different forms of coping strategies have been identified: active coping, acceptance, and cognitive reinterpretation. Active coping can be described as direct action to deal with a stressful situation. Acceptance coping is cognitive and emotional acknowledgement of stressful realities. Finally cognitive reinterpretation coping is learning, finding the good in the threat, harm, or loss situation, or choosing to use the situation to develop as a person (Penley et al., 2002; Weinstein et al., 2009).

In a meta-analysis of coping with interpersonal stress and psychosocial health among children and adolescents (Clarke, 2006), the results showed that the relationship between

active coping and psychosocial health was small but positive. Results from the study showed that children used active coping strategies when confronted with controllable stressors associated with healthy social and behavioural functioning. In contrast when children try to actively resolve uncontrollable interpersonal stressors they are more likely to demonstrate poorer social competence and greater behavioural problems. The author suggests that prevention programmes are likely to be more effective if they provide youths with a framework for thinking about conditions, including teaching children how to assess the terrain in addition to teaching them specific coping strategies (Clarke, 2006).

### ***Emotions***

Negative emotions narrow our focus and restrict our behavioural range. Positive emotions, however, yield non-specific action tendencies beyond physical action. The theory asserts that positive emotions generate broad thought-action repertoires that ultimately build durable physical, intellectual, and social resources (Fredrickson, 2001).

A meta-analysis suggests that success engenders positive emotions - but also that positive emotions engender success. Indeed, happy people tend to live longer, make more money, and enjoy enduring loving relationships (Lyubomirsky et al., 2005). One reason positive emotions might cause success could be because of the durable resources, built over time. These resources can then be tapped into during times of adversity as well as in times of growth (Fredrickson, 2001).

Mood regulation involves the use of cognitive or behavioural strategies to change or maintain a mood state. One of the most common types of mood regulation occurs when individuals deliberately attempt to get out of an unpleasant mood and is known as negative mood regulation (NMR). Individuals differ in their expectancy or belief that they can successfully alleviate their unpleasant moods. This expectancy is stable over time and relates to individuals with a greater expectancy for NMR report fewer symptoms of depression and recover more quickly from undesirable events. Moreover the ability to self-regulate mood is now seen as an important indicator of a person's emotional intelligence. According to Kassel et al (2007), a large body of literature focuses on the stress-coping process and demonstrates that active techniques (problem solving) are associated with positive outcomes such as lower levels of psychopathology, reduced stress enhanced psychological and physical well-being. Furthermore, these techniques require few cognitive resources and preserve cognitive resources that can instead be used more productively (Kassel et al., 2007). Avoidant

techniques (distraction or denial) predicts a variety of negative affective and behavioural outcomes such as higher levels of depression, anxiety, and drug and alcohol-related problems. This technique of emotional suppression requires tremendous cognitive efforts and is costly, as it disrupts multiple aspects of social exchange and decreases the emotional expression, while the experience of the negative emotion tends to linger. Unfortunately, the result is that the experience is doubled in magnitude. People who typically do not express their emotions are psychologically more reactive showing the negative feeling they are trying to suppress. A maladaptive coping strategy correlates with both lower levels of well-being and life satisfaction as well as elevating levels of depressed mood (Hayes et al., 2004).

Stress often leads to a state of negative affect that most people find aversive, and seek to alleviate through some type of cognitive or behavioural action. It follows that if individuals hold high expectations of their ability to regulate negative affect, they can successfully cope with negative moods, and will be more likely to engage in adaptive coping mechanism. Those who hold low expectancies of their ability to regulate negative affect, may be more likely to engage in less efficacious modes of coping. In turn the choice of coping behaviour leads to affective and behavioural outcomes. Good coping strategies are positively related to well-being, enhanced life satisfaction, positive affect and with lower levels of depressed mood and negative affects (Kassel et al., 2007).

### *Anxiety*

Anxiety is one of the most common psychological disorders in school-aged children and adolescents. Current prevalence rates range from 4% to 25% (Donovan and Spence, 2000; WHO, 2004; SFI, 2008). The effects of anxiety disorders on the well-being of children and adolescents are substantial, with the child's social, emotional, and academic functioning being affected (Donovan and Spence, 2000). Poor social and coping skills, reduced social interactions, low self esteem, and lower academic achievements are a few of the major effects. If left untreated, anxiety disorders in childhood and adolescence can lead to reduced career choices and increase medical use, depression, and substance abuse in adulthood (Donovan and Spence, 2000).

According to Donovan and Spence (2000) the failure to respond to treatment of anxiety often occurs when treatment is offered too late and the adverse effects associated with the disorder become ingrained and difficult to reverse. Preventing anxiety disorders can result in considerable cost savings for society by decreasing the need for and thus the cost of clinical

treatment (Donovan and Spence, 2000). Prevention programmes for anxiety could help prevent the development of depression in some people, with anxiety typically preceding comorbid depressive disorders.

### *Interventions*

In the last few years more school based health promotion programmes have been developed. Many of them focus on emotional and social development, and aim to equip children with the necessary skills to help prevent mental health problems in the future. The skills taught include problem solving, conflict management, emotional literacy, and coping with stress. Many programmes focus on the prevention of aggression and violence, while some have mental health promotion programmes that focus on the development of self-esteem, or offer children techniques to cope with stress (Adi et al., 2007).

One health promoting programme is the Social and Emotional Learning programme (SEL). It offers a whole-school framework for promoting the social and emotional aspects of learning: Self-awareness, managing feelings, motivation, empathy, and social skills. In an evaluation teachers confirmed a positive impact on different aspects of children's behaviour and well-being and also identified a range of factors that contributed to positive outcomes (Durlak and Wells, 1997). In a meta-analysis conducted by Kraag et al. (2006) they found a heterogeneous group of programmes that target stress management and coping skill, and they concluded that social-emotional development programmes, relaxation programmes, and combined programmes could be effective in reducing stress and promoting well-being (Kraag et al. 2006).

