Mindfulness-based stress reduction: Does mindfulness training affect competence based self-esteem and burnout?

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MINDFULNESS-BASED STRESS REDUCTION: DOES MINDFULNESS TRAINING AFFECT COMPETENCE BASED SELF-ESTEEM AND BURNOUT?

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Competence based self-esteem (CBSE) refers to a disposition where an individual strives for self-worth by achievements to compensate a low basic self-esteem (BSE). This kind of self-attitude is linked to burnout. The purpose of the study was to examine the effects of an 8-week mindfulness based stress reduction (MBSR) intervention on self-ratings of CBSE, BSE, burnout and mindfulness. Four MBSR groups were enrolled and a total sample comprised 29 participants. Results of repeated measures ANOVAs showed a significant decrease in CBSE and burnout as well as significant increases in BSE and mindfulness. It was further found that pre test - post test change in mindfulness was significantly associated with reduced CBSE. These results indicate the effectiveness of MBSR to reduce burnout and suggest the program’s applicability in treating self-esteem related problems.

Keywords: mindfulness, competence-based self-esteem, burnout, basic self-esteem, MBSR

An increased emphasis on individual achievements is considered an important factor contributing to stress-related ill-health in Sweden (Swedish Ministry of Education, Research and Culture, 2006). People, whose competence strivings arise from attempts to compensate their impoverished basic self-esteem, are particularly vulnerable to negative health consequences (Johnson, 2002). This kind of conditional self-esteem is highly unstable as it fluctuates with success and failure (Crocker & Park, 2004a) and has been shown to be crucial in development of burnout (Dahlin, Jonerborg & Runeson, 2007; Hallsten, Josephson & Torgén, 2005).

Considering the costs of conditional self-esteem strivings, it is of great importance to investigate whether people could learn to more adequately satisfy the need to feel worthy. It is suggested that treatments aimed at cultivating mindfulness may reduce one’s habit to evaluate the self and increase one’s self-acceptance. They are also thought to promote behaviors that are not driven by anxieties to protect self-esteem, but are rather in line with one’s true self and values (Heppner & Kernis, 2007). Indeed, mindfulness has been found to be positively associated with non-contingent self-esteem (Brown & Ryan, 2003). Moreover, an increasing number of studies have reported beneficial effects of mindfulness-based stress reduction (MBSR) programs on stress and psychological well-being (see Chiesa & Serretti, 2009 for a review). Despite the previous empirical evidence that contingent self-esteem based on achievements predisposes people to burnout process (Dahlin et. al., 2007; Hallsten et

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there was a gap in previous research how treatments based on cultivating mindfulness affect on this kind of self-attitude. On these grounds, the present study investigates the effects of MBSR on different aspects of self-esteem and burnout.

**Self-esteem**

The most frequently used definition of self-esteem is global self-esteem, which refers to a person’s beliefs of overall self-worth (Rosenberg, 1965). Whether attitudes about self-worth are generally positive (high self-esteem) or negative (low self-esteem) intimately affects the individual’s behavior, thinking, affect and successful adjustment (Crocker, 2002). For instance, high self-esteem has been associated with happiness and well-being, whereas individuals with low self-esteem have been found to suffer from poor mental and physical health (see Baumeister, Campbell, Krueger & Vohs, 2003 for a review). To date, research on self-esteem has almost exclusively focused on the level of self-esteem although it is only one aspect of self-esteem (Crocker & Park, 2004a). Dynamic aspects, for example, how people pursue and maintain self-worth, are increasingly considered more important for behavior and health than trait self-esteem (Crocker & Wolfe, 2001; Johnson & Blom, 2007).

**Contingent self-esteem and self-esteem strivings**

Contingent self-esteem refers to different external sources of a person’s perceived self-worth (Crocker & Wolfe, 2001). In more detail, contingencies reflect individuals’ beliefs that they must do certain things or be a particular type of person in order to have worth as a person. For some people, self-esteem can depend on being attractive, and for others, being loved (Crocker, 2004a). When self-worth is contingent upon reassurances in a particular domain, success or failure in that domain can result in intense positive or negative affect and thus, cause extreme fluctuations in self-esteem (Crocker, Karpinski, Quinn & Chase, 2003; Crocker & Wolfe, 2001). A study supporting this view has shown that the more college students, who are applying to graduate programs, base their self-worth on academic competence the more their self-esteem increases on days they are accepted by graduate programs, and the more it decreases on days they are rejected (Crocker, Sommers & Luhtanen, 2002).

Successful pursuits of self-esteem have great short-term emotional benefits, such as decreased anxiety, and it motivates individuals achieving their important goals (Pyszczynski, Greenberg, Solomon, Arndt & Schimel, 2004). On the other hand, Crocker and Park (2004a) argue that contingent self-esteem comes with several costs because one is driven by attaining success in the domain. When self-esteem is at stake, one experiences pressure to pursue only those activities that can satisfy the contingency, and thus, ignore other important self-sustaining needs, such as the basic needs for autonomy, competence, and relatedness (Deci & Ryan, 2000). Moreover, when self-esteem is contingent, mistakes and criticism are viewed as self-threats, rather than opportunities for growth and improvement (Crocker et al., 2003). In the long run, this conditional stance can limit the individual’s feelings of efficacy and competence. Consequently, frustrated strivings may have negative consequences for both physical and mental health over time (Crocker & Park, 2004a).

