Chapter 7

Summary and general discussion
Although negative or disturbed body experience has been reported in a broad range of psychiatric disorders, sound measurement of body experience in clinical groups is scarce. In addition to providing substantial empirical evidence for disturbed body attitude as a common problem in patients with mental disorders, the studies reported in this thesis have achieved the following goals:

- A new instrument, the DBIQ-NL, was presented to measure body attitude. Body attitude is an important dimension of body experience, and one for which no adequate Dutch measurement scale has so far become available.
- Differences were established in the disturbance of body experience in different groups of patients with mental disorders compared to healthy people.
- Differences were demonstrated in body attitude between different groups of patients with mental disorders.

Chapter 1 presents a general introduction on the subject of body experience in mental disorders and its importance for diagnostics as well as for the evaluation of body- and movement-oriented interventions. Three core psychological dimensions of body experience are described: body attitude, referring to cognitive, affective, and behavioural aspects [1]; body satisfaction, defined as the degree of contentment with appearance or functionality of the body [2]; and body awareness, defined as the perception of bodily states, processes, and actions that an individual has the capacity to be aware of [3].

Chapter 2 evaluates the psychometric properties of the Dutch version of the Dresden Körperbildfragebogen (Dresden Body Image Questionnaire, DBIQ), an instrument measuring body attitude, in a non-clinical sample. The thus established scale was used to investigate body attitude in clinical samples; this is discussed in Chapters 3-6. Chapter 3 describes, as measured with the DBIQ-NL, characteristics of body attitude and its associations with psychiatric diagnoses in a broad group of patients with mental disorders. This exploration provides first and general information on the disturbance of body attitude in a clinical sample as well as on the differences between diagnostic categories in this respect. In the following chapters, studies are presented in which body attitude is evaluated in specific groups of patients, namely those with somatoform disorder (Chapter 4), trauma-related disorders (Chapter 5), and depression (Chapter 6). In the studies discussed in Chapters 5 and 6, measures of body satisfaction and body awareness have been included in order to gain more information on the disturbance of these dimensions of body experience and on their association with body attitude.

The present general discussion starts in Section 7.1 below with a description of the main findings per chapter. Next, we reflect upon the results from the different studies, also in light of other published work, seeking coherence and evaluating the robustness of the results. Section 7.2 evaluates the psychometric properties of the DBIQ-NL as well as findings of the DBIQ-NL and its subscales with regard to body attitude.
in patients with mental disorders. Section 7.3 reviews results for measures of body satisfaction and body awareness, and it discusses associations between domains of body experience. In Section 7.4, we then re-discuss the importance of body experience as a theme in diagnosis and treatment, with particular attention for body experience in traumatized patients. Furthermore, developments in mental health are discussed that may support attention for body experience as well as those that stand in its way. The chapter is concluded in Section 7.5 with recommendations, a summary of the clinical implications of this thesis, and with suggestions for further research.

7.1. Key findings per chapter

In Chapter 2, the psychometric properties of the Dutch translation of the Dresden Body Image Questionnaire (DBIQ-NL) were evaluated in a large convenience sample. The DBIQ-NL consists of five subscales covering body acceptance, vitality, self-aggrandizement, physical contact, and sexual fulfilment.

Confirmatory factor analyses showed a structure in accordance with the original German scale. By moving one item to another subscale, the model fit improved significantly. Multiple group confirmatory factor analyses across sex and age demonstrated partial strong invariance, which affected differences between sex and age groups only slightly, leading us to conclude that all items could be retained. Internal consistency of each of the subscales was good, and temporal reliability was satisfactory. Correlations between the subscales were relatively small, providing support for the multidimensionality of the instrument. Adequate construct validity was established by evaluating associations with specific related constructs, namely body satisfaction, comfort with touch, and fatigue, and with general indices of psychosocial wellbeing and self-esteem. The DBIQ-NL may thus be considered to be a reliable and valid instrument to measure body attitude in non-clinical subjects.

