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The Relation between Body-Self-Unity and Mindfulness

a Comparison of Currently Depressed Patients and Exercisers

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Abstract

*Purpose***:** To examine the relation between Body-Self Unity and mindfulness in currently depressed patients and exercisers.

Methods: The study was performed among 36 currently depressed patients and 49 exercisers and took place in two mental hospitals and at two sport clubs in Germany. Numerous questionnaires were used to assess Body-Self Unity (Body Experience Questionnaire), mindfulness (Five Facet Mindfulness Questionnaire), body appreciation (Body Appreciation Scale) and depression (Self-Rating Depression Scale). For the exercisers two questions concerning their exercising activity were added.

*Results***:** A significant positive correlation was found for Body-Self Unity and mindfulness in both samples. Results for the two concepts individually were that for Body-Self Unity it was found that (a) exercisers experience stronger Body-Self Unity than currently depressed patients (b) exercisers do not experience significantly more harmony between the body and the self than currently depressed patients (c) exercisers experience less alienation between the body and the self than currently depressed patients. For the concept of mindfulness it was found that (a) exercisers are more mindful than currently depressed patients.

Conclusion: The results of this study indicate that there is a positive correlation between Body-Self Unity and mindfulness. Further research should reveal whether a cause and effect relationship between these two variables can be found.

1 Introduction

While some people seem to live in harmony with their bodies, others seem to experience their body as a combatant (Van der Heij, 2007). People who live in harmony with their body listen to their bodily sensations and work together with their body as if there is an entity between their self and their body. This relationship between body and self is referred to as Body-Self Unity (BSU). The harmony felt between the body and the self can be assumed to be related to behaviors, such as adopting a healthy lifestyle (Van der Heij, 2007), that may enhance well being. This recently defined construct thus can be assumed to be positively related to someone´s well-being and is believed to bring forth a positive self-evaluation.

People with illnesses are prone to change their relation to their body during their illness (Wilde, 2003). They may no longer be able to control their body and the body may no longer function the way they want it to. This may lead to a discrepancy of what the self wants the body to do and of what the body is able to do. Through the awareness of this internal conflict, the implicitness of a harmony between body and self disappears (Kelly & Field, 1996). In times where people are changing their relationship to their body they might feel separated from it (Wilde, 2003). Because harmony is assumed to be related to behaviors that are related to well-being the absence of harmony is assumed to be related to behaviors that do not contribute to well-being.

The feeling of loss of control over the body, which is often experienced during a chronic illness, can lead to the divergence between the body and the self. This leads one to the question what other than health has an effect on the way the body is experienced (body image) - as a partner or as a combatant.

As can be seen in the Meta analysis conducted by Hausenblas & Fallon (2006), a lot of studies have shown that exercisers usually have a more positive body image than non-exerciser. Fox (2000) also found that exercise can be used to promote positive physical self-perception. Exercise thus seems to have a positive influence on one´s perception of the body. The question arises how exactly exercising influences perception of one´s body.

In her article “The Relationship of Yoga, Body Awareness, and Body Responsiveness to Self-objectification and Disordered Eating”, Daubenmier (2005) examines, among other things, the effect Yoga has on people’s body responsiveness, body awareness and body satisfaction. It was found that individuals who practice yoga reported greater awareness and

responsiveness (Daubenmier, 2005). Shiffmann (1996) stated that the goal of yoga "is to unify mind and body, in part, by immersing oneself in subtle sensations of the body" (as cited in Daubenmier (2005))

Yoga thus seems to increase body awareness by encouraging "movements based on internal awareness" (Daubenmier, 2005). Thus heightened internal awareness seems to positively influence the relation between body and self.

It is possible that other exercises though they are not intentionally carried out for achieving a better mind/body unity may have a positive effect on the relation between body and self. As Davis and Cowles (2004) stated: "Greater body satisfaction was associated with increases in exercise participation and with increased body focus, a variable that was also associated with increased levels of exercise".

In summary, exercise has been shown to increase one´s internal awareness of his inner states (figure 1, 1; here the first number always refers to the figure, the second number refers to the respective arrow in the figure) which has been found to have a positive influence on the relation between body and self. Exercise has also been found to heighten body satisfaction (figure 1, 2). These two variables may indirectly be important in order to see the body as a partner therefore for BSU (figure 1, 3). The first assumption is thus that exercisers are living in a state of BSU.

How we think and feel has been found to affect the functioning of the body. But how does what we do with our body affect how we think and feel (Mutrie, 2002)? Does a healthy body necessarily mean a healthy mind?

As can be seen in the quotation of Davis and Cowles mentioned above, increased body focus was found to be associated with increased levels of exercise. Heightened awareness of, for example, bodily sensations is part of a concept being widely discussed, namely mindfulness (Brown & Ryan, 2003; Baer et al. 2006). Mindfulness has its roots in Buddhist and other contemplative traditions. In these traditions, conscious attention and awareness are central concepts (Brown & Ryan, 2003). Mindfulness has been defined as "paying attention in a certain way: on purpose, in the present moment and non-judgmentally" (Kabat-Zinn (as cited in Heidenreich & Michalak (2003)). Five mindfulness specific skills were specified by Baer, Hopkins, Krietemeyer, Smith & Toney (2006). These skills are "observing, describing,

acting with awareness, non-judging of inner experience, and non-reactivity to inner experience". The five facets of mindfulness will be described in the methods part in more detail.

The first skill of mindfulness in this definition is "observing" or being aware of inner states. Bear, Smith, & Allen (2004) state, that according to Kabat- Zinn (1990), there are different stimuli that can be observed while being mindful. These are internal states, such as "bodily sensations, emotions and cognitions" but also "external phenomena such as noises and aromas" of things. The observing factor was solely found to be part of mindfulness in trained meditators (Baer, Smith, Lykins, Button, Krietemeyer, Sauer, Walsh, Duggan, Wiliams, 2008). This factor was unexpectedly found to be related with maladaptive constructs (Baer et al., 2008). A possible reason for this was given by Bear et al. (2008) who propose that observing inner states without judging, reacting and accepting, as it can be learned in mindfulness training, might be difficult for non-meditators. The trained meditators have learned to become aware of these states without taking them as a given. They can watch them from a distance without having to judge them or react to them. It can be summarized that only observing non-judgmentally is part of the concept of mindful -not observing alone.

Because non-meditators might not have learned to observe inner states without judgment it is assumed that a different conceptualization of the non-judgmental factor might be more appropriate for them. Non-meditators may not be able to observe without judging but they may have the affinity to judge about what they see in a positive or negative way. The positive judgment can be described as accepting without elaboration and might be more appropriate for non-meditators to be part of a measurement for mindfulness than the non-judgmental factor. This accepting might be promoted by body appreciation which seems to be heightened in exercisers (figure 1, 2). Heightened positive evaluation of a part of the self- the body- might lead to being more acceptable to other things like thoughts or emotion one has (figure 1, 4).

It has been found that people differ in their ability or willingness to be mindful (Brown & Ryan, 2003). Mindfulness is seen as "[…] an attribute of consciousness long believed to promote well-being" (Brown & Ryan, 2003). Bonadonna (2003) stated that there are things that seem to stimulate mindfulness. These things are, for example, "yoga, ecstatic dance […] music, and art" (as cited in Machim, Armer, & Stewart, 2008). As stated above, individuals

who practice yoga were observed to have heightened body awareness (Daubenmier, 2005). In this article body awareness was found to not only consist of the pure perceptual awareness of internal bodily states but also of the degree of responsiveness to them.

As can be seen from the above statements, exercise can lead to enhanced body awareness and body appreciation. Through this it may contribute to accepting the body. Therefore it is assumed that it contributes to BSU. As can be reviewed in the definition of mindfulness given above, mindfulness consists, among other things, of the ability to be aware of internal and external experiences and of encountering these experiences with acceptance. As well mindfulness as BSU thus seems to be related to awareness and being accepting of the things one is aware of. Accepting one´s body without elaboration might be the base for also accepting other inner or external states. Because exercising enhances as well awareness as acceptance the second assumption is exercisers are mindful (figure 1, 5).

Reviewing the above statements, BSU as well as mindfulness can be assumed to be related to well-being. Exercising seems to be positively related to BSU and exercising has a positive influence on awareness of, for example, bodily sensations, which in turn, is part of the concept of being mindful. These findings have been observed in healthy patients. The question arises how BSU and mindfulness are both distributed and related in a clinical population.

The lack of BSU might be especially observed in depressive patients among other because a depression often leads to somatic symptoms. As described by Van der Does and Zitman (2008), the diagnostic criteria for depression consist of three different clusters that are affective symptoms, somatic symptoms and cognitive symptoms. One of the criteria of a major depression is that five or more symptoms of these clusters need to be present for at least two weeks. The somatic symptoms mainly consist of decrease or increase in appetite and weight; disturbances in the sleep pattern; psychomotor agitation or retardation and fatigue or loss of energy (Van der Does and Zitman, 2008). These somatic symptoms can cause the body not to function the way the people want it to do. The currently depressed participants are thus becoming aware of their body (figure 1, 6) but disapprove of what they perceive (figure 1, 7). They might judge their body as being worthless (figure 1, 8). This could result in seeing the body as a combatant (figure 1, 9). This leads to the third assumption which is that currently depressed patients experience a divergence between the body and the self.

This negative evaluation and perception of a part of the self, by the depressed patient may result in rumination which has been defined as "behaviors and thoughts that focus one's attention on one's depressive symptoms and on the implications of those symptoms" (Nolen-Hoeksema, 1991, p. 569) (figure 1, 10). Depressed symptoms are seen to be perpetuated by rumination (Nolen-Hoeksema, 1991). Treynor, Gonzalez & Nolen-Hoeksema (2003) found out that rumination can be seen as a multidimensional construct and to exist of two factors- one maladaptive and one adaptive. In currently depressed patients the maladaptive factor which is called "brooding" seems to get the upper hand. The brooding factor is described to be "a passive comparison of one´s current situation with some unachieved standard"(Treynor et al., 2003). As Joormann, Dkane and Gotlib (2006) state that "Rumination is thought to increase biased cognitive […] processing and thus sustains negative mood states." Even when people are recovered from a depressive episode brooding seems to remain. Brooding thus seems to be related to relapse in depression (Joormann et al., 2006). Lyubomirsky & Nolen-Hoeksema (1995) found out that dysphoric participant, when induced to ruminate "endorsed more negative interpretations of hypothetical situations and generated less effective problem-solving strategies".