To understand the essence of vulnerability in contingent self-esteem, Forsman and Johnson (1996) suggested a dynamic model of self-esteem comprising two independent aspects of self-esteem, termed basic and earning self-esteem. In an experiment (Johnson & Forsman, 1995) they demonstrated that if basic self-esteem, in
other words, one’s fundamental self-acceptance and respect for oneself, (Forsman & Johnson, 1996; Rogers, 1951) is low competence strivings are maladaptive whereas a high basic self-esteem fosters an adaptive ‘earning’ of self-esteem. In this view, high basic self-esteem, acquired by unconditional regard in early development, appears important in adaptive self-regulation. Thus, the affective self-evaluation, developed early in life, is a stable feature and functions as a lens through which people view their characteristics and experiences later in life. Contingent self-esteem based on competence has been associated with a development of burnout process (Hallsten et al., 2005). Therefore, competence based self-esteem is of particular interest in this study.

**Competence based self-esteem**

The concept of competence based self-esteem (CBSE), developed by Johnson and Blom (2007) refers to a contingency where one’s self-esteem is primarily dependent on competence and accomplishments to compensate the low level of basic self-esteem (Johnson & Blom, 2007). Hallsten (2005) has earlier described a similar type of personality trait that he named performance-based self-esteem, which he considers a prerequisite of burnout process. Both constructs refer to a self-attitude that successful achievements and perfection define a person’s self-worth. Individuals with high level of CBSE are typically self-critical, over ambitious, controlling and competitive (Johnson, 2002; Johnson & Blom, 2007; Johnson & Forsman, 1995). Furthermore, they experience frustration after failures and have difficulties setting limits for themselves regarding their workload (Di Paula & Campbell, 2002). Being ambitious and aiming high personal standards is not harmful as such but attaining goals to feel worthy cause distress (DiBartolo, Frost, Chang, LaSota & Grills, 2004). Indeed, in a recent study, high CBSE individuals showed higher blood pressure and reported more tension during a performance test than individuals with low CBSE (Blom, Johnson & Patching, in press). People with this kind of conditional self-esteem face the paradox that they want to be successful and appreciated for their accomplishments or status while at the same time feel non-capable (Brown & Bosson, 2001). On theoretical grounds and according to previous research, a core of vulnerability in CBSE is a deficient level of basic self-esteem (Johnson & Forsman, 1995). Crocker and Park (2004b) argue that in the absence of a conscious choice, people strive self-esteem by habit, which may come from a lack of self-awareness. In their view, Western individualized culture promotes self-esteem strivings and thus, people learn to validate their personal value through performance. The authors further suggest that research should explore potentially healthy ways to pursue self-esteem. In this respect, increased self-awareness could require practices, which reduce the vulnerability associated with contingent self-esteem. Mindfulness, a natural state of consciousness, could be particularly beneficial because it suggested to be learned through practice (Kabat-Zinn, 1990).

**Mindfulness**

Mindfulness is a state of mind and a way of living that has its roots in Eastern spiritual traditions, particularly Buddhism, but is increasingly practiced in Western countries (Kabat-Zinn, 1990). Mindfulness can be defined as “awareness that emerges through paying attention on purpose, in the present moment, and nonjudgementally to the unfolding experience moment by moment” (Kabat-Zinn, 2003, p. 145). In this mindful state, one’s thoughts, feelings and sensations are not labeled positive or negative, but are observed through an attitude of emotional neutrality and cognitive
acceptance in the present moment. In contrast, mindlessness refers to rigidity in thinking where previous experiences and cognitive rules govern perception, thoughts and behavior (Carson & Langer, 2004). Although, mindfulness is a natural human capacity it is a skill that can be learned and developed (Kabat-Zinn, 1990; Kabat-Zinn, 2003; Nyklíček & Kuijpers, 2008).

Treatment - MBSR
Mindfulness-based interventions based on learning mindfulness have become increasingly popular. Such interventions are: mindfulness-based stress reduction (Kabat-Zinn, 1990), mindfulness-based cognitive therapy (Segal, Williams & Teasdale, 2002), dialectical behavior therapy (Linehan, 1993) and acceptance and commitment therapy (Hayes, Strosahl, & Wilson, 1999). These interventions have been named as the third wave of the cognitive-behavioral tradition (Hayes, 2004).

Over 30 years ago, Kabat-Zinn (1990) introduced a structured 8-week group training to cultivate mindfulness, mindfulness-based stress reduction (MBSR). He originally developed the MBSR at the Stress Reduction Clinic at the University of Massachusetts Medical Center to help patients with chronic pain to cope better and more effectively with their lives. The focus of MBSR is on doing exercises, such as the body scan, yoga, sitting and walking meditation on a daily basis at least 45 minutes. Participants are guided not to expect any specific outcomes during the program but instead, to be in every moment allowing possibilities for outcome unfold (Kabat-Zinn, 1994). The program has been applied successfully to complement the conventional treatment of a variety of chronic medical and mental health problems. A meta-analysis (Grossman, Niemann, Schmidt & Walach, 2004) reveals that participation in the MBSR program is associated with an enhanced ability of coping with distress and improvements in quality of life and anxiety. These effects were observed in a variety of clinical populations such as patients suffering from pain, cancer or depression and also, in nonclinical populations.