In Chapter 3, the clinical usefulness of the DBIQ-NL was tested in a broad group of 267 patients with different mental disorders (mood disorders, anxiety disorders, adjustment disorder, post-traumatic stress disorder, eating disorders, and schizophrenia and other psychotic disorders).

Results indicate that a disturbed body attitude is common in patients with mental disorders and is associated with self-reported mental health, quality of life, and empowerment. All patient groups scored significantly lower, with large effect sizes, than the people in the convenience sample (Chapter 2). Patients with post-traumatic stress disorder (PTSD) scored particularly low on all subscales. Scores of patients from different diagnostic groups varied across the subscales, with body acceptance lowest in the group with eating disorders, and sexual fulfilment extremely low in PTSD. Notably, vitality did not differ significantly between the various disorders. Furthermore, large gender differences were observed, with men scoring higher than women, on the
subscales body acceptance and sexual fulfillment, whereas gender differences on vitality were small.

After four months of treatment, when measurements were repeated, significant positive changes in body attitude were observed in the patient group.

In Chapter 4, body attitude as measured with the DBIQ-NL was evaluated in a large group of patients with somatoform disorder (SFD), the precursor diagnostic category of what is now called ‘somatic symptom disorder’ in DSM-5. A core feature of SFD is the difficult relationship of patients with their body, indicating that the evaluation of body attitude in this group is highly relevant. Using the convenience sample as a comparison group and following the same procedures as in Chapter 2, we confirmed measurement invariance across both samples and across gender in the SFD sample.

Differences in scores between the age- and sex-matched samples of patients and the respondents in the comparison group were also investigated, revealing significantly lower scores in the patient sample on all DBIQ-NL subscales. Men with SFD scored higher than women with SFD on all DBIQ-NL subscales, showing significant differences for body acceptance, sexual fulfilment, and self-aggrandizement. Patients with conversion disorder scored significantly higher on vitality and body acceptance than patients with undifferentiated SFD and pain disorder. The large differences observed between patients with SFD and the comparison sample as well as the differences within SFD diagnostic categories confirm the broad scope of body-related problems in patients with SFD and underline the clinical relevance of the DBIQ-NL.

Early life exposure to trauma, such as prolonged and repeated childhood sexual and physical abuse, has far-reaching effects on people’s relationship with their body. This detrimental influence of early life trauma on an individual’s relationship with their body is often overlooked and therefore generally receives little attention in research. The aim of the study presented in Chapter 5 was to investigate disturbances in body attitude (DBIQ-NL) in a group of early traumatized female patients and to complement this with their scores on two other dimensions of body experience, namely body satisfaction (BCS) and body awareness (SAQ). The analyses show severe impairments in all three self-reported domains of body experience. Associations between domains of body experience and severity of trauma symptoms were low, as were the associations with frequency of dissociative symptoms.

The results of this study lead to a strong recommendation for integrating the assessment of body experience in women with a history of early trauma in regular diagnostic procedures. Furthermore, addressing negative body experience as an integral part of trauma treatment is considered necessary, since the negative effects on the body of traumatic experiences in early childhood are unequivocal.

In Chapter 6, body experience of clinically depressed patients was evaluated before and after multidisciplinary treatment. The way depressed people experience their body
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may be a core feature of depression and may largely influence daily functioning and aggravate distress. As in Chapter 5, three domains of body experience were measured. Overall, depression scores decreased substantially after treatment, while body attitude as well as body satisfaction scores increased significantly, with medium effect sizes. Patients who were in remission at the end of treatment showed a more positive body attitude and higher body satisfaction than those not in remission. Surprisingly, no significant improvement in body awareness was found.

Correlations between depression scores and body attitude as well as body satisfaction scores were of medium size, both at the start and the end of treatment, with their partial correlation at the end of treatment (accounting for the score at the start of treatment) being medium to strong. These results suggest an interesting connection between these aspects of body experience and depression severity, a connection that seems to be robust with respect to temporal and/or treatment changes. For body awareness, such an association with depression severity was not established. The findings merit further studies in order to elucidate the exact role of each aspect of body experience in depressed patients.

