UiT
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# Supervision in pediatric physiotherapy: an ambiguous distinction between treatment and supervision

*A qualitative explorative study using observations and interviews*

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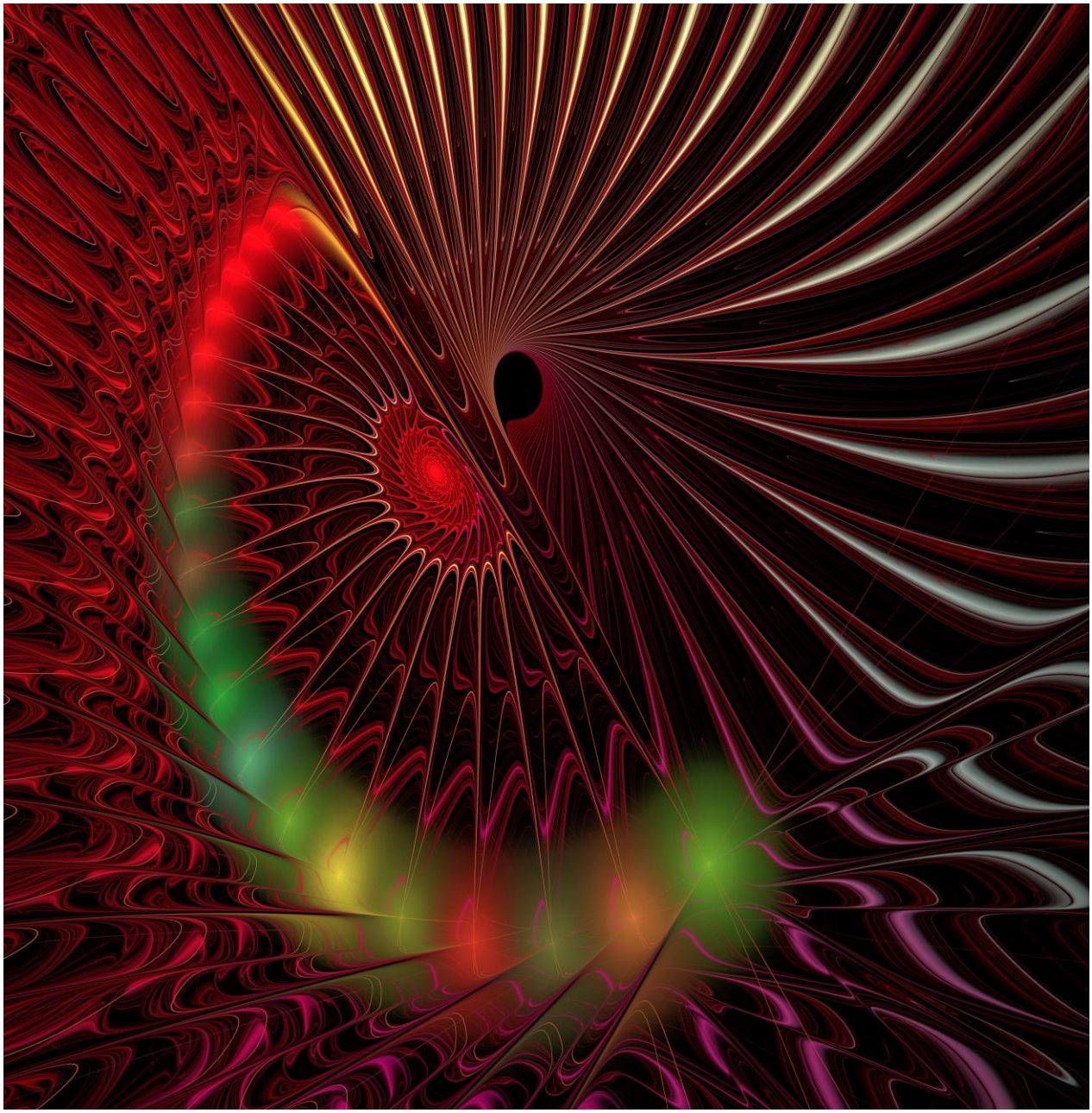
*A dissertation for the degree of Philosophiae Doctor – July 2018*



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Caminante, son tus huellas
el camino y nada más;
caminante, no hay camino,
se hace camino al andar.
Al andar se hace camino,
y al volver la vista atrás
se ve la senda que nunca
se ha de volver a pisar.
*Antonio Machado, from "Proverbios y cantares" in Campos de Castilla, 1912*.