A Swedish study used massage and mental training to reduce stress and enhance well-being. The results showed that children in the intervention group had a very good sense of well-being related to stress, compared with the control group (Haraldsson et al., 2008).

In one study qigong training was used among schoolchildren to reduce stress (Witt et al., 2005). It also had calming and relaxing effects on the children. The children were less aggressive and the teachers noted an improvement in social behaviour and also a decrease of general and medical complaints for the children in the qigong group (Witt et al., 2005). Relaxation training can provide an effective set of coping skills for children and adolescents faced with stressors that produce anxiety and tension as stress reactions. Muscle relaxation, relaxation through imagery, and through deep breathing, are three approaches to relaxation training that can be used separately or in combination.

Several studies have focused on strengthening resilience in high-risk teens. Examples that can be mentioned are the "Teen club" and the "PALS" programmes (Campbell-Heider et al., 2009). The purpose was to enhance teen resilience by supporting the development of social skills needed to make positive connections and overcome the influence of negative environmental influences. The "Teen club" programme showed that in a five-year follow-up the participants had more workforce participation, greater school completion, fewer pregnancies and less depression compared with control group (Campbell-Heider et al., 2009). The "PALS" training was a cognitive-behaviour, skill-building intervention containing 25 cognitive behavioural skill building sessions which showed significant improvements in social skills. It showed that teens need to connect with positive adult role models to learn how to mirror healthy decision making, refuse risk taking, and communicate effectively (Campbell-Heider et al., 2009).

The FRIENDS programme (Barrett et al., 1999) started as an individual cognitive-behavioural treatment and addressed anxiety prevention and treatment for youths aged 12-16. It consisted of 10 weekly group sessions plus two booster sessions and involved parents as well. The programme worked with social life skills to improve social skills and social problem solving. It also worked with optimistic thinking skills targeting cognitive vulnerabilities and pessimistic attribution styles, as well as negative self-perception. Rational problem solving, and problem and emotion-focused coping, were targeted to reduce stress. It has proved to be effective with a significant decrease in anxiety symptoms in comparison to a waiting-list control (Barrett et al., 1999).

Numerous studies indicate that having a repertoire of coping skills at a young age can act as a buffer to the effects of negative life stress (Pincus and Friedman, 2004; Treutiger, 2006). The Interpersonal Cognitive Problem-solving curriculum for children teaches interrelated skills that are seen as crucial for effective problem solving (Pincus and Friedman, 2004), and teaches the ability to generate multiple alternative solutions to an interpersonal problem, the ability to consider the consequences of possible solutions, and the ability to implement a chosen solution to reach a specific goal. Studies evaluating this programme have demonstrated improvements in children's generation of multiple solutions, knowledge, and performance of problem solving skills. These improvements were maintained at a 2-year follow-up (Pincus and Friedman, 2004).

In the Rochester Child Resilience project the programme taught children to perceive global self-worth, empathy, realistic control attributions, social problem solving skills, and

self-esteem. It also included teaching the children the distinction between solvable and unsolvable problems and teaching them specific strategies for dealing with unsolvable problems. The outcome was that this skill-focused intervention programme had several positive effects, including improvement in perceived self-efficacy, and on measures for dealing with difficult problem situations and new situations (Pincus and Friedman, 2004).

In a meta-analysis by Wilson, Lipsey and Derzon (Wilson et al., 2003) based on 221 studies of school intervention programmes, a significant decrease in aggressive disturbing behaviour was found. In general, the training based on Cognitive Behaviour Training had the largest effects (effect size = .27) followed by behaviour management training with an effect size of .22.

A programme that incorporates cognitive skills is the Rational Emotive Therapy, RET - Thinking Feeling Behaving (Pincus and Friedman, 2004). In this programme children are taught how to identify negative feelings, how to change negative feelings by altering their thoughts, how to identify healthy and unhealthy methods of expressing anger, disappointment, fear, worry and sadness, as well as how to identify irrational thoughts. The skills taught in the programme are positively related to social competence and pro-social behaviour (Pincus and Friedman, 2004).

In a Swedish prevention programme, DISA, the aim was to prevent depressive symptoms in Swedish adolescent girls (Treutiger, 2006). The programme used cognitive-behavioural treatment with focus on the interpersonal interactions and learning occurring in sessions. It is based on a social learning theory of depression, which suggest that depressive symptoms are the outcome of a depressiogenic cycle which begins when adaptive behaviour patterns are disrupted due to insufficient coping skills for effectively managing negative experiences and life events. The programme focuses on teaching skills for increasing social reinforcement, pleasant events, problem solving, and communication while reducing depressive cognition and anxiety. Skills are initially taught by the group leader in a lecture format and are then practised in role-play exercises, structured tasks, and group activities. Homework assignments are used to continue skill-building and increase generalisation. The result showed that the participants had significantly lower depression symptoms than the control group even after a twelve months follow-up (Treutiger, 2006).

Another mindfulness-based approach is dialectic behaviour therapy (DBT) that can be used during adolescence to teach different techniques to reduce stress and improve coping strategies, as well as improving self-esteem. DBT is divided in four modules: Mindfulness,

tolerate and moderate distress, regulate emotions and handling crisis, and finally create a meaningful life. Skills taught include mindfulness, acceptance, validation, distress tolerance, emotion regulation, and interpersonal effectiveness (Högmark and Wedin, 2006).

In a study using DBT with adolescents the result showed an increase in well-being as well as in self esteem (Högmark and Wedin, 2006).

## **Aim of study**

The aim of this study was to investigate if two groups of high school students with a mental training curriculum or a standard curriculum differentiated in degree of mindfulness, life satisfaction, well-being, positive affects, negative mood regulation, avoidance, and degree of situation anxiety.

## Methods

### *Participants*

In this study a total of 37 students participated, 25 from a school in Stockholm (intervention group) and 12 from a school in Lund (control group), all finishing their last year of high school. The intervention group comprised 15 male and 10 female students (mean age = 18.52, SD = 0.58). In the control group there were three female and nine male participants (mean age = 18.50, SD = 0.52). In both groups one student was not born in Sweden but had lived here for 16 years.