Noelen-Hoeksema, Morrow and Frederickson (1993) stated that a ruminative response style could result in a "heightened vulnerability to experience episodes of major depression". They defined ruminative response style as "the stable tendency to respond to negative life events and negative mood states with ruminative thinking and negative automatic thoughts". Because brooding has been shown to increase the negative mood state, there are therapies that concentrate on making patients alert of this ruminative style "Recent developments in interventions for depression and relapse prevention for depression have focused specifically on applying strategies that shift the focus of attention away from the negative content of thought to observing the process of mind in an explicit way" (Argus & Thompson, 2007). Noticing internal stimuli has been found to be associated with lower symptom levels. These findings were only true for trained meditators (Baer et al. 2008). Awareness of inner states, which equals the "observing factor" of the five underlying factors of mindfulness, described by Bear et al. (2006), was found to function in a different way for non-meditators. Reviewing the literature above, it can be seen that awareness of inner states can also be maladaptive as it is in rumination, where depressed individuals evaluate their inner states as negative and think about that over and over again. When engaging in a ruminative response style, depressed patients are noticing their inner states but judge about them in a negative way. While

mindfulness thus involves being accepting about one´s inner states, ruminative style seems to involve judging the perceived states as negative. This idea is consistent with research done by Watkins & Teasdale (2004) who found that mindful self-awareness can be adaptive while ruminative self- awareness is not. Instead of being "in the moment" as has been found to be characteristic of a mindful state, these people might engage in "elaborative, ruminative thinking about one´s situation and its origins, implications and association" (Teasdale, Segal, & Williams, 1995). Being mindful thus seems to contradict engaging in a ruminative response style. This way of thinking is inconsistent with the definition of being mindful (figure 1, 11). Kobarg (2008) investigated, among other things, the relationship of mindfulness and depression as a symptom of Burn-out. He found a negative correlation of mindfulness and symptoms of depression (r= -.38). This paper addresses the question whether these results can also be found in the syndrome depression. Therefore the fourth assumption is that currently depressed patients are not mindful.

Both concepts, BSU as well as mindfulness, are relatively new. This fact results in two consequences. Firstly, there are no previous cut-off scores for either BSU nor for mindfulness available, therefore the hypotheses are formulated as comparisons between the two populations – exercisers and currently depressed patients. Secondly, the relationship between these two concepts is unknown. Therefore their correlation will be explored.

As a result of the literature reviewed above the arising hypotheses for this paper are:

1. Exercisers experience more harmony between the body and the self than currently depressed patients.
2. Exercisers experience less alienation between the body and the self than currently depressed patients.
3. Exercisers experience stronger BSU than currently depressed patients.
4. Exercisers are more mindful than currently depressed patients.
5. There is a positive correlation between body appreciation and the non-judgmental factor of mindfulness for both samples combined.

Both, mindfulness and BSU are assumed to be related to well-being. They are both expected to be found in exercisers. Therefore the hypothesis arises that the two constructs are positively correlated with each other in exercisers (figure 1, 12).

Having an illness, such as depression is assumed to be negatively related to mindfulness and to BSU. Further, currently depressed patients are hypothesized to lack mindfulness and to be in a state of divergence between the body and the self. Therefore a positive correlation between mindfulness and BSU is expected (figure 1, 8).

6. There is a positive correlation between BSU and mindfulness in exercisers.

7. There is a positive correlation between BSU and mindfulness in currently depressed patients (figure 1, 13).

8. Exploring the correlation of each facet of mindfulness with each facet of BSU in currently depressed patients and exercisers.

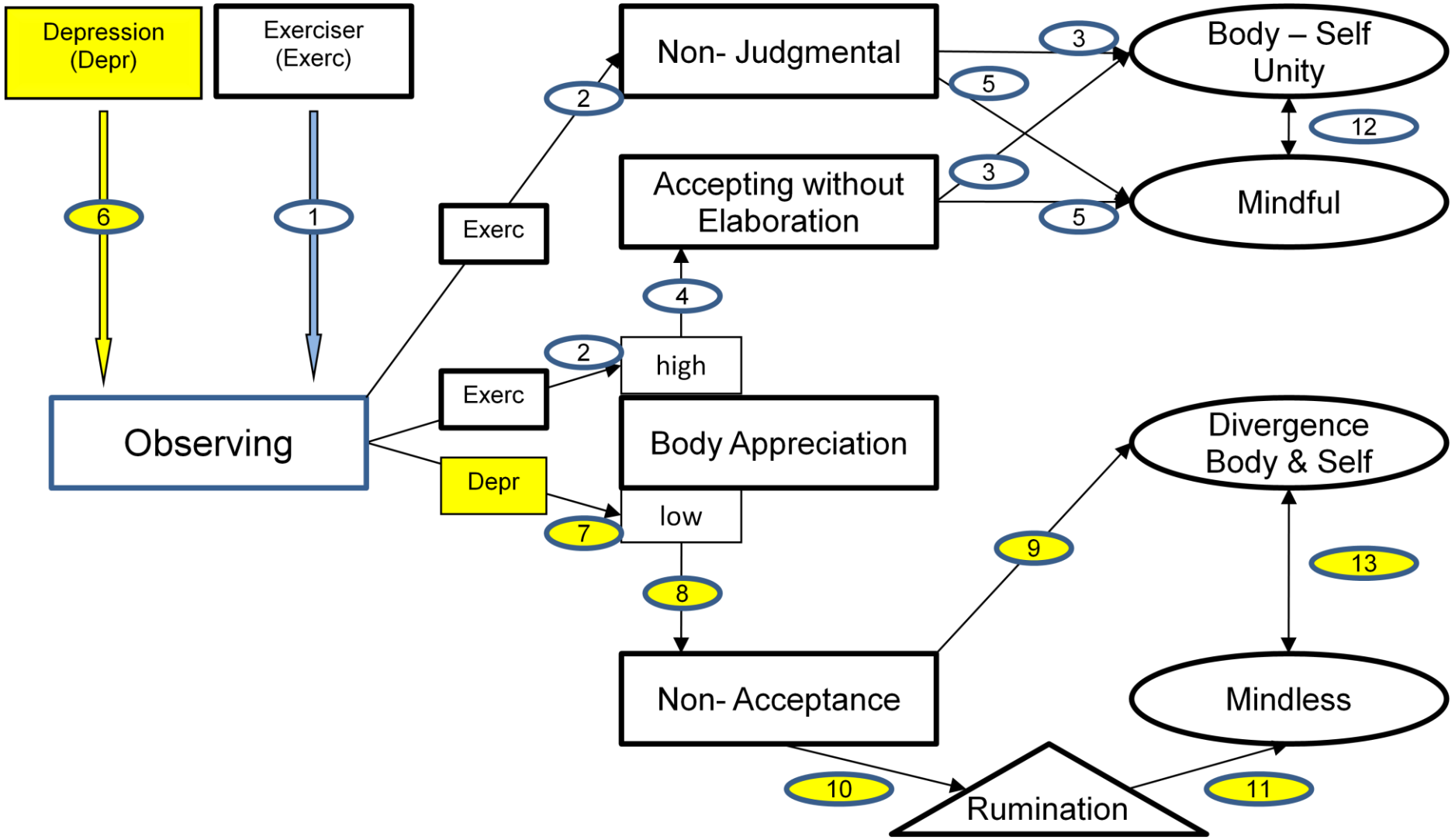

Figure 1. The influence of exercise and depression on the relationship between BSU and mindfulness.

2 Methods

2.1 Participants

Two groups of participants took part in the study: one clinical sample with participants who were currently depressed and a non-clinical sample with exercisers.

2.2 Response and dropout

From the 89 participants who were asked answer the questionnaire 87 did so (response 98 %). From this group 85 people filled in the entire questionnaire (dropout 2, 3%). The two people who were not participating in the study were two currently depressed patients. One of the participants who did not complete the questionnaire was from sample 1 the other one from sample 2. Table 1 gives an overview of the response and dropout.

Table 1

Overview response and dropout

Response	N	%	Dropout	N	%
Candidates	89	100	Candidates	87	100
Reason non-attendance			Reason incompletness		
Non-willing	1	1			
No time	1	1	*No more time*	1	1
			Not able to concentrate any longer	1	1
Total non- attendance	2	2	Total dropout	2	2,3
Total repsonse	87	97,8	Sample Size	85	97,7

2.3 Procedure

The study was conducted in Germany. Mental hospitals were asked to participate in this study via phone. Five mental hospitals were called of which two said that they were interested in participating in this study. Those interested hospitals were sent a letter including an overview of the study and the questionnaires which were to be completed. In a subsequent phone call two clinics agreed to take part in the study. These two clinics are the “Klinik am Schloßgarten” in Dülmen and the “Lukas-Krankenhaus” in Gronau. An informing appointment was made to discuss when and how exactly the questionnaires were going to be filled out. Data were collected in April 2009. Therapists asked the currently depressed

patients, of the clinics mentioned above, whether they wanted to take part in the study. Participants were selected for inclusion in this study based on the diagnosis of a mild to severe depression by their respective psychologist.

These patients were also inpatients at a day hospital which are part of the mental hospitals mentioned above. Questionnaires were filled out at an agreed upon time in groups of six participants. This way, individuals could ask questions about the procedure without having the pressure of a huge group. Participants were given instructions on how to complete the questionnaire as well as informed of the aim and reason for the study, of their right to stop at any time and of their anonymity within the study. This information was also written at the beginning of the questionnaire in more detail. Participants proceeded through the questionnaires at their own pace.

The exercising participants were recruited in Dülmen. The sport clubs were contacted and asked whether they wanted to take part in the study. The soccer players were recruited from the soccer club "DJK Dülmen" and the dancers from the dancing club "Herzog". After appointments for the filling out of the questionnaires was made, the soccer players and dancers were individually asked to fill out the questionnaires before training. The rest of the procedure was the same as for the first participant group.