Possible mechanisms of MBSR
The well-documented benefits of MBSR are often explained by its ability to cultivate mindfulness (Baer, 2003; Brown & Ryan, 2003). The intervention process is thought to increase the level of mindfulness and this increase in mindfulness is a primary mediator of positive psychological and health outcomes. The recent development of mindfulness self-reports has made it possible to test these hypotheses and they have been confirmed in a few studies (e.g., Bränström, Kvillemo, Brandberg & Moskowitz, 2010; Nyklíček & Kuijpers, 2008). Mindfulness appears to be a multidimensional phenomenon, and today, the most comprehensive measure of mindfulness is the Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer & Toney, 2006). FFMQ is based on a factor analysis of several independently developed mindfulness instruments. Accordingly, mindfulness includes five component skills: observing, describing, acting with awareness, nonjudging of inner experience, and nonreactivity to inner experience. Lykins and Baer (2009) found that both meditation experience and total mindfulness scores from the FFMQ had a significant positive association with openness to experience, reflection, psychological well-being and self-compassion whereas a negative association with thought suppression, difficulties in emotion regulation and cognitive failures. Recent findings have also suggested increased self-compassion (Shapiro, Carlson, Astin, & Freedman, 2006) and
spirituality (Carmody, Reed, Merriam, & Kristeller, 2008) as possible mechanisms of MBSR outcomes.

Mindfulness and competence based self-esteem

CBSE refers to behaviors such as self-criticism, extreme ambition and highly competitive behavior (Johnson & Forsman, 1995; Johnson, 2002). This kind of self-attitude can be viewed as mindlessness (Langer, 1989) because people with high CBSE are driven by attaining achievements up to high personal standards, which form rigid inner rules what one must do to feel worthy (Johnson & Forsman, 1995). In this respect, increased awareness may allow an individual to perceive multiple perspectives and more adaptive alternatives regarding his or her behavior (Langer, 1989). Brown and Ryan’s (2003) findings support this idea as high level of mindfulness was associated with non-contingent self-esteem where self-worth is not dependent on external sources.

Despite reaching their goals, individuals with high CBSE typically feel dissatisfied with their achievement, and this harsh self-criticism originates from a lacking self-acceptance. On the theoretical grounds, to change the pattern of attitudes and behaviors linked to CBSE it is important to increase the person’s low sense of basic self-esteem at the same time (Johnson & Blom, 2007). Through mindfulness practice, the change from a judgmental self-attitude to self-acceptance regarding the whole person might be possible. Moreover, mindfulness may attenuate emotional reactivity to automatic negative self-evaluations (Brown, Ryan & Creswell, 2007). Mindfulness training is thought to lead to improved behavioral self-regulation enabling people to cope adaptively while distressed (Gratz & Roemer, 2004), also when their self-worth is under threat. Thus, increased mindfulness in individuals with high CBSE may help them to be more accepting of themselves than they are and aware of the nature of their compulsive striving and its negative health consequences (Johnson & Forsman, 1995; Heppner & Kernis, 2007). Mindfulness training has been linked to decreased stress and burnout (e.g., Cohen-Katz, Wiley, Capuano, Debra, Baker & Shapiro, 2005), which suggests mindfulness as a potential buffer against burnout.

Burnout

If one meets an individual who cannot recover from tiredness, has a variety of bodily (e.g., headache and back pain) and cognitive (e.g., memory loss) symptoms, withdraws from social contacts, and has an increasing feeling of inefficiency, one is most likely encountering a person in the process of burning out (Schaufeli & Enzmann, 1998). A common definition of burnout is that it is a state of emotional, mental and physical exhaustion caused by prolonged stress (Shirom, 1989). However, the use of term burnout is often imprecise in everyday language. Doctors tend to see burnout as a severe medical condition and give a diagnosis exhaustive syndrome, which is included in the Swedish version of the disease classification system (Socialstyrelsen, 2003). In contrast, professionals with a psychological background generally describe burnout as a gradual process of individual’s resources depletion, which results from a highly stressful and demanding life situation (Schaufeli & Enzmann, 1998). The present study focuses on burnout as a process rather than exhaustion syndrome because it takes into account people who are still working and not on sick leave at the final stage of burnout (Hallsten et al., 2005). The burnout process typically goes on for many years (Schaufeli & Enzmann, 1998).
Burnout was first mentioned as a scientific phenomenon by Freudenberger (1974) based on highly engaged volunteer workers' experiences of mental and physical exhaustion. About the same time, Maslach and her colleagues (2001) defined burnout as a work-related syndrome including three dimensions: emotional exhaustion, cynicism and reduced professional efficacy. To date, Maslach Burnout Inventory (MBI) is the most used measure of burnout covering over 90% of all research on burnout. Later, this inventory has been extended from measuring burnout in human service work to detecting burnout in other occupational areas (Schaufeli, Leiter & Maslach, 2008).