### *Procedure*

Four schools with a mental training programme and with a curriculum focused on natural sciences (Naturvetenskapligt program, henceforth to be referred to as NV) in Stockholm were contacted. One school agreed to participate in this study, supplying the intervention group. To obtain the control group all 23 schools in the Stockholm area with NV, and with no less than 30 students attending their third year, were contacted first by an introductory letter followed by a telephone contact. Nineteen out of 23 headmasters turned down the request, citing the students' stressful situation and the lack of time. One headmaster agreed but the teachers could not spare the time needed for this study. High schools in Lund were then contacted and one headmaster and a science teacher agreed to let one class of third year students be a part of the study.

The school with a mental training curriculum (intervention) had a total of 896 students, of which 306 attended their last year. The NV programme had a total of 176 students of which 63 were in their last year. Admission scores for 2007 were 270, with 320 as highest and 245 as lowest scores. There were 56% female students, 40% female in the NV programme. Students with a background other than Swedish amounts to 20%, 27% in the NV programme.

The control group came from a large school in Lund with a total of 2028 students, 615 during their last year. The NV programme had a total of 345 students, 125 attending their final year. Admission scores for 2007 were 265 as the highest and 215 as the lowest scores. A mean score was not available. This school had 43% female students. Students with other background than Swedish were 18%.

The students were first introduced to the aim of the study, informing them of their anonymity, and that their taking part in the study was voluntary. Submitting the students to a verbal fluency test (see *measurements*) created a stressful situation. When the stress test was completed they filled in forms which were used to estimate their degree of mindfulness, satisfaction with life, the general health questionnaire, the positive affection and negative affection scale (PANAS), the negative mood regulation test (NMR), and finally an avoidance and fusion questionnaire (AFQ). The procedure took approximately 40-50 minutes. Before leaving, the students could ask any questions they had about the test and were informed that the results from the study would be sent to their teacher in the form of the present thesis.

### ***Measurements used***

#### *Verbal fluency*

Verbal fluency was assessed by the Controlled Oral Word Association Test – COWAT (Lezak et al., 2004), henceforth to be referred to as FAS. The participants are instructed to, during one minute each, generate words beginning with the three different letters F, A and S. All words, except proper nouns (which in our case also included names of cities, names of countries and digits) are allowed. However, no correction is made during the testing session if this rule is violated. During this minute the students were interrupted by information about how many seconds had passed, and comments that they should hurry up, in order to create a stressful situation. In the current study the total amount of words generated over the three letters was used in the analysis. Cronbach's alpha was 0.91.

#### *Mindfulness*

Mindfulness was assessed by The Mindful Attention Awareness Scale – MAAS (Brown et al., 2007; Appendix 1). This is a 15-item scale that measures the frequency of mindful states in day-to-day life, using both general and situation-specific statements. Based on a mean of all items, MAAS scores can range from 1-6. Higher scores indicate greater mindfulness. The scale shows strong psychometric properties and has been validated with college, community, and cancer patient samples. Cronbach's alpha was 0.92.

#### *Satisfaction with life*

Satisfaction with life was assessed by SWLS – Satisfaction With Life Scale, which is a measure of life satisfaction (Diener et al., 1985; Appendix 2). The SWLS is a five-item

scale, which reflects the cognitive component of one's satisfaction with life. Participants are asked to rate their agreement/disagreement on statements concerning their life circumstances on a seven point scale, where one represents "*strongly disagree*" and seven "*strongly agree*". Scores on the scale can range from 5-35. Sample items are "*the conditions of my life are excellent*", and "*so far I have gotten the important things I want in life*". Cronbach's alpha was 0.82.

### *General Health*

General health was assessed by the General Health Questionnaire – GHQ28 (Goldberg and Hillier, 1979; Appendix 3). GHQ is a 28-item scale that assesses somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression. The response scale is ranging from one to four, one being "*not at all*" and four being "*more than usual*". Cronbach's alpha was 0.84.

### *Positive and negative affections*

Positive and negative affections were assessed by the Positive Affection and Negative Affection Scale - PANAS (Watson et al., 1988; Appendix 4). The scale consists of ten descriptors for positive affections (attentive, interested, alert, excited, enthusiastic, inspired, proud, determined, strong, and active), and ten descriptors for negative affect (distressed, upset-distressed, hostile, irritable-angry, scared, afraid-fearful, ashamed, guilty, nervous, and jittery). Participants estimate the degree of experienced affect during the last week where one corresponds to "*very little/not at all*" and five "*extremely*". Cronbach's alpha for the positive affect was 0.89, 0.72 for the negative affect, and 0.73 for the total score of PANAS.

### *Stress adaption*

Ability to adapt to stress was assessed by the Negative Mood Regulation scale – NMR (Catanzaro and Mearns, 1990; Appendix 5). The NMR scale is a 30-item scale that measures generalised expectancies to alleviate negative moods. Participants are asked to indicate the degree to which they believe their use of various coping strategies can counteract a negative mood state. The NMR scale correlates in theoretically predicted ways with instruments assessing anxiety, depression emotional states, and coping responses, and has demonstrated distinct validity from social desirability, depression, and locus of control. The test is beginning with "*When I'm upset, I believe that..*" The completion phrases represent ten

general (e.g. *"I can usually find a way to cheer myself up"*), ten cognitive (e.g. *"I can feel better by thinking about more pleasant time"*) and ten behavioural (e.g. *"going out to dinner with friends will help"*) strategies for coping with negative moods. Participants rate to what extent they think each strategy will work for them to alleviate a negative mood on a 5-point Likert-type scale ranging from one (*"strongly disagree"*) to a five (*"strongly agree"*). The higher the score the better the ability to manage stress through internal adaptation strategies, experiencing less negative emotions. Cronbach's alpha was 0.47 which indicates a low reliability of the scale.