Wanderer, your footsteps are
the road and nothing more;
wanderer, there is no road,
the road is made by walking.
Walking makes the road,
and turning to look behind
you see the path that you
will never step on again.
*(English version)*

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# ABSTRACT

Supervision in pediatric physiotherapy has become an integrated part of current practice due to changes in health care systems, the implementation of health care reforms and family-centered services, and the introduction of newer motor learning theories. However, limited knowledge exists regarding the content, organization and achievements of supervision.

The overall aim of the study was to explore supervision in pediatric physiotherapy to generate knowledge regarding important aspects for enhancing competence in non-professionals, such as parents, aides and other caregivers. The overall research question was: 'What characterizes the supervision of non-professionals as a clinical practice in pediatric physiotherapy?'

We chose to explore supervision in the field of municipal physiotherapy services for preschool children with cerebral palsy. These children compose a very heterogeneous group in terms of disabilities and thus represent many of the challenges that PTs face when working with children with complex conditions that require individualized and advanced therapy and who have a personal aide responsible for daily follow-up under the supervision of a physiotherapist (PT).

We related the study to enactive theory, an embodied approach to cognition and sense-making that builds on insights from dynamic system theory, cognitive science and the phenomenology of the body. According to the enactive view, mind, body and environment are embedded processes that form the core of how we understand our surroundings, others and ourselves through interaction.

The study has a qualitative exploratory design. We included seven PT-aide-child constellations, 21 participants in total, each of which received two researcher visits during a two-week period. The data collection period was from January to December 2014 and included 14 visits in total. At the first visit, the researcher video-recorded a supervision session and then conducted a PT interview, while at the second visit, the researcher observed the aide-child constellation throughout an entire preschool day, video-recorded sequences of interest, and then conducted an aide interview at the end of the day. We analyzed the data using a qualitative content analysis. The findings were presented in three papers, which were subsequently analyzed as a whole to provide a comprehensive understanding of supervision in pediatric physiotherapy.

Paper I built on the PT interviews and demonstrated that PTs perceived supervision as a complex process due to the many contingencies that occur. Not sharing the same professional vocabulary as aides forced the PTs to translate or transform their professional jargon into everyday language, which influenced their professional identity. Paper II built on observations of supervision sessions. These observations revealed that PTs used three supervision approaches, each of which gave rise to different forms of knowing. The PTs alternated between explaining, demonstrating and inviting during PT-aide-child interactions, thus transforming their professional knowing in various ways. Paper III built on the aide interviews and observations of each aide throughout an entire preschool day. The paper shows that knowledge and experience gained from the supervision sessions cannot be directly transferred to preschool settings. The aides transformed insights rather than applying them directly.

In conclusion, the three papers demonstrated that supervision in pediatric physiotherapy comprises temporal and transformative processes of knowing that extend beyond the mere linguistic. PTs need to address both the child and the aide in a combination of dyadic and triadic interactions. The aide's work is also characterized by temporal and transformative processes, emphasizing that the application of knowledge involves more than the mere transfer of knowledge within and between contexts. This incipient expanded insight into supervision in pediatric physiotherapy requires further research as it may serve as a foundation for improved health care strategies for children in the future.

# LIST OF PAPERS

Paper I: Sørvoll, M., Obstfelder, A., Normann, B., and Øberg, G.K. Management and dissemination of professional knowledge: physiotherapists' perceptions of the supervision of dedicated aides working with children with Cerebral Palsy. (In review).