7.2. The DBIQ-NL as a self-report instrument for body attitude in patients with mental disorders

For the studies in this thesis, we opted for the DBIQ to measure body attitude: it covers a wide range of the individual’s attitudes toward their body and includes subscales measuring the attitude towards physical contact and evaluation of sexual fulfilment, important themes that are barely represented in other self-report instruments. We shall start this part of the Discussion section by evaluating some elements of the psychometric properties of the DBIQ-NL. We shall then discuss findings of the DBIQ-NL and its subscales with regard to body attitude in patients with mental disorders.

Psychometric properties of the DBIQ-NL

In addition to showing good internal consistency, adequate temporal reliability, and adequate construct validity, the DBIQ-NL demonstrated partial strong invariance for the somatoform and non-clinical samples, across sex in the somatoform sample and across sex and age in the non-clinical sample. Group comparisons of scale scores are only meaningful in case of measurement invariance across groups. Although evaluating measurement invariance is a state-of-the-art procedure for self-report instruments, it has seldom been applied in studies on Dutch language instruments measuring body experience.

In the convenience sample, four items contributed to the lack of strong invariance across sex (Item 19: ‘I do not like people touching me’, and Item 30: ‘I only allow a few people to touch me’) or age (Item 28: ‘If I could change something about my body, I
would do it’), or both sex and age (Item 15: ‘I choose clothing that hides the shape of my body’). Item 15 was also not invariant across sex in the somatoform sample. Item 1 (‘I move gracefully’) and item 7 (‘There are lots of situations in which I feel happy about my body’) were not invariant across the somatoform and convenience samples. Remarkably, the two items in the convenience sample that were not invariant across sex belong to the subscale physical contact. In these items, the interpretation of their meaning might be different for men and women, since being touched by others is the central issue in both items and women are more often than men the object of undesired physical contact. We chose to retain all items because the impact of partial invariance on the subscales and total scores proved to be small. However, when the focus lies on differences in physical contact across the sexes or in body acceptance among different age groups, a score without the items violating invariance would be more appropriate.

Another noteworthy finding is that, throughout the different studies, the DBIQ-NL showed medium to high correlations with indices of self-esteem, quality of life, and self-reported mental health. Especially high correlations with the latter, measured with the Outcome Questionnaire (OQ-45) [4], are of interest. The OQ-45, which measures domains of functioning that are relevant to mental health, namely symptom distress, interpersonal relations, and social role performance, is widely used in Dutch mental health care as part of Routine Outcome Measurement (ROM) [5]. It seems particularly relevant to investigate these associations further and in greater detail, since more specific knowledge on the interactions between self-reported mental health and body attitude may support interventions that address body attitude as a means to enhance mental health.

Finally, it should be noted that the convenience sample had a gender and age distribution that deviated somewhat from that of the Dutch general population. This means that the data are not suitable for computing norm scores, although they can be used for comparison purposes, if possible correcting for distributional differences as was done for the comparison with the somatoform sample discussed in Chapter 4. Norm scores are expected to become available in the near future, as data from a representative sample have been gathered as part of a web-based research project investigating mental health measures in the general population of the Netherlands entitled HowNutsAreTheDutch (HoeGekIsNL) [6].