### *Avoidance*

Avoidance was assessed by the Avoidance and Fusion Questionnaire – AFQ (Greco et al., 2008; Appendix 6). AFQ asks respondents to rate how true each item is for them on a 5 point rating scale where 0 is "not at all true", and 4 means "very true". Items were generated to represent a theoretically cohesive conceptualisation of psychological inflexibility fostered by cognitive fusion (e.g. *"My thoughts and feelings mess up my life"*, *"The bad things I think about myself must be true"*) and experiential avoidance (e.g. *"I push away thoughts and feelings that I don't like"*, *"I stop doing things that are important to me whenever I feel bad"*). Cronbach's alpha was 0.86.

### *State anxiety*

State anxiety was assessed by the state version of Spielberger's State Trait Anxiety Inventory – STAI (Spielberger, 1983; Appendix 7). STAI is the definitive instrument for measuring anxiety in adults. It clearly differentiates between the temporary condition of "state anxiety" and the more general and long-standing quality of "trait anxiety". The STAI has twenty questions with a range of four possible responses to each, ranging from "not at all" to "very much", with a sum score from 20 to 80. The 20 items are divided into two groups, ten items are formed to record the presence of anxiety symptoms and the other ten items are scored to record the absence of anxiety symptoms. The latter are inverted for the purpose of calculating the sum score (Spielberger, 1983). Cronbach's alpha was 0.86.

### *Data analyses*

All statistic analyses were performed in SPSS 18.0. All values over or under three standard deviations were categorised as extreme values and modified to the first value within

the limit mean  $\pm 3$  SD. A total of 3 values from all questions on all tests had to be adjusted according to this principle. All comparisons were done by t-test for independent means. Pearson's  $r$  was used to estimate correlation. Cronbach's alpha coefficient is a measure of internal consistency – a coefficient of reliability, i.e how closely related a set of items are as a group. A “high” value of alpha is often used as evidence that the items measure an underlying construct. However, a high alpha does not imply that the measure is unidimensional. It is one of the most commonly used indicators of internal consistency. Ideally, the Cronbach's alpha coefficient of a scale should be above 0.7 (De Vellis 2003). The coefficient is, however, quite sensitive to the number of items in the scale. With short scales it is common to find quite low Cronbach values.

## Results

Table 1 shows the mean scores and standard deviation for the intervention and the control group. Noteworthy is that there is a significant difference in scores on the verbal fluency – FAS, where the intervention school reached a mean of 78.20 words while the control group had only 39.08 (Tables 1 and 2). The intervention school has a higher mean score on mindfulness (MAAS; 77.04) compared with the control (61.33). The GHQ mean score is 47.68, indicating better subjective well-being than the control group (57.25). The intervention group has lower avoidance scores (AFQ; 29.40 compared with 42.08). However there are little differences between the groups how they handle negative stress level and their level of anxiety (NMR and STAI).

Table 1. Mean scores and standard deviation

	Intervention		Control		Total	
	Mean	SD	mean	SD	Mean	SD
FAS	78.20	10.31	39.08	8.86	65.00	20.97
MAAS	77.04	7.15	61.33	13.63	71.95	12.10
SWLS	25.92	3.44	20.50	5.55	24.50	4.89
GHQ28	47.68	7.63	57.25	7.99	50.78	8.89
PANAS	15.32	9.53	7.58	9.32	12.81	10.02
NMR	84.32	9.01	81.67	7.71	83.46	8.64
AFQ	29.40	5.40	42.08	10.32	33.51	9.40
STAI	34.36	8.30	36.25	9.48	34.97	8.62

Table 2. Group comparison

Variable	t	Df	Significance (2-tailed)
FAS	11.273	35	0.000
MAAS	3.751	13.984	0.002
SWLS	3.659	35	0.001
GHQ28	-3.518	35	0.001
PANAS	2.329	35	0.026
NMR	0.872	35	0.389
AFQ	-4.937	35	0.000
STAI	-0.619	35	0.540

### ***Correlation***

The bivariate correlations between the independent variables can be seen in Table 3. High results on the verbal fluency test are significantly positively correlated to high mindfulness ( $p \leq .05$ ) and high satisfaction with life ( $p \leq .01$ ), but negatively correlated to avoidance ( $p \leq .01$ ). That means that the higher the mindfulness, life satisfaction, and low avoidance, the higher the scores on the verbal fluency test.

High scores on mindfulness are positively correlated to high life satisfaction ( $p \leq .01$ ) and high positive affects ( $p \leq .01$ ) but negatively correlated to low scores on GHQ ( $p \leq .01$ ), i.e. higher mindfulness leads to a higher subjective well-being.

Life satisfaction is significantly correlated to low scores on GHQ ( $p \leq .01$ ) and avoidance ( $p \leq .01$ ), but to high scores on positive affects ( $p \leq .01$ ). GHQ is correlated to high scores of avoidance ( $p \leq .01$ ) and low scores on mindfulness ( $p \leq .01$ ), life satisfaction ( $p \leq .01$ ), and positive affects ( $p \leq .01$ ), which means that the higher the scores on GHQ (which indicates ill-being), the higher the scores of avoidance but lower the scores on mindfulness and life satisfaction.

No significant correlation was found between the anxiety test (STAI) and the other tests.

Table 3. Bivariate correlations between independent variables (r-values)

Variable	1	2	3	4	5	6	7	8
1 FAS	-	0.411*	0.426**	-0.324	0.303	0.226	-0.551**	-0.094
2 MAAS	0.411*	-	0.645**	-0.680**	0.517**	-0.058	-0.639**	0.013
3 WSLS	0.426**	0.645**	-	-0.644**	0.611**	-0.167	-0.551**	0.019
4 GHQ28	-0.324	-0.680**	-0.644**	-	-0.585**	0.105	0.658	-0.054
5 PANAS	0.303	0.517**	0.611**	-0.585**	-	-0.377**	-0.542**	0.094
6 NMR	0.226	-0.058	-0.167	0.105	-0.377**	-	0.244	-0.197
7 AFQ	-0.551**	-0.639	-0.551**	0.658**	-0.542**	0.244	-	0.032
8 STAI	-0.094	0.013	0.019	-0.054	0.094	-0.197	0.032	-

Significance of correlation: \*  $p \leq .05$  significant, \*\*  $p \leq .01$  highly significant

### ***Group comparison***

In table 2 a significant difference is shown in the mean scores between the two groups in six of eight items. There is no significant difference in the NMR, i.e. the student's ability to handle a emotionally negative situation, nor is there a difference in the anxiety between the groups.

