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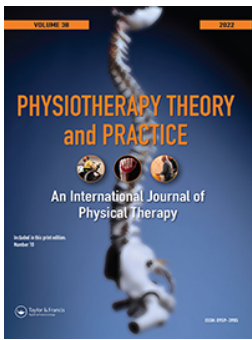
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Physiotherapists' conceptions of movement awareness– A phenomenographic study

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ABSTRACT

The phenomenon of movement awareness requires more attention to make it explicit in physiotherapy. The aim of this study was to explore the variation in physiotherapists' conceptions of movement quality, focusing on movement awareness. The informants were 15 physiotherapists from a variety of physiotherapy fields. We collected data through two group interviews and used the phenomenographic method to analyze them. Four themes emerged from the data: 1) Being in contact with one's own moving body; 2) Increased awareness of movement experiences; 3) Interrelationship between physiotherapist and patient; and 4) Better understanding of movement awareness. These themes varied by four descriptive categories of the movement awareness phenomenon: (I) Hesitation regarding own movement experiences; (II) Momentary contact with own movement experiences; (III) Presence in movement awareness and (IV) Better understanding of others' movement awareness. The physiotherapists' understanding of the movement awareness phenomenon widened through three critical aspects in the descriptive categories: Recognizing one's own movement awareness, Distinguishing one's own and others' movement awareness and New insights into implementing actions related to movement awareness in physiotherapy. These results can expand the understanding of the phenomenon of movement awareness among physiotherapists, although further research is needed.

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Introduction

Physiotherapists are expected to provide evidence-based treatment of human movement and of the phenomenon of movement quality and movement awareness. Human movement is a wide-ranging phenomenon and can be explored from different perspectives, such as the biomedical, human science, naturalistic, social interaction, or holistic perspectives (Shumway-Cook and Woollacott, 2017; Wikström-Grotell, 2016). The holistic perspective sees human movement as the center of meaning and as happening in a bodily encounter with the world (Merleau-Ponty, 2012).

Movement quality has various contents and is used in various contexts in physiotherapy. However, grasping its nature appears to be challenging (Skjaerven, 2019; Skjaerven, Gard, and Kristoffersen, 2008; Skjaerven et al., 2018). The phenomenon of movement quality can be described from different perspectives: the first, the biomedical perspective emphasizes a pathological, mechanical dysfunction with quantifiable terms (Tamm, 1993), aiming to normalize movement (Farjoun et al., 2020). The second expressive perspective emphasizes movement improvisation (Parviainen, 2018;

Pylvänäinen, 2018). The third stresses the technical approach to increase movements' perfection and repetition (Ketelaar et al., 2001; Stephenson and Stephens, 2018) using tools (Thomas et al., 2001), and the fourth perspective explores the movement experience itself (Ahola, Piirainen, and Skjaerven, 2017; Blaauwendraat, Levy Berg, and Gyllensten, 2017; Olsen et al., 2017).

The biomechanical perspective focuses on important components for reaching peak quality performance (O'Sullivan, Schmidt, and Fulk, 2019), whereas the biopsychosocial perspective sees that emotional, cognitive, environmental, and relational factors all influence movement quality (Moore and Yamamoto, 2012). The existential perspective sees the phenomenon of movement quality as a two-layered model (Skjaerven, 2019; Skjaerven, Gard, and Kristoffersen, 2008), in which the first layer provides a description of general movement quality, representing a synthesis of all interacting movement processes; and the second layer provides a differentiated perspective-specific structure of movement elements and aspects. Movement quality can be described as an umbrella embracing and constantly interacting through all four biomechanical, physiological, psychosocio-cultural, and existential perspectives of

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human movement, expressed in diverse movement aspects and qualities (Skjaerven, Gard, and Kristoffersen, 2008).

Movement awareness (i.e. becoming aware of, identifying and monitoring subtle nuances of movement quality) can be described as how movements are performed and experienced, identifying movement reactions of internal, relational and environmental conditions (Skjaerven, 2019). The definitions of movement awareness and body awareness overlap. Ginzburg, Tsur, Barak-Nahum, and Defrin (2014) described body awareness as sensitivity to bodily signals to become aware of bodily states and to identify subtle bodily reactions. Body awareness is a complex, multi-dimensional construct (Mehling et al., 2011). Mehling et al. (2011) defined body awareness as the subjective, phenomenological aspect of proprioception and interoception that enters conscious awareness, modifiable by mental processes such as attention or attitudes. The phenomenon of movement awareness offers a specific focus on human movement and differs from body awareness, which is more general (Skjaerven and Gard, 2018). According to Brown and Ryan (2003), awareness is derived from human consciousness and experiences, and includes being relaxed and present. Movement awareness is expressed in the body and can be observed through observing movement quality (Skjaerven, Gard, and Kristoffersen, 2008; Skjaerven, Kristoffersen, and Gard, 2010), which in turn expresses bodily self-consciousness (Gyllensten, 2012). Movement quality and movement awareness are closely related (Skjaerven and Gard, 2018). Penfield (2006) described movement as our “royal road” to the unconscious. Being in movement focuses on understanding the value and qualities of human movement from the individual’s perspective (Arnold, 1979; Brown, 2013).

Physiotherapists meet clients with multifactorial movement disorders that reveal difficulties in their contact with themselves, others and/or the environment, which affect movement quality, daily function and participation (Gyllensten, Skär, Miller, and Gard, 2010; Skjaerven, Gard, and Kristoffersen, 2008; Skjaerven, Kristoffersen, and Gard, 2010). To optimize wellbeing, it is important to unify physical and mental aspects, which is a core mental health component of (Probst et al., 2016) and needed in all fields of physiotherapy. The aim of physiotherapy is to maximize people’s movement potential for participation in daily life (World Confederation for Physical Therapy, 2017). For physiotherapists, from an educational point of view, it is important to focus on what they can learn through close attunement to the human body (Jensen et al., 2017b, 2017a), in particular human movement (Wikström-Grotell, 2016). The individual is empowered when their physical activity, functional movement and

movement awareness are promoted (Probst et al., 2016), as these are essential elements of health and wellbeing, because of their many positive health influences on movement potential and quality of life, such as tension regulation and safety experience (Ogden, Minton, and Pain, 2009; Song and Yu, 2019; Wikström-Grotell, 2016; World Confederation for Physical Therapy, 2017).

Biopsychosocial perspective-based approaches, such as cognitive-behavioral therapy and motivational interviewing, are also used in physiotherapy (Guerrero, Maujean, Campell, and Sterling, 2018; Holopainen et al., 2020; Toye, Seers, and Barker, 2017). Human health and well-being, and the interrelationship between health, stress and coping strategies are the focus of the salutogenic orientation (Antonovsky, 1987; Mittelmark et al., 2017). Salutogenic orientation-based approaches such as Basic Body Awareness Therapy (BBAT) are used and needed in physiotherapy to empower the individuals (Gard, Nyboe, and Gyllensten, 2020; Gyllensten, Jacobsen, and Gard, 2019; Skjaerven, 2019; Skjaerven et al., 2018). BBAT is a physiotherapy approach that promotes movement quality through movement awareness (Gard, Nyboe, and Gyllensten, 2020; Skjaerven, 2019; Skjaerven et al., 2018). The therapeutic components to promote movement quality through increasing movement awareness in BBAT are: 1) the physiotherapist’s own movement awareness as a precondition; 2) a platform for promoting movement quality; and 3) therapeutic strategies, such as strengthening the presence of being in movement, when guided through the seven-step Movement Awareness Learning Cycle (Skjaerven, 2019; Skjaerven, Kristoffersen, and Gard, 2010).

The promotion of movement awareness involves the whole person, which places high demands on the physiotherapist’s own movement awareness (Skjaerven and Gard, 2018). Through the body’s ability to sense, physiotherapists can express their experiences, which can support their self-confidence in clinical practice with the patient. (Ekerholt and Bergland, 2019). Physiotherapists’ understanding of their own movement quality is important because they must be able to be present and attentive in practical sessions, which are mostly based on non-verbal communication (Hedlund and Gyllensten, 2010, 2013). The physiotherapist’s own movement experience and sensitivity to movement quality serves as a background in the therapeutic situation, encouraging others to become more present and be in contact with their own movements (Covington and Barcinas, 2017; Gyllensten, Skär, Miller, and Gard, 2010; Hedlund and Gyllensten, 2010, 2013; Råsmark, Richt, and Rudebeck, 2014; Skjaerven, Kristoffersen, and Gard, 2010).