The questionnaire consisted of five parts for the currently depressed patients and of four parts for the exercisers. The participants completed a brief demographic form, The 10 item German version of the Body-Experience Questionnaire (BEQ), the 39 items German version of the Five Facet Mindfulness Questionnaire (FFMQ), and three questions arrived from the Body Appreciation Scale (BAS). Currently depressed participants had to fill in the Self-Rating Depression Scale (SDS) while exercisers had to answer two questions about their training. The questionnaires will be described below in more detail. Missing values in the data were replaced by the mean answer given by the particular person on a certain subscale. For the FFMQ missing values were only replaced if there were no more than two missing values per subscale. For the BEQ a cut off score of one missing value per sub scale was handled. The chronbach´s alphas that were found in the reliability analysis for the subscales of the following instruments are interpreted as proposed by Georg and Mallery (2003): "_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and_ < .5 – Unacceptable" (p. 231).

2.4 Instruments

Body-Experience Questionnaire (BEQ) (van der Heij, 2007)

For assessing the BSU the Body-Experience Questionnaire (BEQ) "lichaamsbeleving", created by Van der Heij, (2007), was used. This questionnaire consists of two subscales called "Strijd" (Alienation) and "Harmonie" (Harmony). While the first subscale (Alienation) is thought to give an indication of the degree to which the body is seen as a combatant, the second subscale (Harmony) gives an indication of the degree to which the body is seen as a partner (Van der Heij, 2007). The first scale thus involves items that give an admeasurement for the degree of divergence between the body and the self while the second subscale involves items that capture the degree of BSU (Van der Heij, 2007). An example of an item of the first subscale is: My body is a burden to me (Mijn lichaam is mij tot last). An example of an item of the second subscale (Harmony) is: My body lets me know what is good for me (Mijn lichaam laat mij weten wat goed voor mij is) (Van der Heij, 2007). The first subscale (Strijd) was found to correlate with illness symptoms in a study of patients with rheumatism. This might be the case because the degree of divergence between the body and the self, which is assessed by this subscale is thought to be found more often in ill people. The questions were created in such a manner so that the Body-Experience Questionnaire could be taken as a measurement for illnesses other than only rheumatism (Van der Heij, 2007). Its ten items are to be rated on 4-point Likert-type scale ranging from 1 (helemaal oneens (totally disagree)) to 4 (helemaal eens (totally agree)). Sum scores for the sub scales were created. Higher scores on the harmony subscale meant higher harmony. Higher scores on the alienation subscale are interpreted as higher alienation. To obtain a BEQ total sum score the alienation items were revised. The items of the alienation subscale were revised so that people who scored high on this scale obtained low scores for the BEQ total sum score. Further the revised alienation scores and the harmony scores were add together. A high score on the BEQ total sum score means having high scores on BSU. The questionnaire was found to have an excellent to good internal consistency reliability for the currently depressed patients and an acceptable to good internal consistency reliability for exercisers (Cronbach's alpha for alienation items were: α = .91 (currently depressed patients) and α =.78 (exerciser). For harmony items were: .81 (currently depressed patients) and .87 (exerciser). For the BEQ total score a good chronbach´s alpha (α =.88) was found for currently depressed patients and a questionable alpha (α =.61) was found for the exercisers.

Five Facet Mindfulness Questionnaire (FFMQ) (Baer et al., 2006)

For examining to what extend the participants are Mindful, the Five Facet Mindfulness Questionnaire (FFMQ) was used (Baer et al., 2006). This questionnaire is based on factor analytic study of all items of five different mindfulness questionnaires done by Baer et al. (2006). These five mindfulness questionnaires are the Mindfulness Attention Awareness Scale (MAAS), the Kentucky Inventory of Mindfulness Skills (KIMS), the Freiburger Fragebogen zur Achtsamkeit (FFA), the Cognitive and Affective Mindfulness Scale (CAMS) and the Mindfulness Questionnaire (MQ). Factor analysis yielded five facets' that are "internally consistent and only modestly correlated with each other" (Baer et al., 2006). Four of these facet´s equal the four facet´s of the Kentucky Inventory Mindfulness Skills (KIMS) (Baer, Smith & Allen, 2004) and were titled: observing; describing; acting with awareness and accepting without judgment. The additional factor was called Non-reactivity to Inner Experience. Items loading on this factor were derived from the FMI and MQ (Baer et al., 2006). For every single component, those seven to eight items that loaded the best on the respective factor were taken from the five mindfulness questionnaires mentioned above. Thereby the 39 items of the FFMQ were created. The items of the FFMQ are to be rated on a 5-point Likert-type scale ranging from 1 (never or very rarely true) to 5 (very often or always true). Findings of Baer et al. (2006) support the conceptualization of mindfulness as a multifaceted construct as which it was also defined in the introduction of this paper. The four facet´s "describing; acting with awareness and accepting without judgment" were found to be elements of an "overreaching mindfulness construct" (Baer et al., 2006). As has been described in the introduction, the observing factor has to be seen differentiated.

Bear et al (2004) noted that the observing factor has been found to be an important component of mindfulness as can be seen in the descriptions of Kabat-Zinn (1990) for example. The observing factor is the first factor of the FFMQ (Baer et al., 2006). Observing has been defined to include "noticing or attending to internal and external experiences, such as sensations, cognitions, emotions, sights, sounds, and smells" (Baer et al., 2006). An item of this factor states, for example, "I pay attention to sensations, such as the wind in my hair or the sun on my face" (Baer et al., 2006). In this study an acceptable internal consistency with a chronbach´s alpha of .78 was found for the currently depressed patients and a good alpha of .86 for the exercisers.

The second factor that was found to be a component of mindfulness is describing (Baer et al., 2004). As Bear et al. (2004) state it, the ability to describe in one´s own words what one perceives has been found to be a component of mindfulness. According to for example, Bishop et al. (2004) "…the development of mindfulness would likely result in a greater capacity to …describe the complex nature of emotional states". This factor has been defined as "labeling internal experience with words" (Baer et al., 2008). An example of an item loading on this factor is: "I can easily put my beliefs, opinions, and expectations into words" (Baer et al., 2006). For this factor a good chronbach´s alpha was found for as well currently depressed patients as for exercisers ($\alpha = .89$ and $\alpha = .89$ respectively).

Acting with Awareness was found to be the third component of mindfulness by Bear et al. (2006). An example of an item displaying this factor is: "It seems I am "running on automatic" without much awareness of what I´m doing" (Baer et al., 2006). As Teasdale, Segal, & Williams (1995) put it, "The central component of mindfulness "… seems to be a heightened awareness of being in the here and now, rather than operating in a `mindless` `automatic pilot` mode, in which one `automatically` reacts rather than `consciously` and `mindfully` responds". This factor has been defined to include "attending to one´s activites of the moment" (Baer et al., 2008). For this subscale a good internal consistency was found for currently depressed patients ($\alpha = .87$) and an acceptable for exercisers ($\alpha = 71$).

The fourth component is titled "Accepting without judgment". Items displaying this factor ask whether one is able to be aware of things one perceives without judging them. To be seen as mindful, people thus must be able to, among other things, describe what they perceive (second factor: describing) without judging it or speculating about the origins of these thinking patterns (Baer et al., 2004). This factor has been defined as "taking a nonevaluative stance toward thoughts and feelings" (Baer et al., 2008). An example of one of the items that reflects the "Accepting (or allowing) without judgment" factor is: "I make judgments about whether my thoughts are good or bad" (Baer et al., 2006). According to Bishop et al. (2004) being mindful means being non-elaborative "Mindfulness fosters non-elaborative awareness of thoughts, feeling, and sensations as they arise". For this subscale good internal consistency was found for the currently depressed patients ($\alpha = .85$) and an acceptable alpha ($\alpha = .74$) for exercisers was found.

The fifth component is titled “Non-reactivity”. Items displaying this factor ask whether one is able to perceive feelings, emotions or thoughts without having to react to them. As describe by Baer et al. (2008) “Non-reactivity to inner experiences is the tendency to allow feelings to come and go, without getting caught up in or carried away by them”. An example of an item loading on this facet is: “I perceive my feelings and emotions without having to react to them”. For this subscale an acceptable internal consistency was found for currently depressed patients (α = .76). A poor internal consistency was found for the exercisers (α = .51).

Because the participants were recruited in Germany and -to the best of my knowledge- no German-version of the FFMQ was available the items were translated. A native speaker translated the German items back into English to check for their correct translation. Bear et al. (2006) recognized the need for investigation of the questionnaire and its facet structure in clinical samples because this is where mindfulness-based interventions are used primarily. In this study the FFMQ is- to the best of my knowledge- used in a clinical sample for the first time. For addressing the difficulties that may arise for non- meditators and clinical samples by trying to understand the items, the questions were changed a little to make them easier understandable. Ten independent people with different educational levels and German as their mother tongue checked the adapted and translated version of the FFMQ for its comprehensibility. After this some questions were adapted again. In Appendix B the English items of the FFMQ and their German translation can be reviewed. Another reason for the adaption was that patients in a depressed mood might not be too motivated to understand difficult questions partly due to an often occurring symptom namely “impaired concentration” (Van der Does & Zitman, 2008, p.197). Some of the items of the FFMQ were negatively formulated so that scoring high on these items indicates a lower score on mindfulness. These items were reversed with SPSS so that these item values were changed in a way that a high score became a low score. By summing the (reversed) items sum scores for the five subscales were calculated. To obtain a FFMQ total sum score the subscale sum scores were added. For the original English version, the FFMQ demonstrated acceptable to excellent internal consistency, with alpha coefficients ranging from .75 to .91 (Baer et al., 2008). For this study the values for the internal consistency for the adapted and translated FFMQ total were excellent to good (α = .92 for currently depressed patients and α = .81 for exercisers). For the

subscales the alpha´s ranged from .76 to .89 for the currently depressed patients and from .51 to .89 for the exercisers.