## Discussion

Will mental training really help students to fulfil their potential? Goethe once said *“Treat a man as he appears to be, and you make him worse. But treat him as if he were what he potentially could be, and you make him what he should be”*. Perhaps this is what mental training is all about.

The purpose of this study was to compare a group of high-school students who have attended a high school with a mental training curriculum to a group of high school students with a standard curriculum. The mental training curriculum included mindfulness training, qigong, relaxation, self-image training, goal-image training, attitude training (optimism), stress reduction techniques, coping strategies, goal setting and evaluation training. The aim was to see if mental training would enhance the performance in a verbal fluency test, and to investigate if the two groups differentiated in degree of mindfulness, life satisfaction, well-being, positive affects, negative mood regulation, avoidance, and finally degree of situation anxiety.

The results showed that the intervention group had higher scores of mindfulness (MAAS), life satisfaction (SWLS), general health (GHQ28), positive effects (PANAS), and had a lower degree of avoidance (AFQ). Beyond that the intervention group also performed better on the verbal fluency test than the control group. These results are consistent with research by Brown, Ryan & Creswell (2007), linking high scores of mindfulness to higher levels of well-being, positive affects, and higher life satisfaction. However, the high mindfulness did not result in less situation anxiety or negative mood regulation. This is an intriguing result since other studies have shown a relation between high scores on mindfulness with low scores of anxiety, stress and negative mood, as well as higher self control and better negative mood regulation (Brown et al., 2007).

The finding that the intervention group also had higher scores on the verbal fluency assessment is consistent with findings suggesting that mindfulness and meditation training enhance cognition (Zeidan et al., 2010). Interestingly the intervention group wrote twice as many words as the control group and also had a wholly different approach when completing the verbal fluency test. They wrote down words associated with one another in clusters, e.g. *“skuta, skepp, segel, styrbord, sommar, sol, semester, strand, sjöstjärna”* (in English: schooner, ship, sail, starboard, summer, sun, vacation, beach, starfish). Due to these association chains, the intervention group kept on writing without stopping while the control

group wrote one word and then stopped to think of another word. Furthermore, the intervention group did not lose focus by the interruptions during the test when told how many seconds had passed, and they kept writing words until the end. The lack of difference in negative mood regulation, as well as in the level of situational anxiety, may be due to that the intervention group had two deadlines the next day: a deadline on an essay with many students being very pressed for time, and a deadline for university applications.

The differences between the groups in scores of mindfulness, life satisfaction, general health, positive affects and the lower scores of avoidance suggest that mindfulness training might be effective boosting resilience in adolescents, which was also shown in the DBT prevention study (Högmark and Wedin, 2006).

As with all studies, this one has certain limitations. First, the number of participants was low and the sizes of the intervention and control group were unequal. There were difficulties with matching the intervention group with another school in Stockholm due to the study taking place at the end of the last semester of high-school, when both teachers and students are lacking time academically. This resulted in the current control group, which was a convenience choice, and this may have altered the result. With a larger, randomly chosen control group the result may have been different. Second, selection bias has to be taken into account when interpreting the result, as the differences can depend on a number of factors like educational culture differences and historical effects. Third, mental training is not a very well defined concept and the measurements chosen in this study may not have been the ultimate ones. The number of measurements had to be limited due to the time constraints for the study.

In future studies other measurements might be used instead, such as the measure of self-esteem, resilience, self reliance, and coping strategies. The concepts of self-esteem, self reliance, and effective coping strategies are all mentioned in different studies involving the effect of both mindfulness and meditation (Adi et al., 2007; Brown et al., 2007; Snyder and Lopez, 2007; Weinstein et al., 2009). In a future study, also a different approach should be taken, performing a longitudinal study of the two groups during their three years of college, with measuring done before, during, and after the intervention takes place in the intervention group, thereby having more control on influencing factors that could effect the results.

In conclusion, I believe the present study, despite its shortcomings, offers useful guidance to future research on how to measure the effects on mental training, and thereby help develop an effective curriculum for mental training. Mental training may be a tool to build resilience in young people, helping them to handle the ups and downs of life.

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## MAAS

## Dagliga upplevelser

**Instruktioner:** Här nedan finns en samling påståenden om dina vardagliga upplevelser. Din uppgift är att använda skalan från 1 till 6 för att markera hur ofta eller hur sällan som du brukar ha dessa olika upplevelser. Var snäll och svara i enlighet med hur dina upplevelser *faktiskt ser ut*, och inte efter hur du vill att dina upplevelser ska vara! Tänk på att behandla varje påstående separat från de andra påståendena.

1	2	3	4	5	6
Nästan alltid	Mycket ofta	Ganska ofta	Ganska sällan	Mycket sällan	Nästan aldrig

1. Jag kan reagera med en känsla och inte bli medveten om det förrän en stund efteråt.	1	2	3	4	5	6
2. Jag har sönder saker eller spiller saker på grund av slarv, ouppmärksamhet eller för att jag tänker på något annat.	1	2	3	4	5	6
3. Jag tycker att det är svårt att hålla uppmärksamheten på det som händer i nuet	1	2	3	4	5	6
4. Jag har en benägenhet att gå fort dit jag ska utan att lägga märke till vad jag upplever längs vägen.	1	2	3	4	5	6
5. Jag brukar inte märka känslor av kroppslig spändhet eller obehag förrän de verkligen fångar min uppmärksamhet.	1	2	3	4	5	6
6. Jag glömmer bort en persons namn nästan på en gång efter att jag har fått höra det för första gången.	1	2	3	4	5	6
7. Det är som om jag går på automatik utan att vara särskilt medveten om vad jag gör.	1	2	3	4	5	6
8. Jag rusar igenom aktiviteter utan att vara riktigt uppmärksam på dem.	1	2	3	4	5	6
9. Jag blir så fokuserad på det mål jag vill uppnå att jag förlorar kontakten med det jag gör i stunden för att nå dit.	1	2	3	4	5	6
10. Jag utför uppgifter och arbeten automatiskt, utan att vara medveten om vad jag gör.	1	2	3	4	5	6
11. Jag märker att jag lyssnar på en person med ett öra, och gör något annat på samma gång.	1	2	3	4	5	6