Although, Maslach’s definition of burnout is the most commonly used, there are also other views. According to the Conservation of Resources (COR) Theory, burnout refers to the extreme depletion of energetic resources as a result of long-term exposure to chronic work or life stress (Melamed, Shirom, Toker, Berliner & Shapira, 2006). Based on the COR Theory, Melamed and his colleagues developed the Shirom-Melamed Burnout Questionnaire (SMBQ) where the core aspects of burnout are emotional exhaustion in combination with physical fatigue and cognitive weariness (Melamed, Kushnir & Shirom, 1992). Thus, this conceptualization of burnout considers the person as a whole with emotions, mind and body. The measure is positively correlated with both life stress and recurrent work stress (Melamed et al., 1992; Melamed, Ugarten, Shirom, Kahana, Lerman, Froom, 1999). Furthermore, the SMBM has found to be highly correlated with the emotional exhaustion dimension of the MBI (Grossi, Perski, Evenård, Blomqvist & Orth-Gomer, 2003) and with the Pines Burnout Measure (BM) (Soares & Jablonska, 2004). These correlations suggest that the SMBM, MBI exhaustion and BM may measure a common core content of burnout, namely exhaustion. The researchers originally defined burnout as a result of work distress (Hallsten, Bellaagh & Gustavsson, 2002) but recent studies have found burnout also among individuals outside working life such as students and unemployed (Hallsten et al., 2005). Burnout has been found in 7% of the general population in Sweden (Hallsten et al., 2002) and it is a major risk for long-term sickness absence (Toppinen-Tanner, Ojajärvi, Väänänen, Kalimo & Jäppinen, 2005). In the present study, the SMBQ has been used because of the instrument's applicability both for occupational and non-occupational individuals.

**Competence based self-esteem and burnout**

Burnout seems to be more than a negative stress reaction because not all individuals after exposure to psychological stress for a longer time burn out. From an individual perspective, it has been suggested that burnout is a process that can occur in any context, which is important for a person’s self-worth, for instance school, work or family (Dahlin et al., 2007; Hallsten et al., 2005). According to Hallsten (2005) only those individuals with a strong inner need to achieve and prove one’s self-worth by success would press themselves hard enough to react with burnout. According to his self-worth theory, burnout is regarded as a specific reaction in an engaged individual. Therefore, it is considered somewhat different from pure exhaustion, which can affect anyone in a demanding situation. Hallsten (2005) describes burnout in three phases. The first phase is characterized by deep engagement in some important aspect of life, and if the person is prevented to reach the goal in that domain follows the second phase of frustration. The process continues to a final phase if an individual is pushing forward and ignores the various signs of burnout symptoms. When self-worth is based on attainment, failure to achieve personally meaningful standards undermines a
person’s sense of self. This strengthens burnout symptoms in individuals with high CBSE because the protection of self-worth through withdrawal from performance is not an option. As self-worth is contingent on achievement, withdrawal is unlikely because participation is a significant source of self-value and emotional security. However, if an individual becomes aware of the nature of his or her self-esteem strivings and get new perspectives for new ways of thinking and behavior, he or she can avoid the negative consequences in the form of burnout. The present study applies the theoretical framework of burnout suggested by Hallsten (2005).

**Purpose of the study**

Burnout has high psychological and physiological costs for an individual (Schaufeli & Enzmann, 1998; Toppinen-Tanner et al., 2005). Despite the previous empirical evidence that contingent self-esteem based on achievements predisposes people to burnout process (Dahlin et. al., 2007; Hallsten et al., 2005), there was a gap in previous research how treatments based on cultivating mindfulness affect on this kind of vulnerable self-attitude. Therefore, the main purpose of the study was to examine the effects of an 8-week MBSR training on the level of mindfulness, CBSE, BSE and burnout. As most research on mindfulness has focused on the effects of mindfulness-based interventions on psychological well-being, little is known about how the intervention works. Thus, this study aims further to investigate how change in mindfulness relates to changes in aspects of self-esteem and burnout.

Based on the previous research, the hypotheses that are tested in this study are:

Hypothesis 1: Following MBSR training, burnout symptoms and CBSE are expected to decrease.

Hypothesis 2: Following MBSR training, BSE and mindfulness is expected to increase.

Hypothesis 3: Pre- and post intervention change (increase) in mindfulness is expected to correlate negatively with changes in burnout symptoms and CBSE.

Hypothesis 4: Pre- and post intervention change (increase) in mindfulness is expected to correlate positively with changes in BSE.

**Method**

**Participants**

Participants were recruited among individuals enrolled in four eight-week MBSR courses in Stockholm, Sweden, during the spring 2011. Two of the courses were held at MindfulnessGruppen, whereas two courses for breast cancer patients only were held at Stockholm’s Psychotherapy Surgery (Stockholms Psykoterapiomottagning). All courses were provided by MindfulnessGruppen, which is a privately owned company offering mindfulness courses for the private persons, companies and schools. All the participants were self-referred individuals who were seeking for increased well-being and stress reduction. The participants paid the course fee by themselves. Group sizes varied between seven and twelve persons. Out of 39 recruited participants 16 had a diagnosis of breast cancer. Two breast cancer participants and eight other participants
did not complete post-intervention measures. Thus, data from 29 respondents including 14 breast cancer patients and other stress participants were used in this study. Sample comprised 26 women and three men, the mean age was 48.93 years (SD= 15.01 years) and the mean reported attendance at the classes and the MBSR program was 66.82 % (SD= 20.35 %).