The DBIQ-NL measuring body attitude in patients with mental disorders

In all groups of patients with mental disorders evaluated in this thesis, body attitude was negatively affected, which is in line with the few studies that compare body attitude in patients with a specific mental disorder with healthy controls [7, 8]. The study presented in Chapter 3, using data from a group of patients with a variety of mental disorders, revealed large differences on DBIQ-NL scores between patients and respondents in
the convenience sample; in addition, differences on DBIQ-NL scores were found between the different diagnostic categories. However, interpretation of these results was limited by the heterogeneity of the study sample. We therefore focus our discussion here on the findings in the larger, well-defined and homogeneous groups of patients with somatoform disorder, depression and early trauma (Chapters 4-6) against the background of the matching findings in the diagnostically diverse sample discussed in Chapter 3. In these three diagnostically stratified groups, patients’ mean total scores on DBIQ-NL were all at least one point lower than scores in the convenience sample, with female patients with early trauma showing the lowest scores.

The following paragraphs summarize and discuss differences in DBIQ-NL scores on the respective subscales between patients with somatoform disorder, depression, and early trauma and the respondents from the convenience sample. Furthermore, differences across these groups of mental disorders are addressed. A separate paragraph discusses gender differences.

Subscale body acceptance
Body acceptance may be considered a core component of body attitude [9]: a subscale measuring this aspect is part of virtually all existing measures related to body attitude [10]. In our research, patients with somatoform disorder and patients with depression showed substantially lower body acceptance than people in the convenience sample, with the two former groups scoring about one point lower than the latter; women in the early trauma group scored the lowest, with a difference of one and a half points.

Subscale vitality
Patients in all three patient groups scored significantly lower on vitality than people in the convenience sample, with differences of about one point for patients with depression and early trauma, and one point and a half for patients with somatoform disorder. Interestingly, these results indicate that a low subjective experience of vitality is certainly not restricted to mood disorders, but is a common problem in patients with mental disorders – and even more problematic in somatoform disorder than in depression.

It should be noted that subjective vitality is not identical to objectively measured vitality or physical fitness. It is as yet unclear how subjective vitality and objectively measurable physical fitness are related. It is plausible that low subjective vitality hinders an individual in engaging in physically healthy and vitality enhancing activities. Results from a recent meta-analysis indicate that exercise may in fact be considered an evidence-based treatment for the management of depression [11]. Exercise supervised by professionals with relevant training, including physical educators, physiotherapists, and exercise physiologists, was associated with the largest improvements. It remains unclear whether these professionals also specifically addressed the lack of subjective
vitality. With regard to PTSD, Rosenbaum et al. [12] reported a number of preliminary findings on the beneficial influence of physical activity on PTSD symptoms. Studies on the effect of physical activity on somatoform symptoms are lacking.

Subscale self-aggrandizement
In view of recent socio-cultural developments concerning the active construction of a positive bodily identity by body modifications such as plastic surgery, tattoos, and piercings, Pöhlmann et al. [10] describe the subscale self-aggrandizement as an important new aspect of body attitude. Pöhlmann and Joraschky [13] suggest that self-aggrandizement has associations with body narcissism, naming the Funktionalisierung des Körpers as an element of growing importance in twenty-first century self-esteem and identity. According to these authors, self-aggrandizement with the help of plastic surgery, tattoos, and piercings may be a modern way of enhancing bodily self-esteem. Tattoos and piercings are also used to reclaim the body from traumatic experiences [14], and they may thus neutralize a sense of body alienation that results from sexual violation or physical abuse [15]. However, body modifications may also be pathological and self-destructive [16]. Sometimes, they may be the result of a lack of knowledge about what an average body looks like [17].

Self-aggrandizement, actively enhancing bodily self-worth in interactions with others, is not a favoured strategy for most patients with mental disorders. They generally demonstrated lower scores than the convenience sample: about 0.8 point lower in the somatoform and depression group, and 1.2 point lower in the trauma group. For depression, the findings in our study are in line with the view commonly held in phenomenological psychopathology on the body in depression which considers depression to interrupt the embodied contact to the world. The extremely low scores in women with early childhood trauma may be associated with shame, especially bodily shame, which is described as a negative social emotion often present in patients with early trauma [18, 19].