1	2	3	4	5	6
Nästan alltid	Mycket ofta	Ganska ofta	Ganska sällan	Mycket sällan	Nästan aldrig

12. Jag åker till ställen rent "vanemässigt" och sedan undrar jag varför jag åkte just dit.	1	2	3	4	5	6
13. Jag finner mig själv upptagen med framtiden eller det förflutna.	1	2	3	4	5	6
14. Jag finner mig själv görandes saker utan att vara uppmärksam.	1	2	3	4	5	6
15. Jag småäter utan att vara medveten om att jag äter.	1	2	3	4	5	6

Svensk översättning: Lars-Gunnar Lundh, Marcela Peña, Robert Goldsmith, 2004.

Nedan följer fem påståenden som du kan hålla med eller inte hålla med om. Med hjälp av nedan presenterade svarsalternativ var vänlig att indikera hur du upplever dessa påståenden. Försök vara så öppen och ärlig i dina svar som möjligt.

**1 Håller väldigt mycket inte med**

**2 Håller inte med**

**3 Håller delvis inte med**

**4 Håller varken med eller inte med**

**5 Håller delvis med**

**6 Håller med**

**7 Håller med väldigt mycket**

- |  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
| 1. På de flesta sätt är mitt liv nära mitt ideal.                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. Förhållandena i mitt liv är utmärkta.                                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Jag är nöjd med mitt liv.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Än så länge har jag uppnått de viktiga saker som jag har velat ha i livet.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Om jag kunde leva om mitt liv så skulle jag nästan inte förändra någonting. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Välj det svar som **BÄST BESKRIVER** hur du mått under den senaste månaden.

**1. Har du på senaste tiden kunnat engagera dig i dina vanliga dagliga aktiviteter?**

- |         |                      |                      |                             |
|---------|----------------------|----------------------|-----------------------------|
| 1. Mera | 2. Samma som vanligt | 3. Mindre än vanligt | 4. Mycket mindre än vanligt |
|---------|----------------------|----------------------|-----------------------------|

**2. Har du på senaste tiden tyckt att allting tar knäcken på dig?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**3. Har du på senaste tiden ibland tyckt att du inte kan göra någonting för att du är ”dålig i nerverna”?**

- |              |                           |                            |                             |
|--------------|---------------------------|----------------------------|-----------------------------|
| 1. Inte alls | 2. Inte oftare än vanligt | 3. Något oftare än vanligt | 4. Mycket oftare än vanligt |
|--------------|---------------------------|----------------------------|-----------------------------|

**4. Har du på senaste tiden tyckt att du på det stora hela klarat saker och ting bra?**

- |                      |                        |                     |                            |
|----------------------|------------------------|---------------------|----------------------------|
| 1. Bättre än vanligt | 2. Ungefär som vanligt | 3. Sämre än vanligt | 4. Mycket sämre än vanligt |
|----------------------|------------------------|---------------------|----------------------------|

**5. Har du på senaste tiden känt behov av något stärkande ( vitaminer eller något liknande )?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**6. Har du känt dig ständigt pressad?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**7. Har du på senaste tiden känt dig helt bra och vid god hälsa?**

- |                      |                      |                     |                            |
|----------------------|----------------------|---------------------|----------------------------|
| 1. Bättre än vanligt | 2. Samma som vanligt | 3. Sämre än vanligt | 4. Mycket sämre än vanligt |
|----------------------|----------------------|---------------------|----------------------------|

**8. Har du på senaste tiden tyckt att tanken på att ta livet av dig återkommit i dina tankar?**

- |                 |                      |                           |                |
|-----------------|----------------------|---------------------------|----------------|
| 1. Absolut inte | 2. Det tror jag inte | 3. Det har föresvävat mig | 4. Ja, absolut |
|-----------------|----------------------|---------------------------|----------------|

**9. Har du på senaste tiden haft frossbrytningar eller värmesvallningar?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**10. Har du på senaste tiden tänkt på möjligheten att göra av med dig själv?**

- |                 |                      |                           |                |
|-----------------|----------------------|---------------------------|----------------|
| 1. Absolut inte | 2. Det tror jag inte | 3. Det har föresvävat mig | 4. Ja, absolut |
|-----------------|----------------------|---------------------------|----------------|

**11. Har du på senaste tiden känt dig kapabel att fatta beslut?**

- |                   |                        |                            |                             |
|-------------------|------------------------|----------------------------|-----------------------------|
| 1. Mer än vanligt | 2. Inte mer än vanligt | 3. Något mindre än vanligt | 4. Mycket mindre än vanligt |
|-------------------|------------------------|----------------------------|-----------------------------|

**12. Har du på senaste tiden känt dig rädd eller panikslagen utan egentlig anledning?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**13. Har du på den senaste tiden haft huvudvärk?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**14. Har du på den senaste tiden varit så orolig så att du har sovit för lite?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**15. Har du på den senaste tiden känt dig värdelös?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**16. Har du på senaste tiden kommit på dig med att önska att du vore död?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**17. Har du på senaste tiden känt att du i en del sammanhang spelar en betydelsefull roll?**

- |                   |                              |                      |                             |
|-------------------|------------------------------|----------------------|-----------------------------|
| 1. Mer än vanligt | 2. På samma sätt som vanligt | 3. Mindre än vanligt | 4. Mycket mindre än vanligt |
|-------------------|------------------------------|----------------------|-----------------------------|