Intervention – MBSR program

The instructors of MBSR courses were a Mindfulness-Based Cognitive Therapist, a MBSR teacher and two Mindfulness Instructors, and they were leading different groups. The intervention followed the original MBSR program developed by Kabat-Zinn (Kabat-Zinn, 1990) at the Stress Reduction and Relaxation Clinic, Massachusetts Medical Center. The program is described here according to Hölzel (2011) and her colleagues. The program comprised of eight weekly group meetings lasting 2-2.5 h each and one full day during week six of the course, but no all-day retreat was included for the breast cancer groups. The silent retreat is a teacher-led day that involves practicing a variety of mindfulness exercises in a group in silence. Formal mindfulness training exercises aimed at developing the capacity for mindfulness (i.e., awareness of present-moment experiences with a compassionate, nonjudgmental attitude), and included a body scan, mindful yoga and sitting meditation. During the body scan attention was sequentially guided through the entire body, observing with nonjudgmental awareness the sensations in each part of the body and ending with an awareness of the body “as a complete whole”. The mindful yoga included gentle stretching exercises that were coordinated with the breath, with emphasis focused on bringing full awareness to the moment-to-moment experience. Participants were encouraged to explore what feels appropriate for themselves and to honor their body's limitations. Sitting meditation practices began with awareness of the sensations of breathing, then evolved to include, for example, awareness of sounds, sight, taste, other body sensations, emotions and thoughts. Later, focus was given to open awareness meditation, where the field of awareness was expanded to include anything that appears in consciousness or a simple awareness of one's presence in the here and now. Participants received audio recordings containing 45-min guided mindfulness exercises that they were instructed to practice six days a week at home. To facilitate the integration of mindfulness into daily life, the participants were also taught to practice mindfulness informally in everyday activities such as eating, walking or taking a shower. During weekly classes, the formal mindfulness exercises were practiced, questions relating to the practice of mindfulness in everyday life were discussed and instructions were given on using mindfulness for coping with stress in daily life.

Materials

Participants completed two sets of self-report questionnaires. The first questionnaire was completed at the beginning of the first group meeting and the second questionnaire at the conclusion of the last weekly meeting. At pre-intervention, the participants were asked to fill in demographic variables and their previous experience of meditation and whether they participated in any parallel therapies.

Basic self-esteem. Basic self-esteem, which is indicating one’s fundamental self-acceptance, was measured by the Basic Self-Esteem Scale (Forsman & Johnson, 1996). The scale comprises two dimensions; one reflecting emotional warmth and openness (e.g., ”I feel relaxed when I’m with other people), and the other referring to
a sense of security, self-assertiveness and independence in expressing needs and opinions. (e.g., "I have no trouble asserting myself whenever I want to be by myself "). Thus, a high scorer on BSE valuates oneself as trustful in others’ company, is confident in expressing own needs, has warm feelings towards others, freely expresses different emotions, which altogether makes the person to feel secure and at ease with oneself and others. Out of the total 45 original items eight were used in the present study. Cronbach’s alpha for the used scale was .65. The short scale has been validated in several studies (Johnson, 1997).

**Competence based self-esteem.** A shortened version of Competence Based Self-Esteem scale was used to measure the extent to which one’s self-worth was contingent on competence. The items in the scale mirror the importance of being in control of others’ performances (e.g., “Other people’s success makes me push myself even harder”), having a self-critical attitude (e.g., “No matter how well I have done a task, there is always a nagging feeling that I should have done better”) and inner demands to be perfect (e.g., “It is hard for me to forgive myself when I fail in an important task”). Out of original twelve items ten were used. Cronbach’s alpha was .73 for the selected items. The scale is well validated in previous studies (Blom & al., in press; Johnson & Blom, 2007).

**Mindfulness.** Mindfulness was assessed using the shortened version of Five Facets of Mindfulness Questionnaire (FFMQ; Baer et al., 2006). FFMQ is originally a 39-item scale to measure the following five factors of mindfulness. 1) Observing, i.e. attending to or noticing internal and external stimuli, such as sensations, emotions, cognitions, sights, sounds, and smells (e.g., “I notice the smells and aromas of things”, “I pay attention to sensations, such as the wind in my hair or sun on my face”). 2) Describing, i.e. noting or mentally labeling these stimuli with words (e.g., “When I have a sensation in my body, it’s difficult for me to describe it because I can’t find the right words”, “I’m good at finding words to describe my feelings”). 3) Acting with awareness, i.e. attending to one's current actions, as opposed to behaving automatically or absent-mindedly (e.g., “When I do things, my mind wanders off and I’m easily distracted”. 4) Nonjudging of inner experience, i.e. refraining from evaluation of one's sensations, cognitions, and emotions (e.g., “I tell myself that I shouldn’t be feeling the way I’m feeling”, “I disapprove myself when I have irrational ideas”) 5) Nonreactivity to inner experience, i.e. allowing thoughts and feeling to come and go, without attention getting caught up in them (e.g., “When I have distressing thoughts or images, I just notice them and let go.” Four items per each category were selected, in total 20 items. Cronbach’s alpha was .81. The FFMQ has been shown to have good internal consistency and good construct validity (Baer et al., 2006).

The given answer alternatives on both self-esteem scales and mindfulness were on the Likert-type scale ranging from “Not at all agree” (1) to “Completely agree” (5). Apart from burnout scale, the items from each scale were mixed and presented in a randomized order in a single section in the questionnaire.

**Burnout.** Shirom-Melamed Burnout Questionnaire (SMBQ) was used to measure burnout (Melamed et al., 1992). The instrument consists of three subscales that reflect three aspects of exhaustion: emotional exhaustion (e.g., "I feel like my emotional batteries are dead"), physical fatigue (e.g., "I am physically exhausted"),
and cognitive weariness (e.g., "My thinking process is slow"). Out of the original 22 statements 13 items were selected, equally from each subscale. Cronbach’s alpha was .89 for the items. The respondents were asked to rate “To what extent these experiences have occurred the most of your daytime during the last week?” Items were responded on a 7-point Likert scale, ranging from “To very low extent” (1) to “To very high extent” (7).