Reflection is the process of becoming more aware of an experience, event, state, or perception (Dilthey, 1989; Mezirow, 1998). An important stage in reflection is the step from the first-order to the second-order perspective, when a person criticizes the premises upon which they have experienced a challenge (Mezirow, 1998). The reflection process can be described in different ways. Mezirow (1991, 1998) developed the often-used model of seven levels of reflection, in which the first four levels concern consciousness and the highest three levels critical consciousness. As understanding the processes and premises of a phenomenon such as human movement is important. Mezirow's levels of reflection are useful when focusing on movement sensations, and may lead to insights into enhancing awareness of our bodies. To understand movement, one must recognize the elementary nature of one's own movement experience and realize that a reflective second-order understanding of movement quality exists (Mezirow, 1998). In terms of reflection, becoming aware of bodily states with a particular focus on movements, and expressing movement quality sensations orally in words (i.e. verbalizing) can be challenging (Ahola, Piirainen, and Skjaerven, 2017).

Previous studies have shown that the physiotherapist's ability to be mentally and physically attentive is the basis for professional communication through observing, understanding, and promoting movement quality, which promotes transference to patients during physiotherapy (Hedlund and Gyllensten, 2010; Skjaerven, 2019; Skjaerven, Kristoffersen, and Gard, 2010). Physiotherapists' interpersonal and communication skills (O'Keeffe et al., 2016), their role as part of a multidisciplinary team (Lau, Skinner, Lo, and Bearman, 2016), their motor imagery during physiotherapy practice (Dickstein and Deutch, 2007), and their role in identifying gaps in ethical issues (Swisher, 2002) have all been examined in previous studies. However, there is little research on physiotherapists' conceptions of movement quality that focuses on movement awareness. The aim of the study was thus to explore the variation in physiotherapists' conceptions of movement quality, focusing on movement awareness.

Methods

Understanding and describing movement quality while focusing on movement awareness from the physiotherapist's viewpoint demands a specific research design and method to reveal physiotherapists' conceptions. We chose phenomenography as our research design method to study how people understand, experience, and describe a given phenomenon in the surrounding

world (Åkerlind, 2005, 2008; Marton, 1981; Marton and Booth, 2013). From a phenomenographic perspective, the ways of experiencing the particular phenomenon are referred to as a second-order perception, and the investigation is directed at the variation in the informants' ways of understanding their experiences (Marton, 1981).

Phenomenographic research focuses on experience at the collective level, the full range of possible ways of experiencing the phenomenon in question, at a particular point in time (Åkerlind, 2005). Phenomenographic research data can be collected using many methods such as written essays, documents, observations, and drawings (Åkerlind, 2018). The most common data collection is interviewing (Åkerlind, 2018). Phenomenography is a data-driven approach, which means that all findings arise from the data (Åkerlind, 2005, 2008). In phenomenographic analysis, critical aspects can be identified within descriptive categories that represent the expanding awareness of the phenomenon under study (Åkerlind, 2005; Marton and Booth, 2013; Paakkari, Tynjälä, and Kannas, 2011).

Informants

In accordance with the phenomenographic research method, it was essential to recruit informants who had clinical experience as physiotherapists and who were willing to describe their conceptions of movement quality by focusing on movement awareness, which can be difficult to describe in words (Blackburn and Price, 2007). The informants recruited for this study were 15 physiotherapists. They had applied to participate during a postgraduate introductory BBAT, a physiotherapeutic approach well known for its focus on promoting movement quality through movement awareness. We assumed that the informants were curious about movement quality and movement awareness. The course consisted of 40 hours of condensed learning, including theory, seminars, and movement sessions.

The informants were all female, registered physiotherapists, aged 27 to 54 (average age 42), Finnish-speaking, and born and educated in Finland. They had an average of 15 years of experience as physiotherapists, ranging from one to 30 years (Table 1). They worked in different fields of physiotherapy: Eight in mental health and psychiatry, three in multi-professional rehabilitation for chronic pain or musculoskeletal disorders, and one in each of the following fields: family-centered rehabilitation, primary health care, special school education, and cancer (Table 1). Four of the 15 informants had completed post-graduate courses of shorter duration on,

Table 1. Informants characteristics.

Informants (n = 15)	Work experience as a physiotherapist (years)	Additional PT education	Workplace and work sector
A	5	s	OCPRI
B	30	s	OCPRI
C	18	s	OCPRI/OCPUB
D	25	l	OCPRI
E	2	s	IWPUB
F	28	l	OCPRI/OCPUB
G	>1	-	IWPUB
H	10	-	IWPUB
I	13	l	IWPUB
J	11	l	IWPUB
K	22	-	OCPUB
L	13	-	OCPRI
M	20	-	OCPUB
N	4	-	OCPUB
O	24	-	OCPUB

l = long additional education; s = short-term additional course; IWPUB = inpatient ward, public; OWPUB = outpatient ward, public; OCPRI = outpatient clinic, private; OCPUB = outpatient clinic, public.

for instance, breathing, depression, pain, trauma, lymphatic therapy, riding therapy, Bobath therapy, Neurolinguistic Programming, or mindfulness. Four of the 15 physiotherapists were specialized in psychophysical physiotherapy (Table 1).

The study was approved by the committee for educational research ethics (March 20, 2013). Permission for the study was requested from both the educational institution and the informants themselves. The recruitment process took place at the start of the course. All those agreeing to participate signed their informed consent. We have ensured the informants' anonymity by using pseudonyms when presenting our findings.

Data collection

The data were collected in two group interviews (Brinkmann, 2013) at the end of the course in the same location. Two groups were formed alphabetically, according to the 15 informants' last names; one with eight informants and one with seven. Two reflection-based group interviews (Kvale and Brinkmann, 2009), allowed the informants to describe and reflect upon their movement experiences as much as possible. A group interview can be even more productive than individual interviews when the members of the group feel equal in term of at least one element (Brinkmann, 2013). The informants were all physiotherapists and got to know each other during the week. Awareness of "peerness" and a feeling of "sameness" can enhance dialogue and social support within a group (Skaniakos and Piirainen, 2019), when it is challenging to make the phenomenon under study explicit (Ahola, Piirainen, and Skjaerven, 2017; Blackburn and Price, 2007).

The first author conducted the interviews and was a physiotherapist, but otherwise unknown to the

informants. The interviewer created a permissive, open atmosphere, listening patiently to the informants' descriptions (Brinkmann, 2013). The interviewer also encouraged the informants to clarify and to illustrate their descriptions as much as possible.

The group interviews, which were conducted in Finnish, had two phases: the first, focused on the informants' immediate experience of their own movement, and in the second, the professional physiotherapists, invited the informants to reflect upon their conceptions of movement quality by focusing on movement awareness, and asked them to look back on their clinical practice. The interview's initial question was: *How were your experiences of being in movement during this week in BBAT?* It then proceeded to its main focus: *I now invite you to describe your conceptions of movement quality. What does it mean to you as a physiotherapist?* The interview continued on the basis of the interviewees' answers. The interviews were audiotaped and transcribed verbatim, yielding 35 transcript pages (15001 words, font = Times New Roman 12, spacing = 1.5), and forming the research material for this study. The first interview lasted 65 minutes and the second 60 minutes.