Body Appreciation Scale (BAS) (Avalos, Tylka, and Wood- Barcalow, 2005)

Questions from the Body Appreciation Scale (BAS; German version: Swami, Stieger, Haubner, Voracek, 2008) were used to assess, whether one is accepting about one´s body. Positive body image was thus measured with three items derived from the German version of the Body Appreciation Scale (BAS) (Swami et al., 2008). The English, original version of this scale was developed by Avalos, Tylka, and Wood- Barcalow (2005). The BAS consists of 13 items which measure four aspects of positive body image. These are: "(a) favorable opinions of one´s own body; (b) acceptance of the body in spite of imperfections; (c) respect for the body, particularly in relation to its needs; and (d) protection of the body, including rejection of unrealistic ideals" (Avalos et al., 2005). They tested this scale in four studies in which only English female college students were assessed. A German translation and psychometric evaluation of this scale was done by Swami et al. (2008).They expanded the original version in so far that they examined the psychometric properties of this scale in a German sample, examined the validity of the BAS in relation to men´s positive body image and administered the questionnaire in a community sample. The items of the BAS are to be rated on a 5-point scale (1= niemals (never) to 5= immer (always)). Higher scores are reflecting greater body appreciation. The reliability of the German version of the BAS was found to have a high internal consistency, for both women and men (Cronbach´s alpha= 0,90 and 0,85 respectively). For this study only three items of this scale were used because for the aim of this study it was solely of importance whether the participants are satisfied with their body or not. To assess this, it was chosen for item 1 to 3. The items were 1 ("Ich respektiere meinen Körper." (I respect my body)); 2 ("Ich fühle mich wohl in meinem Körper." (I feel good about my body)); 3 („Im Großen und Ganzen bin ich mit meinem Körper zufrieden." (On the whole I am satisfied with my body)). Excellent to good alpha´s were found for the both samples (α = .95 for the currently depressed patients; α = .81 for exercisers).

Self-Rating Depression Scale (SDS) (Zung, 1965)

To assess depression severity in the currently depressed patients, the Self-Rating Depression Scale (Zung, 1965) was used. The participants rate each item depending on how they felt the last seven days. This questionnaire consists of 20 items covering cognitive,

affective and somatic symptoms (Sakamoto et al., 1998). Ten items are illness oriented (positively symptomatic) that include typical depressive symptoms. The other ten items are health oriented (symptomatically negative) and include experience and behavioural patterns that are typically disturbed in depressive patients. For this study the German version of this questionnaire was used (Feichtner, 2005). The patient has to rate the 20 statements on a 4-point Likert scale ranging from "1 = Selten/ Nie (seldom/ never)" to "4 = Meistens/ Immer (mostly/always)". To obtain a total severity score the ten symptomatically negative items had to be reversed. It is possible to achieve raw values/scores between 20 and 80. Index scores can be derived by dividing the raw score by the maximum possible score. As can be seen in table 2 the following severity ranges are handled: an index score under 50 argues for no depression (within normal range), scores ranging from 50-59 argue for minimal to mild depression, scores ranging from 60-69 argue for a moderate to severe depression while scores of 70 and over speak for a severe to extreme depression (Zung, 1965). For this scale a good internal consistency was found ($\alpha = .88$).

Table 2

Categories of the Self- Rating Depression scale.

SDS Index	Nature of the depression
< 50	Within normal range, no psychopathology
50-59	Presence of minimal to mild depression
60-69	Presence of moderate to marked depression
70 and over	Presence of severe to extreme depression

Exercising questions

The two questions about the exercising habits of the participants of the second sample were "How long have you been doing this sport?" (Wie lange üben sie diesen Sport schon aus?) and "How often do you train for this sport in a week?" (Wie oft die Woche trainieren Sie (für diesen Sport?). The participants had to fill in the respective number or years.

2.5 Data analysis

Descriptive statistics were used to describe the sample of sex, age, marital status and education. With reliability analysis the reliability of the adapted German translation of the FFMQ was tested. The same was done for the BEQ, BA and SDS and its respective subscales. A Kolmogorov-Smirnov test was performed to find out whether the scales had a normal distribution. Independent sample t-tests, Mann Whitney *U* tests and correlation analysis, with the aid of Pearson product-moment correlation coefficient and Spearman's rank correlation coefficient, were performed to check the hypotheses of this paper. An alpha level of .05 was set for all statistical tests.

For an overview of the items belonging to all the above mentioned constructs see the questionnaire of the currently depressed patients and exercisers in appendix A.

3 Results

3.1 Sample Characteristics

The clinical population consisted of thirty-six currently depressed patients (Sample 1). These patients were all situated in one of the two German mental hospitals: The “Klinik am Schloßgarten” in Dülmen, and the “Lukas-Krankenhaus” in Gronau. They were either visiting a day clinic or were there as inpatients. The average degree of depression (expressed by the index scores achieved on the Zung Self-Rating Depression Scale (SDS)) was M = 65, 34 (12, 64) which is interpreted as a moderate to severe depression (Zung, 1965). The majority of the currently depressed patients were found to have a severe to extreme depression (45, 7 %). Four patients were found to have no depression pursuant to the scores on the SDS.

As shown in the table 3 the majority of the 36 currently depressed patients were male (n = 16), ranging in age from 22 to 67 years (M = 43, 69 (10, 99)). The majority of the participants (38, 9 %) were married or had a partner closely followed by 36, 1% who were single. The majority had a secondary school diploma “Realschulabschluss” as their highest school leaving certificate.

The non-clinical population of this study consisted of 49 participants who were all exercisers (Sample 2). Of these 15 engaged in soccer and 34 engaged in standard dancing.

The gender distribution of the 49 exercisers participating in this study was approximately equal while there were a few more men participating (n = 29). Their ages ranged from 17 to 60 years (M = 39, 73 (10, 63)). 67, 3% of those were married or had a partner. For most of them the secondary school “Realschulabschluss” was the highest completed school education they had (38, 8%). The average years spend doing the referring sport was 16 years, ranging from 1 to 52 years. On average they participated 2 (1, 6) times a week in their respective sports, ranging from 1 to 4 times a week.

Table 3

Demographics of the two samples plus Exercising Questions and severity of depressive symptoms

Sample[1]	**Dep.**	**Exer.**	**Dep.**	**Exer.**	**Dep.**	**Exer.**	**Dep.**	**Exer.**
	n		**%**		**M (SD)**		**Range**	
Demographics								
Gender								
Male	16	29	44,4	59,2				
Female	20	20	55,6	40,8				
Age (in years)					43,69 (10,99)	39,72 (10,63)	22-67	17-60
Marital status								
Single	13	15	36,1	30,6				
Married / Partner	14	33	38,9	67,3				
Divorced / Seperated	9	1	25	2				
Education[2]								
Primary	14	4	38,9	8,2				
Secondary	14	33	38,9	67,4				
Higher	8	12	22,2	24,6				
How long have you been doing this sport?						16,08 (13,13)		1 - 52
How often do you train for this sport every week?						1,6 (0,86)		1-4
Self-Raing Depression Scale/depressive symptoms	35				65,34 (12,64)		34-81	
N	36	49						

[1] Sample:

Dep. = Currently depressed patients *Exer.* = Exercisers

[2] Education:

Primary: Keinen Schulabschluss; Grundschulabschluss; Hauptschulabschluss

Secondary: Realschulabschluss; Abitur *Higher:* Hochschulabschluss

3.2 Testing for normality of the distribution

With the Kolmogorov-Smirnov test all scales were checked for their normal distribution. The test was carried out for currently depressed patients and exercisers apart. Depending on the hypotheses the test was done for sub scores or the total scores. A normal distribution was found for the BEQ total scores; the harmony subscale of the BEQ; the total scores for the FFMQ; all subscales of the FFMQ for both currently depressed patients and exercisers ($p > .05$). The Alienation Subscale of the BEQ and the BA total scores were found to have no normal distribution for exercisers ($p < .05$).

3.3 Hypotheses testing

Hypothesis 1:

Exercisers experience more harmony between the body and the self than currently depressed patients.

An independent sample t-test was performed comparing the mean harmony score of the BEQ for the currently depressed patients (M = 11, 80, SD = 2, 84) with that for the exercisers (M = 12, 86 SD = 2, 72). No significant differences between the two samples were found ($t(83) = -1, 73$; $p > .05$). The first hypothesis is not confirmed. It can be concluded that there has been found no reason to assume that exercisers have a significant higher score on the harmony subscale of the BEQ than currently depressed patients.

2. Hypothesis:

Exercisers experience less alienation between the body and the self than currently depressed patients.

To test this hypothesis the Mann- Whitney *U* test (independent group comparison test) was conducted. The results of the test were in the expected direction and significant ($z = – 4, 60$, $p< .01$). Currently depressed patients had an average rank of 57, 26, while exercisers had an average rank of 32, 52. The second hypothesis is confirmed. Exercisers had a lower score on the alienation subscale of the BEQ than currently depressed patients.

3. Hypothesis:

Exercisers experience stronger BSU than currently depressed patients.

An independent sample t-test was conducted to obtain results for the above hypothesis. Exercisers were found to score higher (M = 34, 27 (3, 74)) than currently depressed patients (M = 27, 83 (6, 93)) on the BEQ total sub scale (t (49, 9) = -5, 0, p<.01). It can be concluded that exercisers score higher than currently depressed patients on the BEQ total.

4. Hypothesis:

Exercisers score higher than currently depressed patients on mindfulness.

An independent sample t-test was conducted to test this hypothesis in these samples. Exercisers were found to score higher (M =133, 10) than currently depressed patients (M = 114, 80) on the total score of mindfulness (t (53) = - 4, 99, p< .01). The third hypothesis was supported. It can be concluded that exercisers score higher than currently depressed patients on mindfulness.

The support found for this hypothesis indicates that exercising is positively related to mindfulness. This finding can further be explored by having a look at the results of the comparison of the subscales of the FFMQ. As can be seen in table 4 exercisers scored significantly higher on the describe, the act with awareness, and the non-judgmental subscale of the FFMQ. No significant differences in the scores on the observe subscale and the non-reactivity subscale have been found for currently depressed patients and exercisers.

Table 4

Difference in mean points for the five facets of the FFMQ for currently depressed patients and exercisers

	Depr	Exerc.		
	M (SD)		df	t
Observe	26,08 (6,70)	26,49 (4,04)	83	-.32
Describe	23,03 (6,48)	28,61 (5,49)	83	-4,29**
AWA	21,67 (6,70)	27,08 (4,04)	53,34	-4,31**
NJ	23,14 (6,00)	29,47 (4,08)	57,99	-5,46**
NR	20,11 (4,51)	21,47 (2,90)	83	-1,58
N	36	49		

** significant at the 0,01 level (2- tailed)

* significant at the 0.05 level (2-tailed)

SD = standard deviation

df = degree of freedom

AWA = act with awareness

NJ = nonjudging

NR = nonreactivity

t = computed value of t-test

5. Hypothesis:

There is a positive correlation between body appreciation and the non-judgmental factor of mindfulness for both samples combined.