Results

Statistical analysis
The data were analyzed in three steps. First, intercorrelations between study variables including pre- and post compute scores were calculated. Second, in order to evaluate the effects of the intervention, four separate one-way repeated measures ANOVAs were conducted to compare pre- and post-MBSR scores on BSE, CBSE, burnout, and mindfulness. Finally, to investigate whether pre test – post test change in mindfulness was related to mean change scores in BSE, CBSE or burnout overtime, a Pearson product moment correlation analysis was performed between the change scores of mindfulness and the change scores of BSE, CBSE, and burnout.

Intercorrelations between variables
A Pearson correlation analysis across all variables including the composite scores for both pre- and post-intervention are presented in Table 1. Cancer patients were generally 56.29 years (Regular Group, M= 42.07 years), reported in pre and post test significantly more burnout symptoms, and exhibited a lower overall level of mindfulness than other participants. Other significant differences were not found between breast cancer patients and other participants, and therefore, all participants were analyzed as one sample.

Table 1. Intercorrelations between all variables including pre- and post-MBSR composite scores.

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<td>2. Sex</td>
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<td>3. Group</td>
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<td>4. Attendance</td>
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<td>6. CBSE</td>
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<td>7. Burnout</td>
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<td>8. Mindfulness</td>
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*p < 0.05, **p < 0.01.

Note. Sex is coded 1 = Female, 2 = Male; Group is coded 1= Regular group, 2 = Cancer group; BSE = Basic Self-Esteem; CBSE = Competence-Based Self-Esteem; BSE: n = 28; CBSE: n = 28; Burnout: n = 29; Mindfulness: n = 21.
**Changes in BSE, CBSE, burnout and mindfulness**

Changes in all variables from pre- to post-MBSR are presented in Table 2. Four separate one-way repeated measures ANOVAs were performed. The first ANOVA showed that level of mindfulness was significantly higher in post-intervention test than in pre-intervention test [Greenhouse-Geisser $F(1,20)= 56.48, p < .0005, \eta^2 = .74$]. The second ANOVA showed that BSE scores were significantly higher in post test than in pre test [Greenhouse-Geisser $F(1,27)= 42.39, p < .0005, \eta^2 = .61$]. The third ANOVA showed that CBSE scores were significantly lower in post test than in pre test [Greenhouse-Geisser $F(1,27)= 41.00, p < .0005, \eta^2 = .60$]. The fourth ANOVA showed that level of burnout was significantly lower in post test than in pretest [Greenhouse-Geisser $F(1,28)= 43.71, p < .0005, \eta^2 = .61$].

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-MBSR M (SD)</th>
<th>Post-MBSR M (SD)</th>
<th>Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSE</td>
<td>3.20 (.56)</td>
<td>3.72 (.62)</td>
<td>16.25 %</td>
</tr>
<tr>
<td>CBSE</td>
<td>2.88 (.58)</td>
<td>2.34 (.65)</td>
<td>-18.75 %</td>
</tr>
<tr>
<td>Burnout</td>
<td>4.12 (1.07)</td>
<td>2.98 (1.10)</td>
<td>-27.67 %</td>
</tr>
<tr>
<td>Mindfulness</td>
<td>2.80 (.44)</td>
<td>3.40 (.53)</td>
<td>21.43 %</td>
</tr>
</tbody>
</table>

*Note. BSE = Basic Self-Esteem; CBSE = Competence-Based Self-Esteem; BSE: n = 28; CBSE: n = 28; Burnout: n = 29; Mindfulness: n = 21.*

**Correlations between change in mindfulness and other variables**

A Pearson correlation analysis (two-tailed) was used to examine whether pre test – post test change scores (see Table 2) in mindfulness were related to changes in CBSE, BSE, and burnout (Table 3). It was shown that increase in mindfulness had a significant negative association with reduced CBSE. However, there was no significant correlation between increased mindfulness and increased BSE, or, improved mindfulness and reduced burnout.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Change in mindfulness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BSE</td>
<td>.35</td>
</tr>
<tr>
<td>2. CBSE</td>
<td>-.53*</td>
</tr>
<tr>
<td>3. Burnout</td>
<td>-.36</td>
</tr>
</tbody>
</table>

*p < 0.05.

*Note. BSE = Basic Self-Esteem; CBSE = Competence-Based Self-Esteem; BSE: n = 28; CBSE: n = 28; Burnout: n = 29; Mindfulness: n = 21.*
Discussion

The main purpose of the present study was to assess the effects of an 8-week’s MBSR training program on CBSE, BSE, burnout and the level of mindfulness. Moreover, the purpose was to investigate how change in mindfulness over the course of MBSR relates to changes in different aspects of self-esteem and burnout. The results showed significantly reduced CBSE and reported burnout symptoms as well as significantly increased BSE and mindfulness, following an 8-week training program in MBSR. The results further revealed that increase in mindfulness from pre- to post-intervention was significantly and strongly associated with reduced CBSE. Also, increased BSE and reduced burnout were moderately correlated with increased mindfulness but these results were not significant. The results as a whole are in line with the hypotheses and suggest the MBSR program’s effectiveness on reducing burnout, changing a pattern of CBSE related maladaptive attitudes and behavior, increasing BSE, and cultivating a level of mindfulness. Furthermore, the results of the correlation analysis indicate that a possible mechanism beneficial for burnout is the increased mindfulness due to the intervention, which reduces CBSE.