Data analysis

The phenomenographic analysis (Åkerlind, 2005, 2008) was carried out by the first author (Figure 1), and examined the informants' descriptions of the phenomenon as a whole. Their conceptions illustrate how a group of informants can understand and express their experiences of the same phenomenon in such different ways (Åkerlind, 2005). The similarities and differences between the experiences of a phenomenon have a systemic order, which takes the form of descriptive

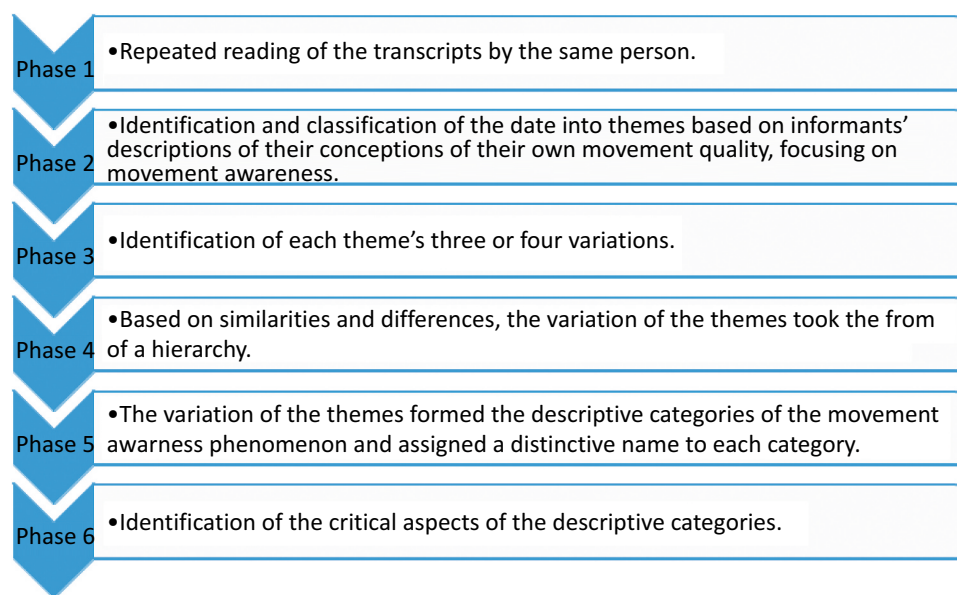


Figure 1. Phases of study's phenomenographic analysis.

categories (Marton, 1981). These descriptive categories illustrate the variation of conceptions of undergoing movement awareness, are structurally and logically inter-related and form a hierarchical whole (Åkerlind, 2005; Marton and Booth, 2013; Marton and Pong, 2005). The presented categories represent the informants' expanding view on movement quality, focusing on movement awareness (Åkerlind, 2005, 2018; Marton and Pong, 2005).

Figure 1 presents the phases (1–6) of the phenomenographic data analysis in this study. The data presented the informants' descriptions of movement awareness (Figure 1, phase 5). In phenomenographic analysis, the critical aspects can be identified as descriptive categories of what is important for widening the informants' understanding of the phenomenon of interest (Marton and Booth, 2013; Paakkari, Tynjälä, and Kannas, 2011): in this study, movement quality, focusing on movement awareness. We identified three critical aspects in the descriptive categories (Figure 1, phase 6).

The first author listened to the audio-recordings, read the transcripts several times and made the first draft of the findings. The research group (SA, LHS, and AP) identified the themes of variation and discussed the relations and hierarchies in the descriptive categories. The group constantly evaluated the consistency between the original data and our findings to minimize the influence of their own interpretations. All three authors further elaborated the first draft result, seeking the clearest and most original quote that illustrated the results. The group interviews were carried out in Finnish, by the first author. The first translation was undertaken by the

first author and discussed with the coauthors, and finally checked by a native English professional language editor.

Results

The aim of the present study was to explore the variation in physiotherapists' conceptions of movement quality, focusing on movement awareness. The results of the phenomenographic analysis revealed that the informants' conceptions of movement awareness had four widening, qualitatively descriptive categories (Table 2): I) Hesitation regarding own movement experiences; II) Momentary contact with own movement experiences; III) Presence in movement awareness; and IV) Better understanding of others' movement awareness (Table 2). The physiotherapists' conceptions had four themes, which varied hierarchically so that they formed four movement awareness categories. The themes distinguishing the descriptive categories were as follows: 1) Being in contact with one's own moving body; 2) Increased awareness of movement experiences; 3) Interrelationship between physiotherapist and patient; and 4) Better understanding of movement awareness (Table 2).

The descriptive categories and the variation of themes are presented below, using quotes identified as relevant from the informants' descriptions. The letters A through O after each quote represent the participating physiotherapists. The varying themes within each descriptive category are highlighted in bold. The name

of each variation theme is in *italics* throughout the results (Table 2).

Category I: Hesitation regarding own movement experiences

In this first descriptive category, the informants reported that becoming aware of their own movement sensations was challenging. They described experiencing their own movement as a blind spot. Recognizing their own movement awareness was considered a different experience what they were used to in their earlier physiotherapy work.

The first identified theme of variation was being in contact with one's own moving body, which in this narrowest descriptive category, was described as a *lack of contact with the moving body*. The physiotherapists claimed that it was demanding to be aware of their own bodily and movement sensations and face their own bodily and movement needs. One informant described how they saw their own body movements as automatic mechanical actions.

I feel like I can't listen to my body, I expect my body to work like a machine from day to day ... I've also noticed that it's difficult for me to let my breath relax and flow freely (C).

The second variation theme in this descriptive category, increased awareness of movement experiences, focused on *remote experience when moving*. The informants said they felt that coming into closer contact with their own movements was a remote experience. They described usually observing only their own vital bodily functions, for example, their heartbeat, and dismissing and lacking contact with delicate sensations in their own movement awareness.

I've often taken distance from my body ... In the rare moments when I actually concentrate on listening to my own body, I mainly observe the concrete bodily functions (L).

In this first, narrowest descriptive category, the interrelationship between physiotherapist and patient was related to the physiotherapists *paying attention to their own body*. In this theme, the physiotherapists' descriptions focused on movement awareness from only their perspective.

When I work with a patient ... Well, like I've noticed that even though you work with your own body how strange it is ... and you have like a very strong relationship with your own body so it will definitely be a lot of work figuring it all out (L).

Despite claiming that encountering one's own movement awareness in physiotherapy was challenging, the informants said that they wanted to achieve a better understanding of movement awareness (the fourth theme). In this first descriptive category, the informants described how *learning to be present when moving* awakened their curiosity, although it was challenging. The informants also described that it was easier to focus only on doing during physiotherapy (Table 2).

As a physiotherapist, I'm learning to be present, here and now, in the moment. It's difficult; it would be easier to just concentrate on doing (A).

Category II: Momentary contact with own movement experiences

The focus of this second descriptive category was on an explorative attitude and being curious, when the informants encountered their own movement awareness with interest. Movement awareness was described as an uncertain encounter, and as was sensing that one's own movement awareness could mean (Table 2).

The informants' descriptions of their own experiences of being in contact with one's own moving body expanded from the first descriptive category to the second (see Table 2). The informants described their *first contact* with their own movement awareness as difficult to trust.

Table 2. Descriptive categories and themes.

Themes: (variation of themes, horizontal)	Descriptive categories of movement awareness phenomenon			
	I: Hesitation regarding own movement experiences	II: Momentary contact with own movement experiences	III: Presence in movement awareness	IV: Better understanding of others' movement awareness
Being in contact with one's own moving body Increased awareness of movement experiences	Lacking contact with the moving body Remote experience when moving	Gaining first contact Recognition of stronger sensing of movement experiences	Being in contact Distinction between one's own and the patient's movement awareness	Reflecting on contact and how to move –
Interrelationship between physiotherapist and patient Better understanding of movement awareness	Paying attention to own movement experiences Learning to be present when moving	Sharing personal movement experiences with others Recognizing movement processes	Sensing one's own and others' movement awareness resources Learning new movement strategies	Reciprocal professional interrelationship Movement awareness as a base for physiotherapeutic competence

It's difficult for me to let go and just be guided by my own movement sensation, and not perform the movements correctly and be in control (J).

In the theme increased awareness of movement experiences, the informants described *recognition of stronger sensing of movement experiences* when they started to explore their own movement. They reported not being able to be fully involved in being in contact with their own movements. Despite starting to explore their own movement awareness, the informants described the process of being in contact with and recognizing their own movement sensations as challenging, that it aroused various sensations and was a restless experience.

I've found it challenging recognizing ... bodily sensations are difficult and detached from real emotion. It's not easy ... I've felt it as restlessness in my body (N).

In this descriptive category, the third theme, the interrelationship between physiotherapist and patient was related to the informants' experience of *sharing personal movement experiences with others*. In this theme, the focus on movement awareness shifted between physiotherapist and patient in the clinical physiotherapy situation. When the informants described the close interrelationship between physiotherapist and patient, they described movement awareness as how bodily sensations of pleasure or fear were similar to those that their patient had experienced and described during a physiotherapy situation.