The correlation between body appreciation and the score on the non-judgmental factor was investigated using Spearman´s Rho. There was a strong, positive correlation between the two variables, rho = .540, n = 85, p < .01. The hypothesis is accepted, with high scores of body appreciation associated with high scores on the non-judgmental factor.

6. /7. Hypothesis:

- *There is a positive correlation between BSU and mindfulness in exercisers.*
- *There is a positive correlation between BSU and mindfulness in currently depressed patients.*

The relationship between BSU and mindfulness was investigated using Pearson's correlation coefficient.

A strong positive correlation between the two scores was found for the currently depressed patients (r = .76, n = 36, p< .05). For the exercisers a moderate positive correlation was found (r = .46, n = 49, p< .05). The fifth and the sixth hypothesis are therefore confirmed. This means that if someone scores high on BSU he also scores high on mindfulness. If someone scores low on BSU then he also scores low on mindfulness.

Hypothesis 8

Exploring the correlation of each facet of mindfulness with each facet of BSU in currently depressed patients and exercisers.

To further explore this positive correlation, the Pearson's correlations for the subscales of the BEQ and the FFMQ were calculated.

In table 5 and 6 one can see the intercorrelations and correlation of the FFMQ and the BEQ subscale and total scores apart for currently depressed patients and exercisers.

When having a look at table 5 one can see that, as expected, the two subscales of the BEQ, alienation and harmony, correlate significantly negative. The two subscales correlate highly negative and highly positive respectively with the total BEQ score.

Highly significant, positive correlations have been found for the subscales of the FFMQ with the total score of the FFMQ. All subscales correlate positively with each other even though some are not significant. No significant correlations have been found for the observe subscale and the act with awareness subscale and the observe subscale and the non-judgmental subscale; for the describe subscale and the non-judgmental subscale; for the act with awareness subscale and the non-reactivity subscale and for the non-judgmental subscale and the non-reactive subscale.

Alienation can be seen to correlate significantly negative with all mindfulness subscales. This means if someone scores high on alienation he scores low scores on all subscales of the FFMQ. The harmony subscale correlates significantly positive with all mindfulness subscales with the exception of the non-judgmental factor where a non-significant positive correlation can be seen and the non-reactivity facet where a significantly negative correlation was obtained.

Table 5

Correlations for the subscales and total scores of the BEQ and the FFMQ for currently depressed patients

Depr	**BEQ**			**FFMQ**					
	A	*H*	*Total*	*Obs*	*Desc*	*AWA*	*NJ*	*NR*	*Total*
BEQ									
A	1	- .357*	-.924**	-.409*	-.450**	-609**	-.556**	-.253*	-.656**
H	-	1	. 687**	. 554**	. 642**	.440**	.137	-.419*	. 615**
Total	-	-	1	. 545**	. 612**	. 654**	. 489**	. 368**	. 762**
FFMQ									
Obs	-	-	-	1	. 583**	. 319	.059	. 676**	. 706**
Desc	-	-	-	-	1	. 482**	.202	. 485**	. 780**
AWA	-	-	-	-	-	1	. 634**	. 281	. 797**
NJ	-	-	-	-	-	-	1	. 142	. 600**
NR	-	-	-	-	-	-	-	1	. 673**
Total	-	-	-	-	-	-	-	-	1

Note. *A = Alienation* *Desc = Describing* *Obs = Observing* *H = Harmony*
AWA = Act with awareness *NJ = Nonjudging* *NR = Nonreactivity*

*** Correlation is significant at the 0,01 level (2- tailed)*

** Correlation is significant at the 0.05 level (2-tailed)*

When having a look at table 6 no significant correlation between harmony and alienation can be found. The correlation even goes to the opposite of the expected direction. Also for the exercisers a negative and positive correlation respectively with the total BEQ score can be

found. Significant positive intercorrelations were obtained for the observe and the describe facet and the observe and the non-reactivity facet and for the act with awareness and the non-judgmental facet. For the rest non-significant positive correlations were found for some intercorrelations even negative non-significant correlations were found. For the harmony subscale positive correlations with the subscales of the FFMQ can be observed even though the correlation with non-reactivity only reaches significance.

Table 6

Correlations for the subscales and total scores of the BEQ and the FFMQ for currently depressed patients

Exerciser	**BEQ**			**FFMQ**					
	A	*H*	*Total*	*Obs*	*Desc*	*AWA*	*NJ*	*NR*	*Total*
BEQ									
A	1	. 232	-.706**	. 33	-.133	-.280	. 112	. 323*	-97
H	-	1	.525**	.547	. 266	. 069	.242	. 357*	. 514**
Total	-	-	1	. 370**	. 310*	. 195	. 274	-.023	. 460**
FFMQ									
Obs	-	-	-	1	. 382**	-.080	-.064	. 399**	. 679**
Desc	-	-	-	-	1	-.076	. 096	. 238	. 689**
AWA	-	-	-	-	-	1	. 382**	-.171	. 346*
NJ	-	-	-	-	-	-	1	.-040	. 464**
NR	-	-	-	-	-	-	-	1	. 458**
Total	-	-	-	-	-	-	-	-	1

Note. A = Alienation Desc = Describing Obs = Observing H = Harmony
AWA = Act with awareness NJ = Nonjudging NR = Nonreactivity
*** Correlation is significant at the 0,01 level (2- tailed)*
** Correlation is significant at the 0.05 level (2-tailed)*

Hypothesis 1 Exercisers experience more harmony between the body and the self than currently depressed patients.

Not confirmed

Hypothesis 2 Exercisers experience less alienation between the body and the self than currently depressed patients.

Confirmed

Hypothesis 3 Exercisers experience stronger BSU than currently depressed patients.

Confirmed

Hypothesis 4 Exercisers are more mindfulness than currently depressed patients.

Confirmed

Hypothesis 5 There is a positive correlation between body appreciation and the non-judgmental factor of mindfulness.

Confirmed

Hypothesis 6 There is a positive correlation between BSU and mindfulness in exercisers. Confirmed

Hypothesis 7 There is a positive correlation between BSU and mindfulness in currently depressed people.

Confirmed

Hypothesis 8 Exploring the correlation of each facet of mindfulness with each facet of BSU in currently depressed patients and exercisers.

4 Discussion

The main purpose of the present study was to examine the relationship between BSU and mindfulness in currently depressed patients and exercisers. Results indicated that there is a significant positive correlation between the two variables. It can be seen that mindfulness is positively related to BSU. In order to reach a full understanding of these results background information concerning the results for each variable individually will be discussed. Firstly the results for BSU and secondly the results for mindfulness will be discussed.

The first and third assumptions made in the introduction were exercisers are living in a state of BSU and currently depressed patients experience a divergence between the body and the self. As has been stated before there are no cut off scores available for the degree of BSU. Therefore the hypotheses were constructed as a comparison between these two samples, currently depressed patients and exercisers. It must be noted that all results are the outcome of the comparison between a clinical sample and a non-clinical sample. The first hypothesis that was tested was that exercisers experience more harmony between the body and the self than currently depressed patients. Results of this study indicated non-significant higher scores on the harmony subscale for exercisers compared to currently depressed patients. The first hypothesis was thus not supported. One notices, however, that the scores went in the assumed direction. A possible reason for the non-significant finding may be the small sample size. Another reason may be that the BEQ was created for chronically ill patients. As a result it is possible that healthy people who do not think about their body and the relationship between the body and the self may have had difficulties answering the questions of this subscale. They might never have thought about whether their body feels intimately or not they might take this for granted. On the other hand a possible reason for this finding might be that exercising can have a negative effect on the harmony felt between the body and the self. Exercisers might not only want the body to be healthy and function in everyday life. Sports competition might lead to higher and unreachable demands on one´s body.

The second hypothesis, which assumed less alienation between the body and the self for exercisers compared to currently depressed patients, was supported. The third hypothesis that was tested was that the exercisers have stronger BSU. This hypothesis was also supported.

As has been found by Davis and Cowles (2004) exercise seems to promote body focus and body satisfaction. These two variables were assumed to be important for a person´s ability to see the body as a partner, therefore for BSU. Shiffmann (1996) defined the goal of yoga to be a unification of body and mind (as cited in Daubenmier (2005)). The question in this paper was whether other sports also promote this unity. Results of this study partially support the assumption made in the introduction, that exercising does promote BSU. Caution has to be taken because there was no non-clinical, non exercising control group. It is therefore not clear, whether the results are due to the difference in health status of the two samples or due to the differences in exercise levels.

As previously stated, depression often leads to somatic symptoms which may consequently lead to increases in body dissatisfaction. Due to somatic symptoms currently depressed patients may see their body as a combatant. The results of this study might be interpreted as an indication that depressed patients are not living in a state of BSU but experience a divergence between the body and the self. Again, it must be noted that there was no healthy, non-exercising control group with which the results could be compared. It was chosen for these two samples because bigger differences between these groups were expected to be found than between the samples and respective control group. It might be possible that compared to a healthy, non-exercising group the scores reached on the BEQ for the currently depressed patients would not have been that different. Further research should reveal how currently depressed patient´s scores compare to a healthy non-exercising community sample.

Also mentioned before, exercising has been found to be related to increased awareness as well as acceptance, for example, of the body, which are both factors that seem to be related to being in a state of BSU. These two constructs are also part of the mindfulness construct. Therefore it was assumed that exercisers are mindful (second assumption).

The currently depressed patients' negative evaluation of self and body was assumed to possibly result in brooding, the maladaptive factor of rumination. Brooding seems to be a concept totally incompatible with that of mindfulness. In accordance with the results of Kobarg (2008) who found a negative correlation between mindfulness and symptoms of depression the fourth assumption was that currently depressed patients are not mindful. Through testing the fourth hypothesis, namely whether exercisers are more mindful than currently depressed patients, lower scores for the FFMQ total were found for currently

depressed patients than for exercisers. This assumption was further explored by comparing the single subscales of the FFMQ for exercisers and depressed patients.

