Chapter 1

General introduction
As a body- and movement-oriented therapist specialized in trauma treatment, I have met many patients who shared their negative thoughts and feelings about their bodies with me. They did, however, not discuss these spontaneously: shame, disgust, fear, or long histories of denying bodily experiences were in the way. Patients made clear to me how they tended to withdraw from their environment as well as from their own body. This phenomenon raised my interest and fuelled my concern with their bodily being in the world, and it ultimately motivated me to write this thesis.

It is well known that body-related experiences have far-reaching effects on human development and quality of life; significant associations of childhood adversities with adult mental disorders are widely documented [1, 2]. What is less well documented, however, is the profound impact of adverse childhood experiences such as sexual and physical abuse, emotional abuse, and neglect on an individual’s relationship with their body [3]. In fact, a central element in the narratives of early traumatized people is their lack of body ownership. The experience of the body as ‘my body’ is acquired in early development and is based on physical experiences and accompanying clear definitions of boundaries between self and others [4]. The infant’s full development as a subjective being in this world depends on the quality of the embodied experiences with the caregiver [5]. Safe and playful interaction between children and the people in their environment, including touching, holding, and setting bodily boundaries, are conditions for the development of positive bodily experiences. Such a development may be severely impaired in patients with mental disorders: not only by threats to the physical integrity or violations of the body, but also because of unavailability or neglect on the part of parental figures.

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. The general aim of this thesis is therefore to provide more empirical data on the disturbance of body experience in different groups of patients with mental disorders.

**Body experience and mental disorders**

Following Cash, Joraschky et al., Probst , Scheffers et al. [6-9] we consider body experience to be a multidimensional and broad concept, encompassing elements such as feelings and beliefs about the body, awareness of the body, satisfaction with bodily appearance and bodily functions, and body-related behaviour. Body experience is a central component of how an individual experiences himself or herself in the world. As such, body experience is an important issue not only in psychosocial functioning and adjustment in non-clinical cases, but also in a broad range of psychopathologies [10-12]. As many as thirty years ago, Lipowski [13], a pioneer in psychosomatic medicine, stressed the importance of body experience in all forms of psychopathology. He stated that a changed body experience accompanies and enhances psychopathology, that body
experience is an important factor in quality of life, and that it reflects physiological functioning and psychosocial stress. Furthermore, seeing inadequate hedonic capacity as one of the commonest reasons for people to seek therapy, he emphasized the enhancement of pleasurable body experience as a goal of all psychiatric treatment.

More recently, phenomenological psychopathology has again highlighted the importance of body experience, stating that the body functions as the medium and background of our experiences and that it is therefore a central element in psychopathology [12]. Based on clinical observations as well as on theoretical assumptions, authors in the field of body and movement psychotherapy also stress the importance of body experience. Geuter [14], for instance, argues in his handbook on body psychotherapy that a disturbed experience of the body may be an indication of, often severe, psychopathology and that the diagnostics of body experience form a specific contribution of body- and movement-oriented therapies to the field of psychopathology.

Current classification and diagnostic systems such as DSM-5 and ICD-10 do not acknowledge the importance of body experience, but recently Galderisi et al. [15], proposing a new definition of mental health, have named a harmonious relationship between body and mind as one of the important components of mental health that contribute to a state of internal equilibrium. The authors argue that mind, brain, organism, and environment are heavily interconnected, and that the overall experience of being in the world cannot be separated from one’s body experience. Galderisi et al. [15] report that disturbances of this interaction may result not only in poor physical health, but also in psychopathology.

Despite the growing recent attention for body experience as a component of mental health, empirical evidence is scarce. To date, some relatively small and exploratory studies have been conducted (see e.g. [16-19]), but in these studies a wide range of instruments have been used, making comparisons between studies and between diagnostic groups difficult.