Based on theoretical grounds and empirical research, CBSE, BSE, burnout, and mindfulness were explored as outcomes of mindfulness intervention because there was generally assumed certain relationships between these variables. Indeed, when the correlations among the total scores, including pre- and post-intervention, were explored it was revealed that CBSE had a significant negative relationship with BSE. This finding was consistent with Forsman and Johnson’s (1995) dynamic model of self-esteem, which assumes that individuals strive for self-worth by achievements to compensate their low level of BSE. Thus, a concept of CBSE includes a low BSE, which was supported by the results. Furthermore, CBSE showed a statistically significant positive correlation with burnout whereas BSE was negatively correlated with burnout. These results were in line with previous studies (e.g., Johnson, 2002), supporting the idea that a core of vulnerability in CBSE is a deficient level of BSE. Furthermore, the direction of the relationships can be interpreted from Hallsten’s theoretical framework of burnout (Hallsten et al., 2005), where only those individuals with a strong inner need to prove one’s self-worth by success and accomplishments would press themselves hard enough to react with burnout. Overall level of mindfulness correlated positively with BSE but was negatively associated with CBSE and burnout. These findings were expected based on the earlier discovery that higher level of mindfulness is related to non-contingent self-esteem (Ryan & Brown, 2003) and reduced perceived burnout (Cohen-Katz et al., 2005).

In pre and post tests, cancer patients reported significantly more burnout symptoms than other participants, which was expected as the experience of diagnosis and treatment of a potentially life-threatening disease like breast cancer is itself a considerable stressor. Cancer patients also demonstrated lower level of mindfulness than other participants and it could be explained by a higher perceived stress in the cancer group. Indeed, experienced burnout symptoms correlated negatively with the level of mindfulness. In respect to other study variables, the cancer groups and normal stress groups were not significantly different from each other, and thus, they were analyzed as one sample.

Respondents in the present study reported to have followed the MBSR program in
average to 67 %. However, this is not an accurate measure as it is based on self-rating after intervention. The attendance to the program was positively correlated with the level of perceived mindfulness, which is supporting the previous research, where meditation experience and total mindfulness scores from the FFMQ were found to be positively related (Lykins & Baer, 2009). The beneficial outcomes of MBSR program are commonly explained by cultivating levels of mindfulness (Baer, 2003; Brown & Ryan, 2003). The present results showed that participants became significantly more mindful after eight weeks mindfulness practice, which in line with earlier studies (Bränström et al., 2010; Nyklíček & Kuijpers, 2008).

The increased overall mindfulness measured from pre to post test had a significant relationship with decreased CBSE suggests that increased mindfulness could explain the positive results for health. Mindfulness is a multidimensional construct and one of the five core elements of mindfulness measured by FFMQ is acting with awareness (Baer et al., 2006). It refers to stepping out from automatic pilot, not reacting routinely but rather being aware of one’s present behavior. It can be thought that this mindful perspective leads to reduced reactivity to unpleasant states. According to Crocker and Park (2004b), people can change a pattern of habitual self-esteem strivings only when they become aware of the costs of pursuing self-esteem. They compare letting go of striving self-esteem with trying to quit smoking. The smoker must choose not to smoke each time the impulse to smoke arises. Similarly, each time a craving to protect self-esteem arises, a conscious choice is required whether one’s intention is to validate the self by achievements. CBSE refers to attitudes and behaviors such as self-criticism, high competitiveness, and extreme ambition (Johnson, 2002; Johnson & Forsman, 1995). This kind of self-attitude can be considered mindless (Langer, 1989) because people are governed by rigid inner rules what one must do to feel worthy (Johnson & Forsman, 1995). In a mindless state, people react to self-threats often automatically and therefore, ignore negative health consequences of strivings to feel worthy by competence (Heppner & Kernis, 2007; Johnson & Forsman, 1995). The findings of this study indicate that regular mindfulness training may provide with a route to greater self-awareness, and thus explain reduced self-esteem striving to feel worthy.

According to Forsman and Johnson (1995) the core of contingent self-esteem based on achievements is in the presence of low BSE. Their dynamic model of self-esteem presupposes that changing attitudes and behaviors linked to CBSE, an increase of basic sense of self-esteem is required. Previous research suggests that BSE is founded early in life (Rogers, 1951) and is resistant to change by external means like competence (Johnson & Forsman, 1995; Josephs et al., 2003). However, the present results indicate that BSE can be formed by increased acceptance and inner changes in mind. Indeed, one fundamental aspect of mindfulness is cultivating a nonjudgmental attitude towards one’s thoughts and feelings whereas low sense of BSE refers to a rigid and non-accepting self-view. People are not often aware of their low level of BSE, and, thus, they are unable to see a rigid pattern to view oneself overall negatively and self-worth through one’s achievements.