Subscale sexual fulfilment
Sexuality is often a problematic body-related issue in patients with mental disorders [20, 21], and attitude towards sexuality is seldom measured. The DBIQ is a welcome exception. Both clinicians and patients seem to be reluctant to discuss issues concerning sexuality, a reluctance that may also be related to religious or cultural backgrounds. Addressing sexuality in a self-report questionnaire may therefore make it easier for both client and therapist to pay attention to this relevant theme [20].

On the subscale sexual fulfilment, patients with somatoform disorder scored 1.2 points lower than the respondents in the convenience sample. Women in the early trauma group scored as many as two points lower, something which seems to represent a deeply
problematic issue for this group. Scores thus underline the importance of addressing the theme of sexuality in treatment. With respect to trauma treatment, O’Driscoll and Flanagan [22] point out in their meta-analytic review that psychological treatment for PTSD has no effect on sexual problems and that this theme should therefore be addressed specifically. In their review of evidence of sexual dysfunction in conjunction with PTSD, Yehuda, Lehrner, and Rosenbaum [23] also conclude that the treatment of PTSD must include special attention for sexual dysfunction. Reviewing the effects of war-related sexual violence, Ba and Bhopal [24] concluded that the number and quality of studies published do not match the significance of the problem.

Unfortunately, the reluctance of traumatized and depressed patients to address sexuality is apparent in the considerable amount of missing data. In the group of depressed patients, the subscale sexual fulfilment contained so much missing data that we were forced to exclude this subscale from our analyses. For a substantial group of patients, the content of the subscale may be trauma related [21].

Subscale physical contact
In psychiatry, physical contact is a taboo subject [25, 26]. This taboo primarily pertains to touching in the context of a therapeutic relationship. However, and although touching and being touched may be problematic issues for patients, the theme of touching is also seldom addressed in the diagnostic process. Orbach and Mikulincer [27] form an exception: they have included a subscale on touch in their self-report instrument on body investment for adolescents. They motivated the use of this subscale primarily on the basis of the importance of touching behaviour exhibited by parents, which they labelled as a life-enhancing force.

Considering the low scores on this subscale in patients with mental disorders, with extremely low scores in the trauma sample, patients’ attitude towards touching and being touched certainly deserves more attention. It is evident that physical contact has negative connotations for patients with a history of sexual trauma in whom touch has been sexualized and brought out of their control. Furthermore, Porges [28] in his polyvagal theory points out that regular (mammalian) tendencies to engage in social behaviour, including seeking support in touch, are blocked in trauma. This perspective is relevant for understanding the low physical contact scores found in trauma patients, and it also supports the importance of addressing the issue of touching and being touched as part of treatment.

Gender differences
In line with studies conducted in other non-clinical samples [29], gender differences in the subscales were small to medium in the convenience sample, with men scoring higher on body attitude than women, and with the largest differences found for sexual
fulfilment. In patients with mental disorders, men were shown to score higher than 
women on most subscales, with the largest differences for body acceptance and sexual 
fulfilment. Remarkably, no significant gender differences were found for the subscale 
vitality in patients with somatoform disorder, which is in accordance with observations 
in patients suffering from chronic fatigue syndrome [30]. Notwithstanding this finding, 
body attitude is to be considered a gendered phenomenon, in non-clinical as well as 
clinical groups, which pleads for a gender-sensitive assessment and treatment approach 
[31].

Conclusion
The DBIQ-NL and its subscales provide specific and relevant insights not only into 
differences between patients with mental disorders and healthy subjects in a convenience 
sample, but also into differences across disorders. Moreover, thanks to its subscales, 
the instrument provides useful information on body-related themes that are extremely 
relevant but not often addressed.

7.3. Body satisfaction and body awareness; associations between domains of 
body experience
In addition to investigating body attitude, the studies discussed in Chapters 5 and 6 
cover body satisfaction and body awareness. In the Body Cathexis Scale (BCS), body 
satisfaction is operationalized in a rather concrete way as the degree of satisfaction with 
parts or processes of the body. The emphasis that the BCS puts on specific body parts 
as well as on bodily functions is corroborated by recent studies on body satisfaction in 
women stressing the importance of describing the body not only in appearance-related 
terms, but also in functional terms [32-34].