Sharing the same bodily experience as my patient, which I have noticed, bodily experience as a physiotherapist. The emotion, sensation can be joy or happiness but usually with sick people it is anxiety, pain and fear (O).

Better understanding of movement awareness was linked to *recognizing movement processes*. Their understanding of movement awareness expanded further, that the informants reported their own movement awareness with an open attitude toward recognizing the movement process between therapist and patient. Better understanding of movement awareness was described as a target to support their patients in physiotherapy.

I've found sensing my own body to be important so that I don't get confused by my client's bodily reactions and can give them as much as possible as a physiotherapist (M).

Category III: Presence in movement awareness

In the third descriptive category, being in contact with one's own moving body expanded from the second descriptive category to the third. *Being in contact* was

described as being more present in the actual moment, when moving. The physiotherapists described how through their bodily presence they felt more connected, both to themselves and to others as their patients or other physiotherapists. They also described their own movement sensations appreciatively with approving description language.

My body is a part of me. My body is a tool through which I can live that reflects my emotions and thoughts. My body is also present in various interaction situations; being in one's own movement, how to appreciate yourself, relationships with others and your living environment (B).

The increased awareness of movement experiences theme broadened as the informants described *a distinction between one's own and the patient's movement awareness*. The informants' noticed being more sensitive to exploring and more broadly understanding what happens in clinical practice. In the interview they started to describe how a process like becoming more aware of their own movements was essential to develop their own sensitive guidance of patients (Table 2).

I've recently been thinking more about my guidance, how to ask permission to touch, to be sensitive and understanding in situations where the client doesn't want to be touched (F).

The third theme, interrelationship between physiotherapist and patient, was described by *sensing one's own and others' movement awareness resources*. In this descriptive category, the informants reported how the interrelationship between themselves and the patient had often been an exhausting experience, depleting the informant's own energy. This process made the informants observe their working habits and culture. They described stretching their own limits and having no time to reflect.

I've sometimes had a physiotherapy session after which I'm totally exhausted. The next client is already waiting their turn and you simply don't have the time to reflect on or handle the situation (I).

The fourth theme, better understanding of movement awareness was described as *learning new movement strategies*. The informants reported a growing understanding of how important calming themselves down and being present in clinical practice situations was for them.

Calming myself down has been the most important realization and inspiration ... in general, I can teach and apply different approaches, but if I can't calm myself down and through that calm down my client (H).

Category IV: Better understanding of others' movement awareness

In the fourth, widest descriptive category movement awareness was described as the basis of professional physiotherapy. It was also described as increasingly meaningful for informants as a base for continued professional development. The informants described how movement awareness was important for promoting open dialogue between therapist and patient, so no variation of the increased awareness of movement experiences theme was identified. In this widest descriptive category, the informants' understanding of professional ethical attitude increased (Table 2).

The informants described the being in contact with one's moving body theme as *reflecting on contact and how to move*. They reported how a reflective relationship enabled a continuous explorative view of their own movement awareness in therapy situations with patients. They described this curious ongoing process with great interest.

It's possible to learn to know yourself better by listening to your bodily movements' reactions and sensations. It's extremely interesting to observe your bodily reactions in different interactive situations (M).

The informants described the interrelationship between physiotherapist and patient as a *reciprocal professional interrelationship*. They described listening more openly to themselves and agreeing to accept their own as well as their patients' various movement quality experiences when, for example, breathing and giving enough time to explore movement sensations. Using more empathic descriptions of movement quality, the physiotherapists also approvingly described strategies of encouraging their patients to patiently explore their own movement sensations.

It's making contact, being present, curious about exploring my own bodily movements' sensations, listening to my patient's breathing and giving them time to explore their own movement sensations (I).

In this category, the better understanding of movement awareness theme broadened and expanded to *movement awareness as a base for physiotherapeutic competence*. The informants perceived that their own movement awareness was a stimulus to promoting their own professional therapeutic competence in guidance and to a shared mutual movement-based relationship with their patient. They reported that this was possible through person-centered strategies encouraging their patients to trust their own movement awareness experience (Table 2).

In my practice, I utilize my own bodily movement experience when I guide my patients to find their own bodily experience. I also want to encourage my patients to rely on their own bodily experience . . . walking beside and learning with my patient. The use of all my bodily senses, which has developed enormously (I).

Summary of results

This study revealed a structure that expands the understanding of movement awareness (Figure 2). It found four descriptive, widening categories of movement awareness. The results showed a transition in the description of movement awareness, from the narrowest *Hesitation regarding own movement experiences* (I) to *Momentary contact with own movement experiences* (II), proceeding to *Presence in movement awareness* (III) and to *Better understanding of others' movement awareness* (IV), a broader understanding of the movement awareness phenomenon (Figure 2). According to the results, the phenomenon of movement awareness widened through three critical aspects of the descriptive categories: 1) *Recognizing one's own movement awareness*, 2) *Distinguishing one's own and others' movement awareness*, and 3) *New insights into implementing actions related to movement awareness in physiotherapy* (Figure 2). These three critical aspects widened the informants' understanding of movement awareness. In this study, the movement awareness phenomenon emerged in four main issues: being in movement, reflection, interaction and professionalism in physiotherapy.

Discussion

The aim of this study was to explore the variation in physiotherapists' conceptions of movement quality while focusing on movement awareness. The results revealed the relationships between the two phenomena of movement quality and movement awareness. The informants' descriptions revealed an improved understanding of movement awareness in themselves and in relation to professional physiotherapy. Previous research has described how movement awareness is expressed in the body and can be observed through observing movement quality (Skjaerven, Gard, and Kristoffersen, 2008; Skjaerven, Kristoffersen, and Gard, 2010), and that the expression of bodily self-consciousness appears in movement quality (Gyllensten, 2012). Skjaerven and Gard (2018) also stated that the phenomenon of movement awareness offers a specific focus on human movement, which differs from body awareness, a more general phenomenon. Movement awareness and body awareness overlap,

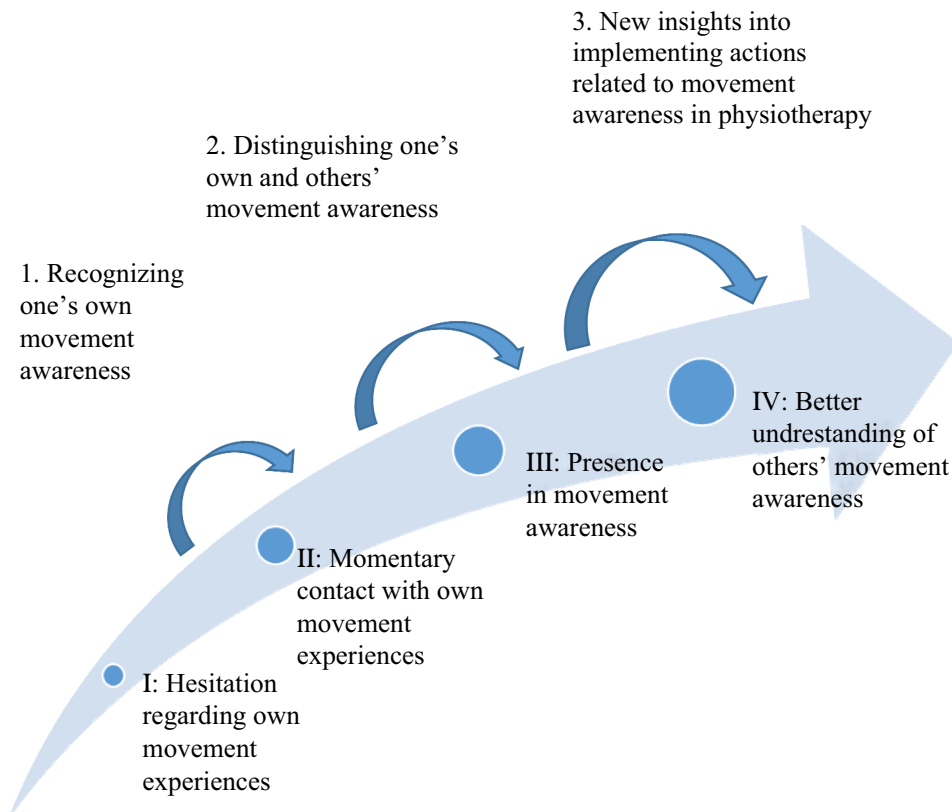


Figure 2. Structure of widening understanding of movement awareness. Descriptive categories (I–IV) and critical aspects (1–3) of movement awareness phenomenon.

because movement awareness (Skjaerven, 2019) is described as becoming aware of, identifying and monitoring subtle nuances of movement quality, and body awareness (Ginzburg, Tsur, Barak-Nahum, and Defrin, 2014) is seen as sensitivity to bodily signals to be aware of bodily states and to identify subtle bodily reactions.