**18. Har du på senaste tiden tyckt att livet är helt hopplöst?**

- |               |                        |                         |                          |
|---------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls. | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|---------------|------------------------|-------------------------|--------------------------|

**19. Har du på senaste tiden haft en känsla av spänning eller tryck i huvudet?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**20. Har du senaste tiden känt dig slutkörd och vissen?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**21. Har det tagit längre tid för dig att göra saker den senaste tiden?**

- |                        |                      |                      |                             |
|------------------------|----------------------|----------------------|-----------------------------|
| 1. Snabbare än vanligt | 2. Samma som vanligt | 3. Längre än vanligt | 4. Mycket längre än vanligt |
|------------------------|----------------------|----------------------|-----------------------------|

**22. Har du på senaste tiden varit nöjd med det sätt på vilket du utfört dina uppgifter?**

- |                        |                      |                           |                       |
|------------------------|----------------------|---------------------------|-----------------------|
| 1. Mer nöjd än vanligt | 2. Samma som vanligt | 3. Mindre nöjd än vanligt | 4. Mycket mindre nöjd |
|------------------------|----------------------|---------------------------|-----------------------|

**23. Har du på senaste tiden tyckt att livet inte är värt att leva?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**24. Har du på senaste tiden kunnat hålla dig sysselsatt?**

- |                   |                      |                      |                             |
|-------------------|----------------------|----------------------|-----------------------------|
| 1. Mer än vanligt | 2. Samma som vanligt | 3. Mindre än vanligt | 4. Mycket mindre än vanligt |
|-------------------|----------------------|----------------------|-----------------------------|

**25. Har du på senaste tiden sovit oroligt?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**26. Har du på senaste tiden känt dig ständigt spänd och nervös?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

**27. Har du på senaste tiden känt dig sjuk?**

- |              |                        |                            |                          |
|--------------|------------------------|----------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|----------------------------|--------------------------|

**28. Har du på senaste tiden blivit retlig eller på dåligt humör?**

- |              |                        |                         |                          |
|--------------|------------------------|-------------------------|--------------------------|
| 1. Inte alls | 2. Inte mer än vanligt | 3. Något mer än vanligt | 4. Mycket mer än vanligt |
|--------------|------------------------|-------------------------|--------------------------|

## PANAS

Detta formulär består av ett antal ord som beskriver olika känslor och emotionella upplevelser. Läs varje påstående och indikera till vilken grad du i **allmänhet** känner på det sätt som påståendet anger. Markera ditt svar i utrymmet bredvid påståendet. Använd följande skala när du anger dina svar:

- 1 = Väldigt lite eller inte alls**  
**2 = Lite**  
**3 = Varken för lite eller för mycket**  
**4 = Ganska mycket**  
**5 = Extremt mycket**

<b>Intresserad</b>	_____	<b>Irriterad</b>	_____
<b>Stressad</b>	_____	<b>Alert</b>	_____
<b>Exalterad</b>	_____	<b>Skamsen</b>	_____
<b>Upprörd</b>	_____	<b>Inspirerad</b>	_____
<b>Stark</b>	_____	<b>Nervös</b>	_____
<b>Skyldig</b>	_____	<b>Bestämd</b>	_____
<b>Skrämd</b>	_____	<b>Uppmärksam</b>	_____
<b>Fientlig</b>	_____	<b>Skakis</b>	_____
<b>Aktiv</b>	_____	<b>Entusiastisk</b>	_____
<b>Stolt</b>	_____	<b>Rädd</b>	_____

**Bilaga 13: Självskattningsformulär: Negative Mood Regulation scale****NMR**

INSTRUKTION: Nedan följer ett antal påståenden. Läs varje påstående och ange med en siffra hur väl varje påstående stämmer in på dig. Använd nedanstående skala från 1 till 5.

1	2	3	4	5
<i>Stämmer inte alls</i>	<i>Stämmer ganska dåligt</i>	<i>Stämmer någorlunda</i>	<i>Stämmer ganska bra</i>	<i>Stämmer mycket bra</i>

**När jag är upprörd tror jag att :**

- \_\_\_ 1. ...jag vanligtvis kan komma på ett sätt att muntra upp mig själv.
- \_\_\_ 2. ...jag kan göra något för att må bättre.
- \_\_\_ 3. ...vältra mig i det är det enda jag kan göra.
- \_\_\_ 4. ...jag kommer att känna mig okey om jag tänker på trevligare stunder.
- \_\_\_ 5. ...vara med andra människor kommer vara en plåga.
- \_\_\_ 6. ...jag kan må bättre genom att unna mig något som jag tycker om.
- \_\_\_ 7. ...jag kommer att må bättre när jag förstår varför jag mår dåligt.
- \_\_\_ 8. ...jag inte kommer att kunna förmå mig till att göra något åt det.
- \_\_\_ 9. ...jag inte kommer att må så mycket bättre genom att försöka se något bra i situationen.
- \_\_\_ 10. ...det inte kommer att ta lång stund innan jag kan lugna ner mig själv.

**När jag är upprörd tror jag att :**

- \_\_\_ 11. ...det kommer vara svårt att hitta någon som verkligen förstår.
- \_\_\_ 12. ...säga till mig själv att det kommer gå över kommer hjälpa mig att bli lugn.
- \_\_\_ 13. ...göra något trevligt för någon annan kommer att muntra upp mig.
- \_\_\_ 14. ...det kommer sluta med att jag känner mig riktigt deprimerad.
- \_\_\_ 15. ...planera hur jag ska ta itu med saker kommer att hjälpa.
- \_\_\_ 16. ...jag kan glömma det som upprör mig ganska enkelt.
- \_\_\_ 17. ...jobba ikapp kommer hjälpa mig att bli lugn.
- \_\_\_ 18. ...de råd mina vänner ger mig inte kommer hjälpa mig att må bättre.
- \_\_\_ 19. ...jag inte kommer kunna uppskatta de saker jag vanligtvis uppskattar.
- \_\_\_ 20. ...jag kan hitta ett sätt att slappna av.