**Body experience and psychomotor therapy**

Dutch mental health care has a long history of providing body- and movement-oriented treatment approaches, mainly administered by psychomotor therapists. Interventions aimed at positively influencing body experience form an important part of psychomotor therapy [20-22] and of related therapies, such as dance movement therapy and body-oriented psychology. In fact, in the professional profile of psychomotor therapy [23, 24], influencing body experience is described as one of the core interventions. Case studies and descriptions of these interventions and their positive effects have been extensively documented, mostly in Dutch [25-30]. The sole overview of psychomotor interventions that is available in the English language was published by Vermeer, Bosscher, and Broadhead [22].
Despite the abundance of reports on the benefits of body- and movement-oriented interventions (see also Röhricht [31]), disturbances in body experience and positive changes in body experience as a result of these interventions have not been measured often. Thus, the empirical validation of interventions targeting body experience is poor, and the assumption that a positive change in body experience will lead to a reduction in psychopathology remains quite unsubstantiated. Moreover, diagnostic information on specific aspects of body experience that may be affected in different forms of psychopathology is lacking. Reliable and valid instruments form a prerequisite for solid assessment of body experience and its role in psychopathology. These assessments are crucial for both the diagnostic process and the evaluation of psychomotor interventions.

**Measuring body experience; a brief historical overview**

The area of research on body experience has long been dominated by studies in eating disordered female patients [32-34]. Gaete and Fuchs [35] describe how from the 1990s onwards cognitive behavioural approaches (e.g. Fairburn [36]) have been predominant in the treatment of eating disorders, addressing aspects of body experience such as shape, weight, and feeling fat. To date, studies in eating disorders as well as in other psychopathologies have emphasized appearance satisfaction as the central element of the experience of one’s body. Moreover, a disproportional number of studies has been carried out in samples of mostly young college women. Further conceptualization and the development of instruments originating from a broader and multidimensional view on the subjective experience of the body have, unfortunately, hardly taken place.

Although dimensions of body experience were described in the past, Röhricht [37] concludes that the history of body experience shows a terminological chaos. In the beginning of the 20th century, body experience and its disturbances were interpreted from a biological and neurological perspective. Body schema formed the central aspect [38]. It was the psychoanalyst Schilder [39] who in 1950 brought the individual subjective experience of the body to the foreground and pointed out that disturbance of body experience could exist without objective neurological deficits. Other psychoanalytically oriented authors took up the importance of the subjective body. Fischer and Cleveland [40] highlighted the concept of body boundaries and developed tests to evaluate disturbances in body boundaries. Secord and Jourard [41] paid attention to the relationship between body cathexis and self-cathexis. Psychodynamic concepts of body experience stayed on the foreground throughout the 1970s and 1980s. Contributions from Krueger [42] put forward developmental aspects, emphasizing that early bodily experiences with attachment figures are relevant for the later sense of self.

From the 1990s onwards, cognitive behavioural approaches have gained ground [36, 43-45], accentuating distorted thinking about the body and associated behaviours. Specific cognitive behavioural strategies were developed for the treatment of eating
disorders [36]. Interventions addressed the mindsets that sustain the symptomatology, working mainly at the cognitive and behavioural levels.

Scheffers et al. [9] describe how studies have addressed body experience in separate disorders, each using its disorder-specific terminology and assessing the disturbances thought to be specific for that disorder. Studies in eating disorders, for example, focused on disturbed perception of the body; studies in anxiety disorder focused on body sensations related to anxiety. The terminological chaos mentioned by Röhricht [37] is thus associated with the use of the concept of body experience in different psychotherapeutic schools and in different disorders. Among the terms used today are body appearance, body esteem, body scheme, body cathexis, body awareness, body consciousness, body self, body orientation, body shape, body attitude, body knowledge, body boundaries, body investment, body connection, body comparison, body checking, body avoidance, body exposure, body sensation, body size, body perception, body complexity, and body functionality. Numerous questionnaires, often overlapping in content, were developed to measure these aspects [46]. In their meta-analytic review Alleva et al. [47] counted as many as 45 self-report questionnaires that are used for the measurement of appearance-related aspects alone.