The results of the phenomenographic analysis revealed the structure and widening understanding of the movement awareness phenomenon. The four descriptive categories were: I) Hesitation regarding own movement experiences; II) Momentary contact with own movement experiences; III) Presence in movement awareness; and IV) Better understanding of others' movement awareness. In this study, the four categories of the phenomenon of movement awareness constituted a hierarchy, constructed from four main issues. The first issue, being in movement, from *hesitation regarding one's own movement experiences*, widened the physiotherapists' understanding of the movement awareness process. The second issue was reflection, becoming more aware of movement awareness and verbalizing one's experiences to others. The third issue concerned understanding patient and physiotherapist movement awareness as interaction in physiotherapy.

The fourth issue was professionalism in physiotherapy, which concerned the work culture and habits of the physiotherapists.

The movement awareness process represented a challenge in this study, and revealed a less reflected side of the phenomenon. Being in movement, which focuses on understanding the value and qualities of human movement from the individual's perspective, has also previously (Arnold, 1979; Brown, 2013) been found to be a less noted approach to human movement. Arnold (1979) identified three dimensions of movement for learning: 1) Learning *about* movement; 2) learning *through* movement; and 3) learning *in* movement. Learning *about* movement is accomplished by teaching human movement as an academic subject, through anatomical, physiological, or sociological methods. Learning *through* movement is accomplished by understanding physical activities as a way of achieving a goal, as learning a skill. Learning while being *in* movement emphasizes movement as being integrated into the person (Arnold, 1979).

The physiotherapists' descriptions of movement awareness were reported in the present study from only the physiotherapist's point of view. The results

regarding hesitation are also in line with previous studies, that have found that listening to the signals that arise from the senses and coming into contact with one's own movement may be challenging to process for those who are not used to or have not learned to be in contact with their inner bodily movement sensations (Blackburn and Price, 2007; Ginzburg, Tsur, Barak-Nahum, and Defrin, 2014). Alon (1990) also stated that movements that are executed without taking contact, listening, or being aware may have a mechanical appearance. In terms of the physiotherapy profession and clinical practice, these results regarding physiotherapists' descriptions of hesitation regarding contact with their own movement experiences and thus, movement awareness, are important: Previous studies have highlighted that if a physiotherapist lacks sensitivity to their own movement quality, it is difficult for them to recognize such movement nuances in others (Skjaerven, Gard, and Kristoffersen, 2008).

Concerning verbalization in this study, when describing hesitation to take contact, the physiotherapists' described their own movement sensations using sparse vocabulary, choosing words, that illustrated incapacity or challenging focus. We think that this was an important finding. Earlier studies have found that vocabulary (i.e. how people choose the words to describe movement awareness experiences) is important from the professional point of view (Skjaerven, Gard, Gomez-Coneza, and Catalan-Matamoros, 2020). Movement vocabulary provides variations in the descriptions of movement sensations and nuances, which enhance physiotherapists' ability to interpret patients' understanding of the therapeutic situation (Skjaerven, 2019).

The physiotherapists reported an explorative attitude and were curious about their own movement experiences. Personal movement awareness was reported as being uncertain and difficult to trust, as physiotherapists only have fluctuating momentary contact with it. The present study revealed meanings such as a curious attitude and trust. Other research has also shown that a curious attitude and trust are therapeutic components that enhance movement awareness (Skjaerven, Kristoffersen, and Gard, 2010), and that physiotherapists' personal process of coming into contact with their own movements and movement awareness is similar to the process among the patients (Skjaerven, Kristoffersen, and Gard, 2010). Thus, the therapeutic components, the physiotherapist's own movement awareness, a platform for promoting movement quality, and the therapeutic strategies within a specific movement pedagogy are important for this kind of understanding (Skjaerven, 2019; Skjaerven, Kristoffersen, and Gard, 2010). One therapeutic strategy to develop

physiotherapists' own movement awareness through movement quality is The Awareness Learning Cycle (Skjaerven, 2019; Skjaerven, Kristoffersen, and Gard, 2010).

Earlier studies have emphasized that concrete movement practice that enables contact with a person's own movement awareness is important in promoting the experience of safety (Blaauwendraat, Levy Berg, and Gyllensten, 2017; Hedlund and Gyllensten, 2013). In this study, the movement awareness process was a calming experience and involved being more present in the clinical situation. The physiotherapists' descriptions of movement awareness used approving description language. Other research has also reported that vocabulary is an essential factor in the therapy intervention itself (Quinn, Anderson, and Finkelstein, 2009; Skjaerven et al., 2018). Verbal and body-based information and expressions are seen as belonging together and complementing each other – it is essential for physiotherapists in clinical practice to compare their patient's verbally expressed experiences with their own observations of their movements (Thornquist, 2018). Piirainen (2006) also found that in professional practice, shared security and shared trust are invisible. Thus by making communication visible and creating moments of language dialogue, we can change the direction of the understanding.

Reflection was described in this study as the basis of physiotherapeutic competence and professional development. The physiotherapists reported how reflective patient relationships enabled a continuous explorative view of their own movement awareness, which they described as an interesting and ongoing process. This kind of process in understanding has been described as reflectivity, the expansion of a professional's horizon (Mezirow, 1998; Skjaerven, Kristoffersen, and Gard, 2010). In the reflective process (Brookfield, 2017), stressing the experience is important (i.e. reflecting more deeply on what has happened on a concrete occasion). In this study, the fourth descriptive category (Understanding more of others' movement awareness) belonged to Mezirow's (1991, 1998) first critical consciousness level because physiotherapists can reflect on movement awareness as a basis of competence. For professional development, it is important to reach at least the first level of critical consciousness (Mezirow, 1991, 1998), as this enables the promotion of professional development.

Physiotherapists reported listening more openly to themselves and agreeing to accept their own as well as their patients various movement quality experiences. When the physiotherapists used more empathic

descriptions of movement quality and movement awareness, they also approvingly described strategies encouraging their patients to patiently explore and trust their own movement sensations. The same kind of results have also been reported regarding the relation between a positive treatment outcome and experiences of well-being in one's own movement, and that being safe and unconditionally accepted is highly important (Gyllensten, Skär, Miller, and Gard, 2010; Ogden, Minton, and Pain, 2009; Skjaerven, 2019; Skjaerven, Kristoffersen, and Gard, 2010).

The reflection process of movement awareness was visible in the physiotherapists' descriptions. Reflectivity was essential to start the process. From the professional's perspective, the first step of making contact with one's own movement is central for understanding more about movement awareness, and studies (Arvala and Malinen, 2013; Dewey, 1934; Mezirow, 1991; Skjaerven, 2019; Skjaerven, Kristoffersen, and Gard, 2010) have also found that establishing contact with your body and sharpening your body awareness toward movement and movement awareness understanding is important for initiating awareness and as well as reflection.

Interaction in this study was in relation to the informants' wish to be a good physiotherapist, as they reported wanting to support their patients as much as possible. Movement awareness was described as a shared experience between the physiotherapist and patient in a clinical situation, which concerned various body-based sensations, such as pleasure or fear. The shared experience described in this second category is important for patients in physiotherapy situations. Also, according to Yalom (1995), the sense of "being in the same boat" creates a sensation, an experience of connectedness, which can reduce the experience of feeling different and alone, and at same time increase awareness. Other research results have pointed out that searching for contact with one's own movement quality is highly personal and private in nature, therefore resistance and discomfort need to be professionally monitored, and decisions regarding treatment or progress in movement practice need to be carefully weighed in terms of when, where and how to integrate experiences of movement to enhance understanding (Freiler, 2008; Hedlund and Gyllensten, 2013). In this study, the physiotherapists reported how presence strengthened their movement awareness in interaction. Interaction is connected to movement awareness and presence, and not only one's own but also others' movement awareness is identified as part of the therapist – patient relationship. Exploring and understanding the distinction between one's own and the patient's movement awareness and expanding understanding was seen as the basis for developing their

own sensitive guidance of the patient. Other researchers have highlighted how the reflective relationship plays a crucial role in professionals' work culture (Illers, 2014; Mezirow, 1991; Piirainen and Viitanen, 2010; Skjaerven, Kristoffersen, and Gard, 2010).