In our research, body satisfaction was measured in the studies with depressed 
patients (Chapter 5) and early-traumatized female patients (Chapter 6). The scale was 
also used as a measure for construct validity in the convenience sample. Patients in 
the respective clinical groups were significantly less satisfied with their bodies than the 
participants in the convenience sample. Women in the depression sample and in the 
early trauma sample scored as low as eating disordered women [35]. This is a remarkable 
finding, given the prevailing opinion that eating disorders are the types of disorders in 
which body satisfaction is the most affected.

Body awareness, defined in the SAQ as the tendency to be aware of or sensitive 
to internal bodily processes and states [36], was also measured in the studies on 
depression (Chapter 5) and early trauma (Chapter 6). Our study did not find support 
for the reduced perception and inadequate interpretation of bodily signals that 
Harshaw [37] has reported to be a key symptom of depressive disorder. Mean scores 
on the SAQ in depressed patients were hardly different from those in a comparison
sample, and the association with depression severity was low. The SAQ measures core aspects of interoceptive awareness. Mehling et al. [38], however, proposed to broaden the conceptualization of interoceptive awareness and to include, for example, interpretational aspects of perception and attention regulation. The authors introduced a broader instrument, the Multidimensional Assessment of Interoceptive Awareness (MAIA) [39]. This instrument might be more informative than the SAQ in assessing the association between body awareness and psychopathology and might shed light on the possibility that it is not body awareness ‘as such’ that is disturbed, but that ignoring and avoiding to act upon bodily signals might be central in body awareness in depression.

With respect to body awareness in women with early childhood trauma, our findings provide the first empirical evidence for significantly lower self-reported body awareness in these patients compared to a female comparison group. In accordance with theoretical models on dissociation [40, 41], where body awareness and dissociation are seen as interrelated, the low scores on body awareness in women with early trauma are coupled with a high overall frequency of dissociative symptoms.

** Associations between domains of body experience**

In the classification of body experience that is used in this dissertation, the domains of attitude, satisfaction, and awareness are juxtaposed as different aspects of the subjective experience of the body. However, there may be a certain degree of overlap between the domains. In order to explore this overlap between the three domains, their associations were investigated. As reported above, a medium association was found between body satisfaction and body attitude in the non-clinical sample and the sample with depressed patients, whereas this association was strong in the trauma group. Associations between body attitude and body awareness were weak in both the non-clinical and the depression group, and medium in the trauma group. Associations between body satisfaction and body awareness were weak in all three groups.

The interrelatedness of different domains of body experience may be higher in the trauma sample because early trauma affects the body in a profound and all-encompassing way [42]. Notably, domains are the least associated in the non-clinical sample, suggesting that if disturbances are negligible or small, differentiation is possible with respect to the way in which people relate to their body. If the relation towards one’s body is affected in a more substantive way, however, this effect may be generalized to more domains. Associations may also be disorder dependent, a matter to be tested further in larger samples.
7.4. The relevance of body attitude in mental disorders

The studies reported in this dissertation unequivocally show that body attitude, considered to be a core dimension of subjective body experience, is negatively affected across a variety of diagnostic categories. This disturbance is a common factor in many mental disorders and is definitely not restricted to appearance-related disorders. The experience of the body as ‘my body’ and a positive attitude toward one’s body are acquired in early development, based on physical experiences along with clear definitions of boundaries between self and others. The infant’s full development as a subjective being in this world depends on the quality of the embodied experience with its caregivers [43]. Our findings of disturbed body attitude as a shared factor across different diagnoses may be understood from this developmental perspective.