Exercisers were found to be significantly better at describing their emotions and thoughts than currently depressed patients. Further they were found to be less judgmental toward their thoughts that in this case can be seen as being more accepting about their body. They were also found to act with more awareness than currently depressed patients.

No significant differences in the scores on the observe subscale were found for currently depressed patients and exercisers. Because of the assumption that as well exercisers as currently depressed patients have a heightened awareness, these results are not surprising.

The non significant difference in scores on the non-reactivity subscale was an unexpected finding. A possible reason for the non-significant finding might be the difficulty in the translation of the questions of this subscale into German. It is difficult to find a balance between translation and the choice of items that can be easily understood. In the pilot study these were the items which raised the most problems with understanding. This problem can also be seen back in the poor alpha coefficients for exercisers for this subscale ($\alpha = .512$).

In summary the findings of this paper for currently depressed patients might indicate that currently depressed patient's negative evaluation of their self and body results in a divergence between body and self which in turn seems to be related to a ruminative response style that is incompatible with being mindful. Because in this study the currently depressed patients were compared to a healthy, exercising group, the scores of the currently depressed patients on the FFMQ subscales were also compared to a healthy group which was assessed by Baer et al. (2008). It must be noted that for this sample the exercising activity remains unknown.

When comparing the results of the currently depressed patients with the healthy, higher educated community sample which was assessed by Baer et al. (2008), one can see that the currently depressed patients scored lower on the describe-, the act with awareness-, and the non-judgmental factor of the FFMQ (see table 7, Appendix C). As has also been seen through comparison of the exercisers with the currently depressed patients, no great difference was found for the scores on the observe and the non-reactivity subscale of the FFMQ for the currently depressed patients and the community sample. These findings support the assumption made in the introduction that currently depressed patients are not mindful by adding the comparison to another healthy control group. The reached scores for the subscales

of the FFMQ cannot be compared to the exerciser´s scores because no information about exercising activity of the community sample is available.

The hypothesis that there is a positive correlation between body appreciation and the non-judgmental factor of mindfulness for the both samples combined was supported which may indicate that body appreciation helps people score high on the non-judgmental factor or the accepting without elaboration factor for non-meditating samples. Because they might never have learned to be non-judgmental in the way a meditator is, they may judge their body and thoughts but not in a maladaptive way. It was assumed that the non-judgmental factor can be replaced by an accepting without elaboration factor for non-meditators which may thus be promoted by body appreciation. The opposite may be true for currently depressed patients, if one has low body appreciation he might judge his body in a negative way which leads to non-acceptance. Whether the non-judgmental factor can better be replaced by the accepting without elaboration factor for non-meditators should be further investigated.

As has been stated at the beginning of the discussion section, a significant, positive correlation was found for BSU and mindfulness in exercisers as well as in currently depressed patients. The eighth hypothesis was to explore the correlations between each factor of the FFMQ and each factor of the BEQ.

A possible reason for the unexpected findings of the correlation of the harmony subscale with the FFMQ for currently depressed patients are the unexpected findings for the intercorrelations of the FFMQ.

For the exercisers the correlation between the harmony scale and the alienation scale of the BEQ is opposite to the expected direction. This very surprising correlation might be due to difficulties in understanding the content of these questions. As has been stated earlier, it might be that healthy people do not often think about the relationship between their body and self. As long as the body functions the way they want it to function they are probably not concerned with their relationship to the body. It can be assumed that when the body stops functioning in the way one expects it to function, perhaps due to illness, (in this case in a depression), one may become more concerned with the relationship between oneself and his body. This might lead to difficulties in understanding this kind of questions for exercisers, which in turn might lead to unexpected answering patterns.

For the exercisers a positive correlation between the harmony scale and the subscales of the FFMQ were found. Only the non-reactivity factor reached significance. For the correlations between the alienation subscale and the FFMQ subscales mixed results were obtained.

As seen in the results section the expected correlations could not be found between all single subscales of the FFMQ and BEQ. There are many possible explanations for these findings. For example Baer et al. (2006) stated that the use of the FFMQ and its facet structure must be investigated in clinical samples because this is where mindfulness-based interventions are primarily used. This study was the first to assess mindfulness with the FFMQ in a clinical sample. The findings of the non-significant intercorrelations within the FFMQ subscale for currently depressed patients might be an indication that the distribution into five facets for measuring mindfulness is not adequate for a clinical sample. Another reason for the non-significant correlations might also be the small sample size. A factor analysis with a larger sample size would be necessary to evaluate whether the FFMQ is adequate for assessing mindfulness in a clinical sample. Another reason might be that this was, as far as I am concerned, the first study to assess BSU with aid of the BEQ in healthy people. The unexpected correlation between the alienation and the harmony subscale for exercisers must therefore also be viewed with caution. Factor analysis in a large sample should reveal whether the BEQ with its two subscales is a good instrument to asses BSU in a healthy sample.

The positive correlation between BSU and mindfulness that was found for currently depressed patients is consistent with the positive correlation between the harmony subscale and the observe-, describe-, and act with awareness facet as well as with the alienation subscale correlating significantly negative with all subscales. For the exercisers the positive correlation between BSU and mindfulness is consistent with the finding that the harmony subscale correlates significantly with the non-reactivity subscale.

This was the first study to investigate mindfulness with the aid of the FFMQ in a clinical sample. There are indications for a good internal validity of this scale for currently depressed patients. There were some unexpected correlations which give rise to the idea that the FFMQ might not be an appropriate measurement for clinical samples. However the applicability of this scale was not the question of this paper and further investigation in this direction needs to be done. The BEQ yielded good chronbach alpha´s for the exercisers. Because of some

unexpected correlation further research should reveal whether the BEQ is a valid measure to assess BSU in healthy people. For the currently depressed patients the BEQ was found to have good chronbach alpha´s. This indicates that the BEQ may be a promising questionnaire to assess BSU not only for patients with rheumatism but also for currently depressed patients. This broadens the scope for the applicability of this questionnaire.

4.1 Limitations of the study

When reviewing the results of this study one must note that the means by which BSU and mindfulness are operationalized is only one way to assess these constructs. When conclusions about the degree of BSU and mindfulness are taken, one has to keep in mind that these are only true for the concepts as they were operationalized here. The unexpected positive correlation between alienation and harmony in exercisers might give reason to assume that the BEQ might not be a valid measurement to assess BSU in this sample. It also must be noted that mindfulness as developed by Bear et al. (2006) is only one type of mindfulness. Other authors have postulated different definitions (e.g. Brown and Ryan, 2003).

There were 36 currently depressed patients participating in this study. These patients all filled in the SDS. Four patients yielded scores that are interpreted as not having a depression. These participants were included in the study anyway because these patients were declared as depressed by their therapists.

Another point is that comorbidity was not controlled even though depression is a common comorbid to many disorders such as other mood disorders and anxiety disorders (Van der Does and Zitman, 2008). Other illnesses present during participation might have influenced the results.

Another limitation is that exercisers in this study consisted of standard dancers and soccer players. The results were not obtained separately for these exerciser groups. There might have been differences between these groups which could be further investigated.

Body appreciation was assessed with three questions derived from the Body Appreciation Scale (BAS; German version: Swami, Stieger, Haubner, Voracek, 2008). It remains unclear whether these questions are a reliable representation of body satisfaction/acceptance.

Another limitation of this study is that there were several missing values in the questionnaires. A possible reason was thought to be the length of the questionnaire. For the

FFMQ alone there were 39 questions to be answered that might have lead to fatigue. It is noteworthy that most missing values were due to the fact that a lot of people did not fill in the short questions such as “I am easily distracted”. The missing values were replaced by the mean answer given by the particular person on a certain subscale. More extreme scores could have been given on the items where means were filled in. This might have lead to creating more homogenous groups. Through this a smaller variance might have been reached. Another point is the limitation of self-rated questionnaires in general. As has been suggested by Baer et al. (2006), “future research should expand the assessment of mindfulness to include methods other than self-report questionnaires”. Because of the small sample size generalizations should be made with caution. The causal interference of these findings is unclear.

4.2 Implication of the results

As has been summarized above, a positive correlation between BSU and mindfulness was found for exercisers as well as currently depressed patients. Further investigation would need to be done to determine whether there is a cause and effect relationship between these two variables. If a causal relationship could be found the direction of the causality should be examined. It can possibly be assumed that promoting one of the two variables may lead to the promotion of the other variable. To test this it could be examined for example, whether involving mindfulness-based therapy in the treatment of a depression positively influences BSU.

Internal awareness of one´s inner states and a non-judgmental view on one´s body have been assumed to be important in order to reach BSU. It can be explored whether mindfulness may aid in one´s ability to listen to the body carefully without judging it, and may help to reunite what has been divided by an illness. This idea is consistent with the idea of Stewart (2009) who stated that the cultivation of mindfulness may be the key to unlocking the ability to let go of judgment and find acceptance, not just with the body but with the whole body.

The reunification of body and self through therapy could also lead to being more mindful by means of enhancing internal awareness of one´s inner states and a non-judgmental view which are both concepts of the mindfulness construct.

Perhaps a third variable is causing variance in both mindfulness and BSU. Exercising has been found to promote internal awareness of one´s inner states and a non-judgmental view on

one´s body which are both concepts that are thought to be related to mindfulness and BSU. The role of exercising in the reunification of body and self should also be further investigated.

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Appendix

Appendix A

Questionnaire currently depressed patients and exercisers

Note. The questionnaire is identical for the two samples with the exception of the first page which is different for the two samples and the last page which only exists for the currently depressed patients.

Sehr geehrte Damen und Herren,

vielen Dank, dass Sie sich dazu entschlossen haben an der Befragung teilzunehmen.
Bei dieser Befragung geht es darum, den Zusammenhang zwischen zwei Konzepten zur Beschreibung der Körperwahrnehmung herauszufinden.