The physiotherapists in the present study reported that movement awareness promoted dialogue and a relationship based on mutual trust between them and the patient. Physiotherapists need to be adequately aware of their own movement in order to better understand others' movement awareness. Previous research has also shown that movement awareness is an element of a physiotherapist's clinical practice, and is considered the basis for professional communication through observing, understanding, and promoting movement quality, and for strengthening patients' movement potential for daily life and participation in physiotherapy (Hedlund and Gyllensten, 2010; Probst et al., 2016; Skjaerven, 2019; Skjaerven, Kristoffersen, and Gard, 2010). The physiotherapists' presence enabled learning new strategies such as calming down, and underlined the importance of such strategies for differentiating their own movement awareness experience from that of the patients. Marton and Booth (2013) also emphasized how professional competence development takes place when professionals personally encounter and confront a situation in which the existing understanding is unworkable, and reflect on this experience afterward.

The physiotherapists described how through understanding their movement awareness they became more aware of their own exhausting working habits and observed their working culture more broadly. The sense of being shaken can be an important driver of changing physiotherapists' perceptions or ways of working (Holopainen et al., 2020). Changing habits and movements is not a question of motor capacity; it involves physiotherapist as people, human beings (Thornquist, 2012). This may be why it is so difficult to change habits, and why change takes time (Thornquist, 2012).

The opportunity to gain new insights into implementing actions related to movement awareness in physiotherapy was considered critical for promoting the profession. Movement awareness-based professionalism was emphasized as professional interaction and competence, in which the patient was the center. To understand more of others' movement awareness, physiotherapists need to reflect on their own movement awareness, which Mezirow (1991, 1998) also highlighted as the first critical consciousness level. This process of understanding has been described as reflectivity, the expansion of a professional's horizon (Mezirow, 1998; Skjaerven, Kristoffersen, and Gard, 2010). In the reflective process (Brookfield, 2017), stressing the experience is important, i.e. reflecting more deeply on

what has happened on a specific occasion. On Mezirow's (1991, 1998) consciousness reflective levels, this study reached levels one to four, but did not achieve levels six or seven of critical consciousness. A consciousness reflective level of six or seven means that physiotherapists can recognize the uncertainty in their movement awareness and have other possible interpretations for movement awareness. This can increase their knowledge and perception and help them recommend other solutions for patients. The present study revealed that physiotherapists have a wide range of conceptions regarding movement awareness. It showed that understanding of movement awareness deepens when it widens.

Limitations and strengths

Phenomenography provides a useful methodological tool for professional development (Sandberg, 2001). In this study, the movement awareness phenomenon consisted of four main issues: 1) being in movement; 2) reflection; 3) interaction; and 4) professionalism in physiotherapy. The results of this phenomenographic study cannot be generalized, but they may be transferable to similar situations or applicable in another contexts (Mason, 2010). Those can be used as a tool for developing movement awareness and enhancing pedagogical practices in continuing physiotherapy education. The critical aspects identified in this study can be useful to promote physiotherapy in clinical practice or in educational contexts.

The number of informants in a phenomenographic study ranges from 10 to 30 (Stenfors-Hayes, Hult, and Dahlgren, 2013). This study had enough informants to enable understanding of the phenomenon of interest (Mason, 2010). It comprised interviews of 15 registered physiotherapists with an average of 15 years of work experience in physiotherapy. There was a gender bias toward women in this study, as 82% of qualified physiotherapists in Finland are women (Valvira National Supervisory Authority for Welfare and Health, 2017). The collected data revealed physiotherapists' descriptions of their conceptions of movement awareness, so the data (15 001 words) was wide and rich enough to explore the range of understanding within a specific group and capture the variability of the chosen phenomenon (Täks, 2015).

The informants had an average of 15 years of experience as physiotherapists and had applied to attend a postgraduate course. We assumed that the informants were curious about movement quality, with a focus on movement awareness. The BBAT course presented an opportunity to reach physiotherapists who were

interested in applying movement awareness in physiotherapy, even though we realized that the informants may speak (only) through the experience they gained on the course. This may be also a strength of our study; that we found informants who had enough experience as physiotherapists, were willing to describe movement awareness and were curious about it. The introductory BBAT course helped the informants make contact with movement awareness by inviting them to express their own conceptions. Concerning movement in particular, many studies have found that verbalization presents a challenge (Maivorsdotter and Quennerstedt, 2012; Panhofer and Payne, 2011).

In this study, experienced physiotherapists from different fields of physiotherapy with extensive clinical knowledge and experience were chosen as key informants. Eight of them worked in mental health and psychiatry, three in multi-professional rehabilitation for chronic pain or musculoskeletal disorders, and one informant worked in each of the following fields: family-centered rehabilitation, primary health care, special school education, and cancer. The collected data presented the physiotherapists' descriptions' of movement awareness. Phenomenography is a data-driven approach, which means that all findings arise from the data (Åkerlind, 2005, 2008). Triangulation was performed by the three researchers, the authors of this paper, who had earlier experience of working with qualitative methods. One strength of the research group was that the authors were from different competence areas of physiotherapy: a professor with expertise in mental health physiotherapy and BBAT methodology, a researcher of qualitative research and a doctoral researcher with experience in neurological physiotherapy. The first author was the interviewer and as a physiotherapist, a peer, which may have helped the informants talk freely although it may also have limited the questions she asked. The informants found this interviewer's role to be more that of a peer learner, which provided favorable conditions for the interviews (Brinkmann, 2013).

Conclusions

The results of this study make visible the structure of the widening understanding of movement awareness. The study identified four main issues: being in movement, reflection, interaction, and professionalism in physiotherapy, and three critical aspects. The identified critical aspects widened the understanding of the phenomenon of movement awareness and can be useful when planning future educational interventions

for promoting physiotherapists' professional post-graduate development in continuing education or with physiotherapy students in higher physiotherapy education. The reflective relationship of movement awareness provides opportunities for physiotherapists to observe their own professional resources and needs, which may enhance their wellbeing and professional development. However, further research is needed.

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The authors have no conflicts of interest to declare.