It is well documented that childhood traumatic experiences such as sexual abuse, physical abuse, emotional abuse, and physical and emotional neglect are associated with the onset and the severity of a broad range of mental disorders [44, 45]. Therefore, it is important to consider the role of a disturbed or damaged experience of the body resulting from these adverse experiences. A disturbed body attitude may be regarded as a factor that plays a role across different diagnostic categories. Body- and movement-oriented interventions aimed at improving body experience may thus be important in the treatment of a broad range of (severe) mental disorders. Although the concept of transdiagnostic factors has become popular in recent years [46, 47], body attitude has as yet not been qualified as a transdiagnostic category, except perhaps recently by Pezzoli, Antfolk, and Santtila [48] who suggested the introduction of a ‘body’ factor as transdiagnostic factor. On the basis of factor analytic evaluations in a large (> 10,000) population-based Finnish sample, the authors expanded the often used internalizing-externalizing meta-structure of psychopathology by suggesting a third, body-related, factor. This factor is still somewhat ill-defined and contains appearance-related aspects, eating attitudes and sexual distress, which in that form is not easily comparable with our definition of body attitude. Nevertheless, it is promising that a body-related factor is in fact emerging, and it would be worthwhile to evaluate large clinical samples using such a three-factor model.

Sexual trauma

Women with early childhood trauma, of whom four out of five have reported sexual trauma, are most severely damaged, and they have the dubious honour of reporting the lowest scores not only on body attitude and body satisfaction, but also on body awareness. The far-reaching and multidimensional effects of early childhood trauma on a woman’s relationship with her body reported in this dissertation are in line with what is reported in other studies [7, 49], although comparison data on body awareness are lacking. Scores on sexual fulfilment were extremely low, thereby confirming the
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gross influence of sexual abuse on body and sexuality observed in previous studies [50]. Despite the well-documented devastating effects of sexual trauma on how women experience their body, mainstream interventions for the treatment of sexual trauma are mainly cognitively oriented [51-53], and they seldom incorporate body-related interventions. The findings in our study offer clear support for the integration of body experience as a theme in trauma treatment.

Developments hindering and helping the acknowledgment of body experience in mental disorders

Attention for the associations between physical health and mental health is growing (Cahn, 2017) [54]. The question, raised earlier, remains why the body, in the sense of subjective experiences of the body, tends to be forgotten in psychiatric diagnosis and treatment. As hypothesized by Gaete and Fuchs [55], one of the reasons may be the rise and establishment of cognitive behaviour theory and therapy and the subsequent emphasis on the cognitive aspects of the way in which mental disorders come about and the way in which these disorders can be targeted.

Another co-occurring phenomenon is the emphasis on appearance in Western society, as described by Pöhlmann and Joraschky [13], which coincides with and may be reinforced by the growing possibilities of changing the body by means of cosmetic interventions. Such a social climate may not be helpful for ‘minding the body’ in the multifaceted way in which body experience is defined in this dissertation.

We note that some approaches and developments seem to support attention for body experience. Person-centred approaches [56, 57] as well as psychodynamically oriented theories [58] recognize the importance of bodily experiences to some degree and may help to highlight body experience as a theme to be addressed in therapy. Furthermore, body-oriented psychotherapy is, albeit slowly, moving away from its vague ‘biologistic’ roots to an evidence-based experiential form of therapy with its starting point in body experience [59].

Finally, phenomenological psychopathology and the concept of ‘embodiment’ may be helpful in putting emphasis on body experience. Phenomenological psychopathology states that the subjective experience of the body is central in how an individual experiences himself or herself in the world [60, 61]. Referring to Merleau-Ponty [62], who puts the individual’s bodily being in the world at the centre of his phenomenological approach and who views interaction with the environment first and foremost as a body- and movement-based interaction, De Haan [63] considers body- and movement-oriented interventions to be adjunctive interventions in our mainly verbally and cognitively oriented treatment of mental health issues. She also suggests that phenomenological analyses of body- and movement-oriented interventions could add to embodiment theories, and could be used to design new experiments [64].
conclusion, this phenomenological approach might be used as frame of reference for studies on body experience.