Die Daten werden vertraulich behandelt und sind anonym (können also nicht von Dritten eingesehen werden). Es geht bei der Auswertung nicht um die Angaben jedes einzelnen sondern um Gruppenvergleiche. Trotzdem ist jeder einzelne ausgefüllte Fragebogen von besonderem Wert für meine Bachelorarbeit in Psychologie. Dieser Fragebogen besteht aus fünf Unterteilen. Bei jedem Unterteil erfolgt eine kurze Erklärung wie die Fragen zu beantworten sind. Bitte kreuzen Sie jeweils die Antwort an, die Ihnen als erstes in den Sinn kommt ohne zu lange darüber nachzudenken. Es gibt keine falschen oder richtigen Antworten es geht hier lediglich um ihre persönliche Einschätzung. Wenn Sie sich unwohl fühlen, können Sie die Befragung jederzeit beenden. Bei aufkommenden Fragen stehe ich Ihnen gern zur Verfügung.

In diesem Unterteil bitte ich Sie zunächst einige Angaben zu ihrer Person zu machen. Bitte kreuzen Sie das ihrer Antwort entsprechende Kästchen an oder fügen Sie gegebenenfalls handschriftlich ihre Antwort ein.

Note. 1. Page currently depressed patients:

	männlich	weiblich		
Geschlecht:			Alter: ____Jahre	
	o	o		

	Ledig	Verheiratet/Lebensgemeinschaft	Geschieden/Getrennt	Verwitwet
Familienstand:				
	o	o	o	o

Was ist ihre höchste abgeschlossene Schulausbildung?

o Keinen Schulabschluss

o Grundschulabschluss

o Hauptschulabschluss

o Realschulabschluss

o Abitur

o Hochschulabschluss

Note. 1. Page exercsiers:

Geschlecht:	männlich o	weiblich o		Alter: ____Jahre
Familienstand:	Ledig o	Verheiratet/Lebensgemeinschaft o	Geschieden/Getrennt o	Verwitwet o

Was ist ihre höchste abgeschlossene Schulausbildung?

o Keinen Schulabschluss

o Grundschulabschluss

o Hauptschulabschluss

o Realschulabschluss

o Abitur

o Hochschulabschluss

Wie lange üben Sie diesen Sport schon aus? ____ Jahre.

Wie oft die Woche trainieren Sie (für diesen Sport)? ____ Mal pro Woche.

Im Folgenden sehen sie 10 Aussagen, zur Beziehung zwischen Körper und Selbst. Bitte bewerten sie die Aussagen danach, inwiefern diese auf Sie zutreffen. Tun Sie dies bitte an Hand der untenstehenden Skala. Kreuzen Sie bitte das Kästchen unter der Bewertung / Zahl an, die Sie für zutreffend halten. Es ist wichtig, dass Sie sich für eine Bewertung / Zahl entscheiden. Entscheiden Sie sich für die Bewertung, die am besten wiederspiegelt, inwiefern sie der Aussage zustimmen.

	1 Ich stimme überhaupt nicht zu	2 Ich stimme eher nicht zu	3 Ich stimme eher zu	4 Ich stimme ganz und gar zu
1. Mein Körper fällt mir zur Last.	o	o	o	o
2. Es fühlt sich so an, als ob mein Körper nicht zu mir gehört.	o	o	o	o
3. Ich fühle mich nicht ganz.	o	o	o	o
4. Mein Körper ist nicht vorhersagbar.	o	o	o	o
5. Ich fühle mich durch meinen Körper verraten.	o	o	o	o
6. Ich würde gerne einen anderen Körper haben wollen.	o	o	o	o
7. Ich denke darüber nach, was gut für meinen Körper ist.	o	o	o	o
8. Mein Körper lässt mich wissen, was gut für mich ist.	o	o	o	o
9. Ich spüre meinen Körper gut.	o	o	o	o
10. Mein Körper fühlt sich vertraut an.	o	o	o	o

In diesem Unterteil geht es darum, herauszufinden, inwiefern Sie auf Dinge in Ihrem Inneren oder der Umgebung achten, und wie sie mit diesen Wahrnehmungen umgehen. Bitte bewerten sie die folgenden Aussagen danach, wie zutreffend sie sind. Tun Sie dies bitte an Hand der untenstehenden Skala. Kreuzen sie jeweils das passende Kästchen unter den Zahlen an. Es ist wichtig, dass Sie sich für eine Bewertung / Zahl entscheiden. Entscheiden Sie sich für die Bewertung, die am besten Ihre eigene Meinung widerspiegelt, oder angibt, was im Allgemeinen auf Sie zutrifft.

		1 Niemals oder sehr selten wahr / zutreffend	2 Selten wahr / zutreffend	3 Manchmal wahr / zutreffend	4 Häufig wahr / zutreffend	5 Sehr häufig oder immer wahr / zutreffend
1	Wenn ich gehe, nehme ich die Bewegung meines Körpers ganz bewusst wahr.	o	o	o	o	o
2	Ich bin gut darin, Worte zu finden, die meine Gefühle beschreiben.	o	o	o	o	o
3	Ich kritisiere mich dafür, unvernünftige/ unlogische oder unangemessene Gefühle zu haben.	o	o	o	o	o
4	Ich nehme meine Gefühle wahr und akzeptiere sie, ohne das Gefühl zu haben darauf reagieren zu müssen.	o	o	o	o	o
5	Wenn ich etwas tue, schweifen meine Gedanken ab und ich bin schnell abgelenkt.	o	o	o	o	o
6	Wenn ich eine Dusche oder ein Bad nehme, nehme ich die ganze Zeit bewusst wahr, wie sich das Wasser auf meiner Haut anfühlt.	o	o	o	o	o
7	Mir fällt es leicht, meine Überzeugungen, Meinungen und Erwartungen in Worte zu fassen.	o	o	o	o	o
8	Ich bin unaufmerksam bei dem, was ich mache, weil ich Tagträumen nachhänge, mir Sorgen mache oder anderweitig abgelenkt bin.	o	o	o	o	o
9	Ich beobachte meine Gefühle, ohne zu sehr von ihnen eingenommen zu werden.	o	o	o	o	o

		1 Niemals oder sehr selten wahr / zutreffend	2 Selten wahr / zutreffend	3 Manchmal wahr / zutreffend	4 Häufig wahr / zutreffend	5 Sehr häufig oder immer wahr / zutreffend
10	Ich habe manchmal Gefühle, von denen ich denke, dass ich sie nicht haben sollte.	o	o	o	o	o
11	Ich bemerke, wie sich Essen und Trinken auf meine Gedanken, körperlichen Empfindungen und Gefühle auswirken.	o	o	o	o	o
12	Es ist schwer für mich Worte für das zu finden, was ich denke.	o	o	o	o	o
13	Ich bin schnell abgelenkt.	o	o	o	o	o
14	Ich glaube, dass einige meiner Gedanken „nicht normal“ oder schlecht sind, und ich nicht so denken sollte.	o	o	o	o	o
15	Ich achte auf körperliche Empfindungen, wie z.B. den Wind in meinen Haaren oder die Sonne auf meinem Gesicht.	o	o	o	o	o
16	Ich habe Probleme damit, mit Worten zu beschreiben, wie ich über etwas denke.	o	o	o	o	o
17	Ich urteile darüber, ob meine Gedanken gut oder schlecht sind.	o	o	o	o	o
18	Es fällt mir schwer, mit meinen Gedanken bei dem zu bleiben, was momentan geschieht.	o	o	o	o	o
19	Wenn ich beunruhigende Gedanken oder Vorstellungen habe, nehme ich diese zwar bewusst wahr, gehe aber innerlich einen "Schritt zurück" und nehme Abstand davon.	o	o	o	o	o
20	Ich achte auf Geräusche, wie das Ticken von Uhren, das Zwitschern von Vögeln oder das Vorbeifahren von Autos.	o	o	o	o	o
21	In schwierigen Situationen, kann ich mich zunächst zurückhalten, ohne sofort zu reagieren.	o	o	o	o	o
22	Wenn ich etwas empfinde, kann ich dies schwer in Worte fassen.	o	o	o	o	o

		1 Niemals oder sehr selten wahr / zutreffend	2 Selten wahr / zutreffend	3 Manchmal wahr / zutreffend	4 Häufig wahr / zutreffend	5 Sehr häufig oder immer wahr / zutreffend
23	Mir scheint, dass ich „automatisch“ funktioniere ohne größeres Bewusstsein dafür, was ich tue.	o	o	o	o	o
24	Wenn ich beunruhigende Gedanken oder Vorstellungen habe, beruhige ich mich danach schnell wieder.	o	o	o	o	o
25	Ich sage zu mir selbst, dass ich nicht so denken sollte, wie ich denke.	o	o	o	o	o
26	Ich nehme die Gerüche und Aromen der Dinge wahr.	o	o	o	o	o
27	Selbst wenn ich sehr aufgebracht bin, kann ich einen Weg finden, es in Worte zu fassen.	o	o	o	o	o
28	Ich erledige viele Dinge in Eile, ohne ihnen wirklich meine Aufmerksamkeit zu schenken.	o	o	o	o	o
29	Wenn ich beunruhigende Gedanken oder Vorstellungen habe, bin ich in der Lage, sie wahr zu nehmen ohne auf sie zu reagieren.	o	o	o	o	o
30	Ich denke, einige meiner Gefühle sind schlecht oder unangebracht und ich sollte nicht so denken oder fühlen.	o	o	o	o	o
31	Ich nehme Farben, Formen, Strukturen oder Muster von Licht und Schatten in der Kunst oder der Natur wahr.	o	o	o	o	o
32	Ich neige dazu meine Erfahrungen in Worte zu fassen.	o	o	o	o	o
33	Wenn ich beunruhigende Gedanken oder Vorstellungen habe, bemerke ich sie und denke dann nicht mehr darüber nach.	o	o	o	o	o
34	Ich erledige meine Arbeit oder Aufgaben automatisch, ohne mir bewusst darüber zu sein, was ich tue.	o	o	o	o	o

		1 Niemals oder sehr selten wahr / zutreffend	2 Selten wahr / zutreffend	3 Manchmal wahr / zutreffend	4 Häufig wahr / zutreffend	5 Sehr häufig oder immer wahr / zutreffend
35	Wenn ich beunruhigende Gedanken oder Vorstellungen habe, beurteile ich mich selbst als gut oder schlecht, abhängig davon, worum es in den Gedanken / Vorstellungen geht.	o	o	o	o	o
36	Ich achte darauf, wie meine Gedanken und mein Verhalten durch meine Gefühle beeinflusst werden.	o	o	o	o	o
37	Ich kann normalerweise recht detailliert beschreiben, wie ich mich im Moment fühle.	o	o	o	o	o
38	Ich ertappe mich dabei, Dinge zu tun, ohne ihnen Aufmerksamkeit zu schenken.	o	o	o	o	o
39	Ich kritisiere mich dafür wenn ich unvernünftige/unlogische Ideen habe.	o	o	o	o	o

Die folgenden drei Fragen beziehen sich auf Ihrer Einstellung zu Ihrem Körper. Bitte geben Sie an, ob die jeweilige Antwort auf Sie niemals / selten / manchmal / oft oder immer zutrifft.