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References

- Åkerlind G 2005 Variation and commonality in phenomenographic research methods. *Higher Education Research and Development* 24: 321–334. doi:10.1080/07294360500284672.
- Åkerlind G 2008 A phenomenographic approach to developing academics' understanding of the nature of teaching and learning. *Teaching in Higher Education* 13: 633–644. doi:10.1080/13562510802452350.
- Åkerlind G 2018 What future for phenomenographic research? On continuity and development in the phenomenography and variation theory research tradition. *Scandinavian Journal of Educational Research* 62: 949–958. doi:10.1080/00313831.2017.1324899.
- Ahola S, Piirainen A, Skjaerven LH 2017 The phenomenon of movement quality: A phenomenographic study of physiotherapy students' movement experiences. *European Journal of Physiotherapy* 19: 59–68. doi:10.1080/21679169.2016.1261366.
- Alon R 1990 *Mindful Spontaneity. Moving in Tune with Nature: Lessons in the Feldenkrais Method*. Dorset: Prism Press.
- Antonovsky A 1987 *Unraveling the Mystery of Health. How People Manage Stress and Stay Well*. San Francisco: Jossey-Bass Publishers.
- Arnold PJ 1979 *Meaning in Movement, Sport and Physical Education*. London: Heinemann.
- Arvala M, Malinen A 2013 Dialoginen oppiminen aikuisopiskelijan näkökulmasta [Dialogic learning from the adult student view]. In: Hakala J, Kiviniemi K (Eds) *Vuorovaikutuksen Jännitteitä ja Oppimisen Säröjä [The Interplay of Tension and Cracks in Learning]*, pp. 59–72. Kokkola, Jyväskylän Yliopisto: Kokkolan Yliopistokeskus.
- Blaauwendraat C, Levy Berg A, Gyllensten AL 2017 One-year follow-up of basic body awareness therapy in patients with posttraumatic stress disorder. A small intervention study of effects on movement quality, PTSD symptoms, and movement experiences. *Physiotherapy Theory and Practice* 33: 515–526. doi:10.1080/09593985.2017.1325957.
- Blackburn J, Price C 2007 Implications of presence in manual therapy. *Journal of Bodywork and Movement Therapy* 11: 68–77. doi:10.1016/j.jbmt.2006.05.002.
- Brinkmann S 2013 *Qualitative Interviewing*. New York: Oxford University Press.
- Brookfield SD 2017 *Becoming a Critically Reflective Teacher*. San Francisco: Jossey-Bass.
- Brown TD 2013 A vision lost? (Re)articulating an Arnoldian conception of education 'in' movement in physical education. *Sport, Education and Society* 18: 21–37. doi:10.1080/13573322.2012.716758.
- Brown W, Ryan RM 2003 The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology* 84: 822–848. doi:10.1037/0022-3514.84.4.822.
- Covington J, Barcinas SJ 2017 Developing a professional embodiment of movement: A situational analysis of physical therapist clinical instructors' facilitation of students' emerging integration of movement in practice. *Physical Therapy* 97: 603–614. doi:10.1093/ptj/pzx013.
- Dewey J 1934 *Experience and Education*. New York: Collier Books.
- Dickstein R, Deutch JE 2007 Motor imagery in physical therapist practice. *Physical Therapy* 87: 942–953. doi:10.2522/ptj.20060331.
- Dilthey W 1989 *Introduction to the Human Sciences*. Princeton, New Jersey: Princeton University Press.
- Ekerholt K, Bergland A 2019 Learning and knowing bodies: Norwegian psychomotor physiotherapists' reflections on embodied knowledge. *Physiotherapy Theory and Practice* 35: 57–69. doi:10.1080/09593985.2018.1433256.
- Farjoun N, Mayston M, Florencio LL, Fernandez-De-Las-Penas C, Palacios-Cena D 2020 Essence of the Bobath concept in the treatment of children with cerebral palsy. A qualitative study of the experience of Spanish therapists. *Physiotherapy Theory and Practice*: 1–13. Online ahead of print. doi:10.1080/09593985.2020.1725943.
- Freiler TJ 2008 Learning through the body. *New Directions for Adult and Continuing Education* 119: 37–47. doi:10.1002/ace.304.
- Gard G, Nyboe L, Gyllensten AL 2020 Clinical reasoning and clinical use of basic body awareness therapy in physiotherapy - A qualitative study. *European Journal of Physiotherapy* 22: 29–35. doi:10.1080/21679169.2018.1549592.
- Ginzburg K, Tsur N, Barak-Nahum A, Defrin R 2014 Body awareness: Differentiating between sensitivity to and monitoring of bodily signals. *Journal of Behavioral Medicine* 37: 564–575. doi:10.1007/s10865-013-9514-9.
- Guerrero A, Maujean A, Campell L, Sterling M 2018 A systematic review and meta-analysis of effectiveness of psychological interventions delivered by physiotherapists on pain, disability and psychological outcomes in musculoskeletal pain conditions. *Clinical Journal of Pain* 34: 838–857. doi:10.1097/AJP.0000000000000601.

- Gyllensten AL 2012 Basal kroppskänedom [Basic body awareness]. In: Biguet G, Keskinen-Rosenqvist R, Levy Berg A (Eds) *Att Förstå Kroppens Signaler - Sjukgymnastiska perspektiv* [To Understand the Body's Signals - Physiotherapy Perspective], pp. 189–206. Lund: Studentlitteratur.
- Gyllensten AL, Jacobsen LN, Gard G 2019 Clinician perspectives of Basic Body Awareness Therapy (BBAT) in mental health physical therapy: An international qualitative study. *Journal of Bodywork and Movement Therapies* 23: 746–751. doi:10.1016/j.jbmt.2019.04.012.
- Gyllensten AL, Skär L, Miller M, Gard G 2010 Embodied identity - A deeper understanding of body awareness. *Physiotherapy Theory and Practice* 26: 439–446. doi:10.3109/09593980903422956.
- Hedlund L, Gyllensten AL 2010 The experience of basic body awareness therapy in patients with schizophrenia. *Journal of Bodywork and Movement Therapies* 14: 245–254. doi:10.1016/j.jbmt.2009.03.002.
- Hedlund L, Gyllensten AL 2013 The physiotherapists' experience of Basic Body Awareness Therapy in patients with schizophrenia and schizophrenia spectrum disorders. *Journal of Bodywork and Movement Therapies* 17: 169–176. doi:10.1016/j.jbmt.2012.10.008.
- Holopainen R, Piirainen A, Karppinen J, Linton SJ, O'Sullivan P 2020 An adventurous learning journey. Physiotherapists' conceptions of learning and integrating cognitive functional therapy in to clinical practice. *Physiotherapy Theory and Practice*. Online ahead of print. doi:10.1080/09593985.2020.1753271.
- Illers K 2014 Transformative learning and identity. *Journal of Transformative Education* 12: 148–163. doi:10.1177/1541344614548423.
- Jensen GM, Hack LM, Nordström T, Gwyer J, Mostrom E 2017b National study of excellence and innovation in physical therapist education: Part 2-A call to reform. *Physical Therapy* 97: 875–888. doi:10.1093/ptj/pzx062.
- Jensen GM, Nordstrom T, Mostrom E, Hack LM, Gwyer J 2017a National study of excellence and innovation in physical therapist education: Part1-design, method, and results. *Physical Therapy* 97: 857–874. doi:10.1093/ptj/pzx061.
- Ketelaar M, Vermeer A, Hart H, Beek EP, Helders PJ 2001 Effects of a functional therapy program on motor abilities of children with cerebral palsy. *Physical Therapy* 81: 1534–1545. doi:10.1093/ptj/81.9.1534.
- Kvale S, Brinkmann S 2009 *InterViews. Learning the Craft of Qualitative Research Interviewing*. Ed. Thousand Oaks: Sage Publications.
- Lau B, Skinner EH, Lo K, Bearman M 2016 Experiences of physical therapists working in the acute hospital setting: Systematic review. *Physical Therapy* 96: 1317–1332. doi:10.2522/ptj.20150261.
- Maivorsdotter N, Quennerstedt M 2012 The act of running: A practical epistemology analysis of aesthetic experience in sport. *Qualitative Research in Sport, Exercise and Health* 4: 362–381. doi:10.1080/2159676X.2012.693528.
- Marton F 1981 Phenomenography - Describing conceptions of the world around us. *Instructional Science* 10: 177–200. doi:10.1007/BF00132516.
- Marton F, Booth S 2013 *Learning and Awareness*. New York: Routledge doi:10.4324/9780203053690
- Marton F, Pong WY 2005 On the unit of description in phenomenography. *Higher Education Research and Development* 24: 335–348. doi:10.1080/07294360500284706.
- Mason M 2010 Sample size and saturation in PhD studies using qualitative interviews. *Qualitative Social Research* 11: 8.
- Mehling WE, Wrubel J, Daubenmier JJ, Price CJ, Kerr CE, Silow T, Gopisetty V, Stewart A 2011 Body awareness: A phenomenological inquiry into the common ground of mind-body therapies. *Philosophy, Ethics, and Humanities in Medicine* 6: 6. doi:10.1186/1747-5341-6-6.
- Merleau-Ponty M 2012 *Phenomenology of Perception*. New York: Routledge.
- Mezirow J 1991 *Transformative Dimensions of Adult Learning*. San Francisco: Jossey-Bass.
- Mezirow J 1998 On critical reflection. *Adult Education Quarterly* 48: 185–198. doi:10.1177/074171369804800305.
- Mittelmark MB, Sagy S, Eriksson M, Bauer GF, Pelikan JM, Lindstöm B, Espnes GA 2017 *The Handbook of Salutogenesis*. Switzerland: Springer Nature.
- Moore CL, Yamamoto K 2012 *Beyond Words. Movement. Movement Observation and Analysis* (2nd ed). London and New York: Routledge Taylor and Francis Group.
- O'Keeffe M, Cullinane P, Hurley J, Laehy I, Bunzli S, O'Sullivan PB, O'Sullivan K 2016 What influences patient-therapist interactions in musculoskeletal physical therapy? Qualitative systematic review and meta-synthesis. *Physical Therapy* 96: 609–622. doi:10.2522/ptj.20150240.
- O'Sullivan S, Schmidt TJ, Fulk G 2019 *Physical Rehabilitation* (7th ed). Philadelphia: F.A: Davis Company.
- Ogden P, Minton K, Pain C 2009 *Trauma ja Keho. Sensomotorinen Psykoterapia [Trauma and Body: A Sensomotor Approach to Psychotherapy]*. Oulu: Kalevaprint.
- Olsen AL, Strand LI, Skjaerven LH, Sundal MA, Magnussen LH 2017 Patient education and basic body awareness therapy in hip osteoarthritis - A qualitative study of patients' movement learning experiences. *Disability and Rehabilitation* 39: 1631–1638. doi:10.1080/09638288.2016.1209578.
- Paakkari L, Tynjälä P, Kannas L 2011 Critical aspects of student teachers' conceptions of learning. *Learning Instructions* 1: 705–714.
- Panhofer H, Payne H 2011 Languaging the embodied experience. *Body, Movement and Dance in Psychotherapy* 6: 215–232. doi:10.1080/17432979.2011.572625.
- Parviainen J 2018 *Embodying industrial knowledge: An epistemological approach to the formation of body knowledge in the fitness industry*. *Sociology of Sport Journal* 35: 358–366. doi:10.1123/ssj.2017-0168.
- Penfield K 2006 Another royal road: Freudian thought applied to authentic movement. In: Payne H (Ed) *Dance Movement Therapy: Theory, Research and Practice* (2nd ed), pp. 132–148. London: Routledge.
- Piirainen A 2006 *Pedagogical Relationship among Client and Expert. A Phenomenological Study of Physiotherapy Situations as Clients and PTs Experience it*. Doctoral Dissertation, University of Helsinki.
- Piirainen A, Viitanen E 2010 Transforming expertise from individual to regional community expertise: A four-year study of an education intervention. *International Journal*