Recently, a number of developments have taken place favouring a more integrative view on body experience. Clinicians have raised the possibility that disturbances in body experience are a transdiagnostic phenomenon [15], with the same or with different aspects affected in different disorders, and possibly with different levels of severity across disorders. Furthermore, phenomenological psychopathology has reintroduced Merleau-Ponty’s concept of the body-subject as central in our understanding of mental disorders [12, 48]. This concept of the body-subject implies that a human person is an essentially embodied being, who can interact with and find significance in his or her world only because of the structures of the human body [49]. Experiencing the world and experiencing oneself is grounded in experiencing the body. This philosophical-anthropological approach of body experience as our subjective bodily being in the world forms the background for the empirically oriented studies in this thesis.

**Dimensions of body experience**

Considering the diverse aspects of body experience that may be affected in people with mental health problems, a conceptually broader representation is warranted, distinguishing different dimensions of body experience. The scarce recent literature is quite clear and unanimous in dividing the concept of body experience into a neurophysiological and a psychological-phenomenological dimension [7, 50, 51]. In this thesis, the emphasis is on the psychological-phenomenological dimension. On the basis of clinical reports as well as on information gathered during masterclasses, workshops, and the supervision of psychomotor therapists, it may be concluded that this
psychological-phenomenological or subjective personal dimension of body experience is central in the therapeutic interventions of psychomotor therapists treating patients with mental disorders [52, 53]. Therapists want to know whether, as a result of treatment, their patients feel and think more positively about their body and act accordingly. Furthermore, therapists are interested in their patients’ ability to recognize body signals and, if so, whether and how they act upon these signals. Evaluating these psychological dimensions of body experience rather than the neurophysiological counterparts is the aim of this thesis.

As summarized by Röhricht et al. [50] in a consensus paper on German terminology, the psychological dimension may be subdivided into ‘Körper-Kathexis’ (body cathexis, body satisfaction), ‘Körperbild/Körpereinstellung’ (body attitude), and ‘Körperbewusstheit’ (body awareness). Probst [54] made a somewhat different classification, based on Bielefeld [55]: ‘Lichaamsafgrenzing’ (body boundaries), ‘lichaamsattitude/lichaamsinstelling’ (body attitude), and ‘lichaamsbewustzijn’ (body awareness). We chose to follow Röhricht et al.’s [50] more recent classification. We do not, however, agree with their description of body cathexis as an affective component versus body attitude as a cognitive evaluative component. Our definition of attitude includes cognitive, affective as well as behavioural aspects [56]. In our view, following Baardman and De Jong [57], Orlandi et al. [58], and Secord and Jourard [41], body cathexis refers primarily to body satisfaction, satisfaction with appearance, and/or functions of the body.

It should be emphasized that dimensions of body experience are not retraceable as entities in vivo. Röhricht [37,p.27] summarizes this as follows: ‘Kein deskriptiver Terminus ist in adäquater und umfassender Weise in der Lage, die komplexe Gestalt des subjektiven Körpererlebens abzudecken’. Dividing and separating a person’s subjective experiences of their body is artificial. It is, however, also helpful – and even necessary – in order to gain more knowledge about the relative disturbance of different aspects of body experience in various disorders and in order to adequately address these specific disturbances in body-oriented therapies.