1. Ich respektiere meinen Körper.				
o	o	o	o	o
niemals	selten	manchmal	oft	immer
2. Ich fühle mich wohl in meinem Körper.				
o	o	o	o	o
niemals	selten	manchmal	oft	immer
3. Im Großen und Ganzen bin ich mit meinem Körper zufrieden.				
o	o	o	o	o
niemals	selten	manchmal	oft	immer

Last page only for currently depressed patients

In diesem Unterteil finden Sie zwanzig Feststellungen über Ihr Befinden. Bitte lesen Sie jede Aussage sorgfältig durch und entscheiden Sie, wie Sie sich während der letzten Wochen gefühlt haben. Entscheiden Sie, welche der folgenden Aussagen auf Sie zutrifft: „selten oder nie“, „manchmal“, „oft“ oder „meistens oder immer“. Kreuzen Sie bitte das entsprechende Kästchen an. Bitte beantworten Sie alle Feststellungen.

		Selten/ Nie	Manchmal	Oft	Meistens/ Immer
1.	Ich fühle mich bedrückt, schwermütig und traurig	o	o	o	o
2.	Morgens fühle ich mich am besten.	o	o	o	o
3.	Ich weine plötzlich oder mir ist oft nach Weinen zumute.	o	o	o	o
4.	Ich kann nachts schlecht schlafen.	o	o	o	o
5.	Ich esse so viel wie früher.	o	o	o	o
6.	Sex macht mir noch immer Freude.	o	o	o	o
7.	Ich merke, dass ich an Gewicht abnehme.	o	o	o	o
8.	Ich leide an Verstopfung.	o	o	o	o
9.	Mein Herz schlägt schneller als gewöhnlich.	o	o	o	o
10.	Ich werde grundlos müde.	o	o	o	o
11.	Ich kann so klar denken wie immer.	o	o	o	o
12.	Die Dinge gehen mir so leicht von der Hand wie immer.	o	o	o	o
13.	Ich bin unruhig und kann nicht stillhalten.	o	o	o	o
14.	Ich setzte volle Hoffnung auf die Zukunft.	o	o	o	o
15.	Ich bin gereizter als gewöhnlich.	o	o	o	o
16.	Mir fällt es leicht, Entscheidungen zu treffen.	o	o	o	o
17.	Ich glaube, dass ich nützlich bin und dass man mich braucht.	o	o	o	o
18.	Mein Leben ist ziemlich ausgefüllt.	o	o	o	o
19.	Ich habe das Gefühl, dass es für andere besser wäre, wenn ich tot wäre.	o	o	o	o
20.	Ich tue Dinge, die ich früher tat, immer noch gern.	o	o	o	o

An dieser Stelle ist die Befragung beendet. Herzlichen Dank für die Teilnahme.

Appendix B

Note. Translated and adapted English FFMQ items

1	When I'm walking, I deliberately notice the sensations of my body moving.	Wenn ich gehe, nehme ich die Bewegung meines Körpers ganz bewusst wahr.
2	I'm good at finding words to describe my feelings.	Ich bin gut darin, Worte zu finden, die meine Gefühle beschreiben.
3	I criticize myself for having irrational or inappropriate emotions.	Ich kritisiere mich dafür, unvernünftige/ unlogische oder unangemessene Gefühle zu haben.
4	I perceive my feelings and emotions without having to react to them.	Ich nehme meine Gefühle wahr und akzeptiere sie, ohne das Gefühl zu haben darauf reagieren zu müssen.
5	When I do things, my mind wanders off and I'm easily distracted.	Wenn ich etwas tue, schweifen meine Gedanken ab und ich bin schnell abgelenkt.
6	When I take a shower or bath, I stay alert to the sensations of water on my body.	Wenn ich eine Dusche oder ein Bad nehme, nehme ich die ganze Zeit bewusst wahr, wie sich das Wasser auf meiner Haut anfühlt.
7	I can easily put my beliefs, opinions, and expectations into words.	Mir fällt es leicht, meine Überzeugungen, Meinungen und Erwartungen in Worte zu fassen.
8	I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.	Ich bin unaufmerksam bei dem, was ich mache, weil ich Tagträumen nachhänge, mir Sorgen mache oder anderweitig abgelenkt bin.
9	I watch my feelings without getting lost in them.	Ich beobachte meine Gefühle, ohne zu sehr von ihnen eingenommen zu werden.
10	I tell myself I shouldn't be feeling the way I'm feeling.	Ich habe manchmal Gefühle, von denen ich denke, dass ich sie nicht haben sollte.
11	I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.	Ich bemerke, wie sich Essen und Trinken auf meine Gedanken, körperlichen Empfindungen und Gefühle auswirken.
12	It's hard for me to find the words to describe what I'm thinking.	Es ist schwer für mich Worte für das zu finden, was ich denke.
13	I am easily distracted.	Ich bin schnell abgelenkt.
14	I believe some of my thoughts are abnormal or bad and I shouldn't think that way.	Ich glaube, dass einige meiner Gedanken „nicht normal" oder schlecht sind, und ich nicht so denken sollte.
15	I pay attention to sensations, such as the wind in my hair or sun on my face.	Ich achte auf körperliche Empfindungen, wie z.B. den Wind in meinen Haaren oder die Sonne auf meinem Gesicht.
16	I have trouble thinking of the right words to express how I feel about things.	Ich habe Probleme damit, mit Worten zu beschreiben, wie ich über etwas denke.
17	I make judgments about whether my thoughts are good or bad.	Ich urteile darüber, ob meine Gedanken gut oder schlecht sind.

18	I find it difficult to stay focused on what's happening in the present.	Es fällt mir schwer, mit meinen Gedanken bei dem zu bleiben, was momentan geschieht.
19	When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.	Wenn ich beunruhigende Gedanken oder Vorstellungen habe, nehme ich diese zwar bewusst wahr, gehe aber innerlich einen "Schritt zurück" und nehme Abstand davon.
20	I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.	Ich achte auf Geräusche, wie das Ticken von Uhren, das Zwitschern von Vögeln oder das Vorbeifahren von Autos.
21	In difficult situations, I can pause without immediately reacting.	In schwierigen Situationen, kann ich mich zunächst zurückhalten, ohne sofort zu reagieren.
22	When I have a sensation in my body, it's difficult for me to describe it because I can´t find the right words.	Wenn ich etwas empfinde, kann ich dies schwer in Worte fassen.
23	It seems I am "running on automatic" without much awareness of what I'm doing.	Mir scheint, dass ich „automatisch" funktioniere ohne größeres Bewusstsein dafür, was ich tue.
24	When I have distressing thoughts or images, I feel calm soon after.	Wenn ich beunruhigende Gedanken oder Vorstellungen habe, beruhige ich mich danach schnell wieder.
25	I tell myself that I shouldn't be thinking the way I'm thinking.	Ich sage zu mir selbst, dass ich nicht so denken sollte, wie ich denke.
26	I notice the smells and aromas of things.	Ich nehme die Gerüche und Aromen der Dinge wahr.
27	Even when I'm feeling terribly upset, I can find a way to put it into words.	Selbst wenn ich sehr aufgebracht bin, kann ich einen Weg finden, es in Worte zu fassen.
28	I rush through activities without being really attentive to them.	Ich erledige viele Dinge in Eile, ohne ihnen wirklich meine Aufmerksamkeit zu schenken.
29	When I have distressing thoughts or images I am able just to notice them without reacting.	Wenn ich beunruhigende Gedanken oder Vorstellungen habe, bin ich in der Lage, sie wahr zu nehmen ohne auf sie zu reagieren.
30	I think some of my emotions are bad or inappropriate and I shouldn't feel them.	Ich denke, einige meiner Gefühle sind schlecht oder unangebracht und ich sollte nicht so denken oder fühlen.
31	I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.	Ich nehme Farben, Formen, Strukturen oder Muster von Licht und Schatten in der Kunst oder der Natur wahr.
32	My natural tendency is to put my experiences into words.	Ich neige dazu meine Erfahrungen in Worte zu fassen.
33	When I have distressing thoughts or images, I just notice them and let them go.	Wenn ich beunruhigende Gedanken oder Vorstellungen habe, bemerke ich sie und denke dann nicht mehr darüber nach.

34	I do jobs or tasks automatically without being aware of what I'm doing.	Ich erledige meine Arbeit oder Aufgaben automatisch, ohne mir bewusst darüber zu sein, was ich tue.
35	When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.	Wenn ich beunruhigende Gedanken oder Vorstellungen habe, beurteile ich mich selbst als gut oder schlecht, abhängig davon, worum es in den Gedanken / Vorstellungen geht.
36	I pay attention to how my emotions affect my thoughts and behavior.	Ich achte darauf, wie meine Gedanken und mein Verhalten durch meine Gefühle beeinflusst werden.
37	I can usually describe how I feel at the moment in considerable detail.	Ich kann normalerweise recht detailliert beschreiben, wie ich mich im Moment fühle.
38	I find myself doing things without paying attention.	Ich ertappe mich dabei, Dinge zu tun, ohne ihnen Aufmerksamkeit zu schenken.
39	I disapprove of myself when I have irrational ideas.	Ich kritisiere mich dafür wenn ich unvernünftige/unlogische Ideen habe.

Appendix C

Table 7

Means and standardeviation for the subscales of the FFMQ for exercisers and the highly educated community sample.

	Exercisers	highly educated community sample[1]
	M (SD)	
Observe	26,08 (6,70)	27,04 (5,63)
Describe	23,03 (6,48)	30,01(5,63)
AWA	21,67 (6,70)	28,32(5,21)
NJ	23,14 (6,00)	29,13(5,79)
NR	20,11 (4,51)	22,83(4,19)

[1](Baer et al., 2008)