- of Lifelong Education 29: 581–596. doi:10.1080/02601370.2010.512807.
- Probst M, Skjaerven LH, Parker A, Gyllensten AL, Ijtnema R, Catalan-Matamoros D 2016 Do you support this definition of physiotherapy in mental health? *Fisioterapia* 38: 49.
- Pylvänäinen P 2018 Dance Movement Therapy in the Treatment of Depression, Change in Body Image and Mood - A Clinical Practice Based Study. Doctoral Dissertation, Jyväskylä Studies in Education, Psychology and Social Research 621, University of Jyväskylä.
- Quinn JB, Anderson P, Finkelstein S 2009 Managing Professional Intellect: Making the Most of the Best. In: Klein DA (Eds) *The Strategic Management of Intellectual Capital*, pp. 87–97. Oxford: Routledge doi:10.1016/B978-0-7506-9850-4.50009-9
- Råsmark G, Richt B, Rudebeck C 2014 Touch and relate: Body experience among staff in habilitation services. *International Journal of Qualitative Studies on Health and Well-being* 9: 21901. doi:10.3402/qhw.v9.21901.
- Sandberg J 2001 Understanding the basis for competence development. In: Velde C (Ed) *International Perspectives on Competence in the Workplace*, pp. 9–24. Dordrecht: Kluwer Academic Publishers.
- Shumway-Cook A, Woollacott MH 2017 *Motor Control: Translating Research into Clinical Practice* (5th ed). Philadelphia: Wolters Kluwer.
- Skaniakos T, Piirainen A 2019 The meaning of peer group mentoring in the university context. *International Journal of Evidence Based Coaching and Mentoring* 17: 19–33.
- Skjaerven LH, Gard G 2018 Perspectives on human movement, the phenomenon of movement quality and how to promote movement quality through movement awareness as physiotherapy in mental health. In: Probst M, Skjaerven LH (Eds) *Physiotherapy in Mental Health and Psychiatry - A Scientific and Clinical Based Approach*, pp. 23–31. London: Elsevier.
- Skjaerven LH 2019 The Phenomena Movement Quality and Movement Awareness - Theory Construct and Communication within Mental Health Physiotherapy. Doctoral Dissertation, University of Murcia. <https://digitum.um.es/digitum/bitstream/10201/76441/1/Liv%20Karin%20Helvik%20Skj%C3%A6rven%20Tesis%20Doc.pdf>.
- Skjaerven LH, Gard G, Gomez-Coneza A, Catalan-Matamoros DA 2020 Vocabulary describing health-terms of movement quality - A phenomenological study of movement communication. *Disability and Rehabilitation* 42: 3152–3161. doi:10.1080/09638288.2019.1585970.
- Skjaerven LH, Gard G, Kristoffersen K 2008 An eye for movement quality: A phenomenological study of movement quality reflecting a group of physiotherapists' understanding of the phenomenon. *Physiotherapy Theory and Practice* 24: 13–27. doi:10.1080/01460860701378042.
- Skjaerven LH, Kristoffersen K, Gard G 2010 How can movement quality be promoted in clinical practice? A phenomenological study of physical therapy experts. *Physical Therapy* 90: 1479–1492. doi:10.2522/ptj.20090059.
- Skjaerven LH, Mattsson M, Catalan-Matamoros D, Parker A, Gard G, Gyllensten AL 2018 Consensus on core phenomena and statements describing Basic Body Awareness Therapy within the movement awareness domain in physiotherapy. *Physiotherapy Theory and Practice* 35: 80–93. doi:10.1080/09593985.2018.1434578.
- Song D, Yu DS 2019 Effects of a moderate-intensity aerobic exercise programme on the cognitive function and quality of life of community-dwelling elderly people with mild cognitive impairment: A randomized controlled trial. *International Journal of Nursing Studies* 93: 97–105. doi:10.1016/j.ijnurstu.2019.02.019.
- Stenfors-Hayes T, Hult H, Dahlgren MA 2013 A phenomenographic approach to research in medical education. *Medical Education* 47: 261–270. doi:10.1111/medu.12101.
- Stephenson A, Stephens J 2018 An exploration of physiotherapists' experiences of robotic therapy in upper limb rehabilitation within a stroke rehabilitation centre. *Disability and Rehabilitation. Assistive Technology* 13: 245–252. doi:10.1080/17483107.2017.1306593.
- Swisher LL 2002 A retrospective analysis of ethics knowledge in physical therapy (1970–2000). *Physical Therapy* 82: 692–706. doi:10.1093/ptj/82.7.692.
- Täks M 2015 Engineering Students' Experiences of Entrepreneurship Education. A Qualitative Approach. Doctoral Dissertation, Institute of education, Faculty of Social Sciences and Education, University of Tartu, Estonia.
- Tamm M 1993 Models of health and disease. *British Journal of Medical Psychology* 66: 213–228. doi:10.1111/j.2044-8341.1993.tb01745.x.
- Thomas SS, Buckon CE, Phillips DS, Aiona MD, Sussman MD 2001 Interobserver reliability of the gross motor performance measure: Preliminary results. *Developmental Medicine and Child Neurology* 43: 97–102. doi:10.1017/S001216220101000160.
- Thornquist E 2012 *Movement and Interaction. The Sherborne Approach and Documentation*. Oslo: University Press.
- Thornquist E 2018 Phenomenology - A source of inspiration. In: Probst M, Skjaerven L (Eds) *Physiotherapy in Mental Health and Psychiatry - A Scientific and Clinical Based Approach*, pp. 18–22. Poland: Elsevier.
- Toye F, Seers K, Barker KL 2017 Meta-ethnography to understand healthcare professionals' experience of treating adults with chronic non-malignant pain. *BMJ Open* 7: e018411. doi:10.1136/bmjopen-2017-018411.
- Valvira National Supervisory Authority for Welfare and Health 2017 Terhikki register - Nationwide register containing information on Finnish health care professionals. https://www.valvira.fi/web/en/health-care/professional_practice_rights/terhikki_registe.
- Wikström-Grotell C 2016 *Movement as Value, Meaning, and Emotion - Towards a Human Science Ideal Model for Physiotherapy*. Doctoral Dissertation, Åbo Akademi University.
- World Confederation for Physical Therapy 2017 Description of physiotherapy: Policy statement. <http://www.wcpt.org/policy/ps-descriptionPT>.
- Yalom I 1995 *The Theory and Practice of Group Psychotherapy* (3rd ed). New York: Basic Books.