Lack of instruments in the Dutch language
As stated above, measuring body experience has been largely restricted to measuring appearance-related aspects of body experience, mainly in non-clinical college samples and in eating disordered female patients. Studies measuring disturbed body experience across a wide range of mental disorders are lacking. More importantly, there is a dearth of Dutch language self-report instruments measuring body experience. Although Scheffers et al. [9] in their inventory reported over 75 instruments measuring aspects of body experience, only sixteen of these instruments have been translated into Dutch, and no more than five of these sixteen instruments have been the subject of psychometric evaluation: Body Cathexis Scale (BCS) [41], Somatic Awareness Questionnaire (SAQ)
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[59], Body Attitude Test (BAT) [60], My Appearance Questionnaire (Mijn Uiterlijk Vragenlijst, MUV) [61], Body Attitude Questionnaire (Lichaamsattitude Vragenlijst, LAV) [62]. The latter three instruments were developed specifically for appearance-related disorders: eating disorders (BAT) and Body Dysmorphic Disorder (MUV, LAV). Scheffers et al. [9] conclude their review with the recommendation to make self-report instruments available that are suitable for non-clinical as well as for broad-ranged clinical groups. The BCS, measuring body satisfaction, and the SAQ, measuring body awareness, are instruments that meet these requirements.

However, no instrument that assesses body attitude across different diagnostic groups is available in Dutch. This is an evident shortcoming, because body attitude is one of the three core elements in the classification of subjective body experience. As stated above, body attitude refers to cognitive, affective and behavioural aspects of subjective body experience [56] and may thus play a central role in our aim to grasp the disturbance of the subjective body experience in a transdiagnostic way. Therefore, the present thesis aims to provide a reliable and valid instrument in Dutch with the property to measure body attitude in various mental disorders.

Body attitude

We decided to translate and psychometrically evaluate the Dresdner Körperbildfragebogen (Dresden Body Image Questionnaire, DBIQ), an originally German instrument developed to measure body attitude in non-clinical as well as in a broad-ranged clinical populations [63, 64]. Following recent guidelines with regard to the proper evaluation of measurement instruments [65-67], we addressed measurement invariance across groups (such as sex and age) as well as internal consistency, temporal reliability, and construct validity.

The DBIQ measures attitude towards five body-related themes: body acceptance, vitality, self-aggrandizement, physical contact, and sexual fulfilment. Especially the incorporation of physical contact and sexual fulfilment, often reported by patients as problematic topics but rarely included in questionnaires, makes the DBIQ a suitable instrument to evaluate body attitude in patients with mental disorders. It should be noted that, although Körperbild and body image are used, terms that easily evoke associations with appearance, the questionnaire intends to measure the ‘subjektiv-persönliche Bezugnahme auf den Körper’ or ‘Einstellungen zum eigenen Körper’ [37]. In the literature body image and body attitude are often used interchangeably. This is also the case in this dissertation. In the articles in Chapter 2, 3 and 4 body image is used when discussing the properties and benefits of the Dresden Body Image Questionnaire, measuring the subjective personal attitude towards the body.
Body satisfaction and body awareness
In addition to the DBIQ, representing body attitude, this thesis uses two already available self-report instruments, mentioned above, covering the areas of body satisfaction and body awareness, respectively. We selected the Body Cathexis Scale (BCS) [41, 68] to measure the degree of satisfaction with various parts or processes of the body. To measure body awareness, we used the Somatic Awareness Questionnaire (SAQ) [59, 69]. In this questionnaire body awareness is defined as ‘the tendency to be aware of or sensitive to internal bodily processes and states, not typically associated with illness or emotion’ [59,p.59].

Aims of this thesis
The overall clinical impression is that body experience is affected in a broad range of mental disorders. However, sound measurement of body experience in clinical groups is scarce. To gain a deeper insight into the association between body experience and mental health, research is needed in different diagnostic groups while using the same instruments. In our search for available instruments in Dutch, we largely followed, as argued above, the classification of subjective body experience proposed by Röhricht et al. [50] in body attitude, body satisfaction, and body awareness. With the availability of instruments measuring body satisfaction and body awareness, the lack of an instrument in Dutch measuring body attitude is evident.