1	2	3	4	5
<i>Stämmer inte alls</i>	<i>Stämmer ganska dåligt</i>	<i>Stämmer någorlunda</i>	<i>Stämmer ganska bra</i>	<i>Stämmer mycket bra</i>

**När jag är upprörd tror jag att :**

- \_\_\_ 21. ...försöka att lösa problemet i mitt huvud bara kommer göra saken värre.
- \_\_\_ 22. ...se en film inte kommer hjälpa mig att må bättre.
- \_\_\_ 23. ...gå ut och äta middag med vänner kommer att hjälpa.
- \_\_\_ 24. ...jag kommer vara upprörd under lång tid.
- \_\_\_ 25. ...jag inte kommer kunna sluta tänka på det.
- \_\_\_ 26. ...jag kan må bättre genom att göra någonting kreativt.
- \_\_\_ 27. ...jag kommer att börja ha riktigt låga tankar om mig själv.
- \_\_\_ 28. ...tänka på att saker så småningom kommer att bli bättre inte kommer hjälpa mig att må bättre.
- \_\_\_ 29. ...jag kan se viss humor i situationen och må bättre.
- \_\_\_ 30. ...även om jag är med en grupp människor så kommer jag känna mig ensam.

**Bilaga 11: Självskattningsformulär: AFQ**

AFQ  
(GRECO, MURREL & COYNE, 2005)

Vi vill veta mer om vad du tänker, hur du känner och vad du gör. Läs varje mening. Ringa sedan in det nummer som överensstämmer med hur sann varje mening är för dig.

	Inte alls sant	Lite sant	Ganska sant	Sant	Helt sant
1. Mitt liv kommer inte att vara bra förrän jag känner mig lycklig.	0	1	2	3	4
2. Mina tankar och känslor trasslar till mitt liv.	0	1	2	3	4
3. Om jag känner mig ledsen eller rädd så måste något vara fel på mig.	0	1	2	3	4
4. De dåliga saker jag tänker om mig själv måste vara sanna.	0	1	2	3	4
5. Jag provar inte på nya saker om jag är rädd att trassla till det.	0	1	2	3	4
6. Jag måste bli av med mina bekymmer och rädslor så att jag kan ha ett bra liv.	0	1	2	3	4
7. Jag gör allt jag kan för att vara säker på att jag inte verkar dum inför andra människor.	0	1	2	3	4
8. Jag anstränger mig mycket för att radera smärtsamma minnen från mitt medvetande.	0	1	2	3	4
9. Jag står inte ut med att känna smärta eller ha ont i kroppen.	0	1	2	3	4
10. Om mitt hjärta slår snabbt måste något vara fel på mig.	0	1	2	3	4
11. Jag trycker undan tankar och känslor som jag inte tycker om.	0	1	2	3	4
12. Jag slutar göra saker som är viktiga för mig när än jag mår dåligt.	0	1	2	3	4
13. Det går sämre för mig på arbetet / i skolan när jag har tankar som gör mig ledsen.	0	1	2	3	4
14. Jag säger saker som får mig att verka cool.	0	1	2	3	4
15. Jag önskar jag kunde vifta med en trollstav så all min sorgsenhet försvann.	0	1	2	3	4
16. Jag är rädd för mina känslor.	0	1	2	3	4
17. Jag kan inte vara en bra vän när jag känner mig upprörd.	0	1	2	3	4

Översatt till svenska av Thomas Parling & Ata Ghaderi, backtranslation av Terry Hartig, 2005

## SJÄLVSKATTNINGSFÖRMULÄR I

**Namn:**.....

**Född:** .....

**Datum:**.....

Nedan finns ett antal uttalanden som människor har använt för att beskriva sig själva. Läs varje påstående och ringa sedan in den siffra som bäst motsvarar hur Du känner Dig *just nu*. Det vill säga, *i detta ögonblick*. Inget svar är rätt eller fel. Tänk inte för länge på varje uttalande, utan ge det svar som tycks beskriva dina känslor bäst just nu.

1 = inte alls

2 = lite

3 = ganska mycket

4 = väldigt mycket

- |  |   |   |   |   |
|--|---|---|---|---|
| 1. Jag känner mig lugn .....                               | 1 | 2 | 3 | 4 |
| 2. Jag känner mig trygg och säker.....                     | 1 | 2 | 3 | 4 |
| 3. Jag är spänd.....                                       | 1 | 2 | 3 | 4 |
| 4. Jag känner mig ansträngd .....                          | 1 | 2 | 3 | 4 |
| 5. Jag känner mig väl till mods .....                      | 1 | 2 | 3 | 4 |
| 6. Jag känner mig upprörd .....                            | 1 | 2 | 3 | 4 |
| 7. Jag oroar mig just nu för allt som kan misslyckas ..... | 1 | 2 | 3 | 4 |
| 8. Jag känner mig tillfreds .....                          | 1 | 2 | 3 | 4 |
| 9. Jag känner mig rädd .....                               | 1 | 2 | 3 | 4 |
| 10. Jag känner mig obesvärad.....                          | 1 | 2 | 3 | 4 |
| 11. Jag känner självförtroende.....                        | 1 | 2 | 3 | 4 |
| 12. Jag känner mig nervös .....                            | 1 | 2 | 3 | 4 |
| 13. Jag är skakis .....                                    | 1 | 2 | 3 | 4 |
| 14. Jag känner mig villrådig .....                         | 1 | 2 | 3 | 4 |
| 15. Jag är avslappnad .....                                | 1 | 2 | 3 | 4 |
| 16. Jag känner mig nöjd .....                              | 1 | 2 | 3 | 4 |
| 17. Jag är orolig .....                                    | 1 | 2 | 3 | 4 |
| 18. Jag känner mig förvirrad.....                          | 1 | 2 | 3 | 4 |
| 19. Jag känner mig stabil.....                             | 1 | 2 | 3 | 4 |
| 20. Jag känner mig glad.....                               | 1 | 2 | 3 | 4 |