Burnout is typically a long process and the various symptoms like back pain, emotional distress and memory problems can develop gradually over many years (Schaufeli & Enzmann, 1998). In particular, people with an attenuated CBSE-structure are likely to ignore the symptoms and warning signals from their body
because pushing themselves hard is a learned way to gain worthiness. It is possible that these individuals become aware of their symptoms at the final stage of burnout, namely, when they already are on sick leave due to exhaustion syndrome (Hallsten et al., 2005). Then, one needs to recuperate from a serious state of physical and emotional fatigue with cognitive deficits (Melamed et al., 1992), which may explain why burnout often leads to long-term sickness absence (Toppinen-Tanner et al., 2005).

In the present study, burnout symptoms as a whole were found to decrease significantly from pre test to post test and these results replicated the previous studies where MBSR has been shown to have beneficial effects for reduced burnout and distress (e.g., Cohen-Katz et al., 2005). This beneficial outcome could be explained by increased awareness of bodily symptoms during the mindfulness training. One core component of the MBSR program is practicing various mind-body exercises such as yoga and gentle stretching, which in turn can result in better awareness of burnout symptoms in the body. It is worth pointing out that the individuals with high CBSE might rate lower on burnout than they actually do, because they are still ignoring their symptoms. However, in the present study, accurate data about burnout symptoms, such as medical records, was not available.

Limitations of the study
While the present study shows very promising findings, certain limitations should be considered. This study did not include a randomized control group or an active “placebo” group. In this respect, Carmody and Baer (2007) suggest that beyond mindfulness training there might be other factors that could contribute to improvements of outcomes over time, for example social support from other group members or understanding from the group instructor. Meeting other people in the similar situation, namely stressed and breast cancer patients, may have contributed to outcomes obtained here. Carmody and Baer (2007) further argue that the participants may be motivated to practice simultaneously other mind-body techniques (e.g., yoga) and improve their health-related behavior (e.g., diet). These factors should be controlled for in post tests in the future studies. For instance, a study design using other stress reduction program or behavioral therapy as a control group would show the specific effects of the MBSR program.

Self-report measures often share some error variance. Questions regarding aspects of self-esteem, burnout and mindfulness may have been considered sensitive by some individuals, which in turn, can result in social desirability in their answers. On the other hand, the respondents were informed before participation in the study that the results are reported on the group level and their answers are anonymous. It is likely that participants reported higher levels of mindfulness after intervention due to social desirability or wishful thinking. Moreover, as the program is aimed at increasing the participants' well-being and reduce stress. Therefore, it is possible that participants reported higher levels of those qualities and attitudes that they wished or were expected to develop during the course.

A further limitation was that negative affect or neuroticism was not controlled. Negative affect has widely shown to be related to self-esteem (Johnson & Blom, 2007) and burnout (Kim, Shin & Swanger, 2008). Positive effects of the MBSR on CBSE and burnout could be partly explained by decrease in negative affect. Future
studies should concern this issue. It should also be noted that the participants filled out the same measurement before and after intervention and this may have increased a risk for testing effect. Answering in the first questionnaire could have enhanced participants’ self-awareness of their behavior and thus influenced their answers after intervention. A further point is the relatively small sample size, which can have consequences for the results. First, the participants had the financial resources to pay for the MBSR course. A majority of the participants were women and half of the participants had a diagnosis of breast cancer. Therefore, the present results cannot be generalized to a general population. Second, even if the effects of the within subject design were strong, the moderate correlations could be significant in a larger sample. Burnout (α = .88), CBSE (α = .73) and mindfulness (α = .81) scales showed strong Cronbach’s alphas, whereas BSE (α = .65) was acceptable, which indicates that the items in all scales have relatively high internal consistency.

Conclusions and future studies
The main findings of the study were in line with hypotheses and indicate that MBSR training program is effective to reduce contingent self-esteem based on achievements and burnout as well as to raise basic self-esteem and level of mindfulness. Moreover, change in mindfulness was significantly associated with reduced competence based self-esteem. It can be thought that through enhanced mindfulness, individuals learn to accept their thoughts, feelings and situations, rather than struggling against what they cannot change and measuring their worth by accomplishments and success. Increased mindfulness might reduce the tendency to develop strong emotions as a consequence of rigid and negative self-related thoughts related to low self-acceptance and high contingent self-esteem base on perfection and achievements. This could, in turn, prevent the establishment of unhealthy self-esteem strivings that can result in burnout symptoms.

The strength of this study is the longitudinal design used, which makes possible to see the causal effects of the intervention. Furthermore, effect sizes were large, which strengthen the reliability of the effects of the mindfulness program. Although preliminary evidence is promising, controlled studies are clearly needed. Therefore, further research would benefit from including matched or randomized comparison groups to strengthen the internal validity of the study. However, the present study is important as it represents the first test of the efficacy of mindfulness-based program on CBSE. Future studies might also focus the role of basic self-esteem in the process of reduced burnout. Furthermore, although mindfulness meditation traditionally is considered a lifelong practice (Kabat-Zinn, 1990), a majority of current knowledge about its beneficial effects is based on short-term mindfulness-based treatments. Therefore, future research would be needed to evaluate MBSR as a treatment for persons with excessive CBSE and burnout with an additional follow up after six months and after one year.

To conclude, these results are promising regarding the potential use of mindfulness-based interventions in treating contingent self-esteem related maladaptive thinking and behavior patterns. This study elucidates further the role of competence based self-esteem in development of burnout (Blom, in press). It seems that MBSR intervention is an effective tool in reducing burnout and in treating self-esteem related problems.
References