The aims of the present thesis are as follows:
1. to psychometrically evaluate a translated version of the DBIQ as an instrument measuring body attitude and further test its usefulness in different groups of patients with mental disorders;
2. to compare scores on body attitude, body satisfaction, and body awareness in different groups of patients with mental disorders with those in the general population, in order to obtain a deeper insight into the severity of the disturbance of body experience in patients;
3. to explore differences in body experience between mental disorders. Studying body experience in a variety of disorders may contribute to a better understanding of the relevance of body experience as a transdiagnostic factor [70] and of its potential value as the target of interventions.

The studies in this thesis also form part of a broader societal context in which a political urgency exists to provide evidence to support the benefits of body- and movement-oriented therapies. The lack of empirical evaluation is especially problematic because the debate about the commissioning of health services is increasingly dominated by principles of evidence-based medicine [37, 71]. Therapies without evidence, although they may be beneficial and evaluated positively by clients, have difficulties to survive
and are often marginalized by mainstream therapies. As positively influencing body experience is described as a main goal of body- and movement-oriented therapies, the studies in this thesis may also contribute to more empirical support for body- and movement-oriented interventions.

Outline of the studies

Chapter 2

The main objective of the study discussed in this chapter is to examine the psychometric properties of the Dutch translation of the Dresden Body Image Questionnaire (DBIQ-NL) in a large non-clinical sample. We aim to investigate the subscales’ internal consistency and test-retest reliability. Furthermore, in order to establish construct validity, we evaluate associations with indices of self-esteem and psychological well-being. The factor structure of the DBIQ-NL is examined using Confirmatory Factor Analysis (CFA). The equivalence of the measurement model across sex and age is evaluated by multiple group confirmatory factor analyses.

Chapter 3

The aim of the study presented in this chapter is to empirically evaluate the disturbance of body attitude in a broad group of patients with mental disorders and to compare scores with those obtained in the general population (see Chapter 2). The second aim is to explore profiles for several diagnostic groups with regard to body attitude. Furthermore, to gain a deeper understanding of the specific nature of body attitude, we explore how body attitude is associated with other generic indicators of evaluative criteria of mental health, such as symptom severity, well-being, quality of life, and autonomy. A final aim is to investigate the sensitivity to change of the DBIQ-NL across a period of four months of psychiatric treatment; this is done in order to obtain data on its potential use as a measure of treatment outcome.

Chapter 4

In this study, the DBIQ-NL is used to measure body-related problems in patients with Somatoform Disorder (SFD). In this group, the problematic relationship of patients with their body constitutes a central element. The study aims to compare differences in DBIQ-NL scores between patients with severe SFD and subjects in a non-clinical sample as well as differences between different diagnostic categories within SFD and between men and women with SFD.

Chapter 5

This chapter investigates the effects of early childhood trauma on body experience, measuring body attitude, body satisfaction as well as body awareness. Body experience
tends to be a neglected theme in studies on traumatic stress, although it is highly plausible that trauma, and especially early trauma and sexual trauma, has a far-reaching effect on a person’s relationship with their body. Furthermore, associations between domains of body experience and severity of trauma symptoms as well as frequency of dissociation are evaluated.

Chapter 6
Depressed patients commonly report various symptoms related to changes in the subjective experience of their body, changes that greatly influence daily functioning and aggravate distress. Body experience in depression has not yet been studied appropriately. Therefore, the aim of the study presented in this chapter is to measure body attitude, body satisfaction as well as body awareness in a group of depressed patients, and to evaluate the changes in body experience as a result of treatment. Furthermore, the study evaluates associations between aspects of body experience and level of depression before and after treatment, and thereby aims to provide some insight into the interplay between depressive symptoms and body experience.

Chapter 7
This final chapter summarizes the main findings of the studies in this thesis. Furthermore, it discusses the relevance of measuring body experience as part of standard diagnostics and as outcome measure in studies on the effect of body- and movement-oriented interventions. The chapter concludes with implications for clinical practice and suggestions for future studies.
References
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