7.5. Recommendations
The studies reported in this dissertation show that the DBIQ-NL is a reliable and valid instrument to measure body attitude, and they contribute to gaining insight into the way in which body attitude is negatively affected in patients with mental disorders. To obtain more extensive information on the severity of disturbed body attitude in patients, it is recommended to integrate its measurement in regular diagnostic assessments and also to incorporate it into Routine Outcome Measurement. Gathering more information on body attitude in association with psychopathology would demonstrate which groups or subgroups of patients show more disturbance in body attitude. This might offer possibilities to address body attitude in these patients in an early stage of treatment.

Moreover, routinely including body attitude in the general diagnostic assessment may help patients and therapists to articulate themes related to body attitude, thus enhancing communication and consensus between patient and therapist about treatment goals, known as Shared Decision Making (SDM) [65]. SDM is relevant for patients with mental disorders as it reinforces patients’ empowerment. On the basis of the findings in this dissertation, it can be argued that empowerment with respect to body-related issues is even more important.

Results from the subscale vitality of the DBIQ-NL raise questions that deserve further study. First, the relation between subjective vitality and objective vitality and physical fitness is unclear, but it is important to address this relation in view of physical fitness training as an intervention for depressed patients. Second, given the fact that gender differences regarding vitality are significant in the non-clinical sample, the lack of gender difference for vitality in the somatoform group raises questions as to how somatoform disorder affects men and women in different ways.

The associations between body attitude, body satisfaction, and body awareness as separate but possibly overlapping domains of body experience were also subject of this dissertation. Findings were inconclusive and it was hypothesized that interrelatedness of the domains could be disorder specific. This hypothesis needs to be tested in samples that are larger than those which have so far become available. Answering the question whether and how these domains are interwoven in specific disorders may help to develop tailored body- and movement-oriented interventions.

Longitudinal studies on body experience including covariates that affect identity and bodily being in the world beyond gender and age, such as ethnicity, religion, culture, sexual orientation, profession, and socio-economic status, may also help to obtain new insights into how mental health is affected in individuals.
Clinical implications

The DBIQ-NL may facilitate psychomotor therapists and other body- and movement-oriented therapists in Dutch-speaking countries to empirically validate a clinical diagnosis on the negative body attitude of their patients. Moreover, in order to examine influences of psychomotor interventions on body attitude, it is crucial to have an instrument available to evaluate changes in body attitude. In the present political and economic context, there is a strong emphasis on scientific evidence to justify insurance support and payment for specific treatment approaches. Psychomotor therapies are often highly valued by patients, but are at risk because of a lack of empirical evidence for their effectiveness. Next to the fact that conducting research does not generally rank as a favourite pastime among psychomotor therapists, it is also clear that it is not easy to determine the added value of psychomotor therapy within a multidisciplinary treatment approach. Nevertheless, recent studies have found empirical support for psychomotor interventions [66-69]. Furthermore, the growing importance of Patient Reported Outcome Measures offers interesting possibilities to assess psychomotor treatment and the way it is experienced by patients [70].

Possibly as a result of the growing use of mindfulness-based stress reduction [71] and other mindful interventions, psychomotor therapists seem to focus more and more on body awareness [69]. The results in this dissertation, however, underline the importance of targeting both body attitude and body satisfaction; body awareness may need further conceptualization.

Our findings indicate that addressing body experience may be a way to influence psychopathology in patients with mental disorders. Therefore, psychomotor therapy is needed as part of broad multidisciplinary treatment. Patients will benefit from reducing what may be termed a disproportionate emphasis on cognition and verbalization in favour of a more balanced treatment approach that includes attention for subjective bodily experiences and that offers body- and movement-oriented interventions.
REFERENCES

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69. van der Maas CC. Psychomotor therapy in chronic pain rehabilitation: Enhancing body awareness in multidisciplinary treatment. Amsterdam: VU University; 2015.