Paper II: Sørvoll, M., Obstfelder, A., Normann, B., and Øberg, G.K. (2018). How Physiotherapists supervise to enhance practical skills in dedicated aides of toddlers with Cerebral Palsy: a qualitative observational study. Physiotherapy Theory and Practice. Published online: March 20th. https://doi.org/10.1080/09593985.2018.1453003

Paper III: Sørvoll, M., Obstfelder, A., Normann, B., and Øberg, G.K. (2018). Perceptions, actions and interactions of supervised aides providing services to children with cerebral palsy in preschool settings: A qualitative study of knowledge application. Published online: March 20th. https://doi.org/10.1080/21679169.2018.1452978

# ABBREVIATIONS

| | |
|---|---|
| CP | Cerebral palsy |
| CPRN | The cerebral palsy register in Norway |
| CPOP | The cerebral palsy follow-up program in Norway |
| CNS | Central nervous system |
| GMFCS | Gross Motor Function Classification System |
| NSD | The Norwegian Center for Research Data |
| PT | Physiotherapist |
| PTs | Physiotherapists |
| RCT | Randomized controlled trials |
| | |

# 1 INTRODUCTION

This thesis seeks to provide knowledge about supervision practices in pediatric physiotherapy. We explored supervision by studying PTs practices regarding the supervision of aides responsible for the daily care of children with cerebral palsy (CP) in the context of preschool settings in primary health care. The rationale for the thesis was that supervision in pediatric physiotherapy has become integrated into contemporary practice despite sparse research-based knowledge about the content, organization and achievements of such practices. Furthermore, public health reports accentuate the need for increased supervision of care providers in the habilitation of children with disabilities to ensure the continuity and quality of health care (Health-Care-Services, 2008, 2015). This theme initially caught my interest during my work as a PT in primary health care, in which I was responsible for the transfer of competence to others outside the profession.

In the municipalities, PTs provide family-centered services to children with CP and their families. Since most of these children spend several hours a day in inclusive preschools, supported and guided by personal aides, PTs collaborate with both parents and aides to determine the children's therapeutic needs (Cameron & Tveit, 2017). Supervision of the aides occurs during ordinary physiotherapy sessions, usually once a week or less frequently (Brentnall, Hemsley, & Marshall, 2008). Under the direction and supervision of PTs, the aides are supposed to integrate the therapeutic measures into their daily work with the child. The purpose of supervision is not to professionalize the aides but to provide them with sufficient insight and understanding to provide appropriate handling and timely support of the child so that the aides can guide the child in context and thus optimize her/his physical functions and abilities, activity and participation.

Physiotherapy has faced major changes in recent decades, leading to critiques that accentuate the importance of exploring and describing contemporary practices that are taken for granted (Nicholls, 2017; Setchell, Nicholls, & Gibson, 2017), such as supervision in pediatric physiotherapy. Since the existing research literature rarely address the actual practice of supervision, we currently lack consistent knowledge about *how* pediatric PTs perform and organize their supervision practices and what they *actually* acquire through their *actions*. Such descriptions, allow the identification of key features that ensure that aides can work in a competent manner. Given the major emphasis on evidence-based practice in physiotherapy, it seems paradoxical that we know so little about such a widely used approach as supervision. A logical response would be to design and conduct research regarding the short- and long-term

effects of supervision for the child and family. However, before we reach that point, there is a need to explore and describe the essential basics of supervision in pediatric physiotherapy. That is, we need research that explores supervision approaches and actions PTs should do more or less of to allow aides to learn as much as possible and to ensure that toddlers receive the necessary help to optimize their development. At the same time, we must also explore how the therapeutic context and the peculiarities of physiotherapy shape these elements.

Physiotherapy is a complex practice in which the PT performs practical activities in a competent manner, emphasizing body movements and functions (Nicholls & Gibson, 2010; Øberg, Blanchard, & Obstfelder, 2014). This practice builds on a combination of scientific, theoretical and practical knowledge informed by the child`s medical record, the PT's experience, and information gained through interaction with the child (Øberg et al., 2014; Øberg, Normann, & Gallagher, 2015). This multifaceted knowledge contributes to the PT's clinical reasoning and decision-making and permits a therapeutic flexibility that enables PTs to adapt their engagements, choices and actions according to the child's physical challenges, daily activities and level of participation in the session (Øberg et al., 2014). However, it can take years for PTs to acquire and develop their clinical skills (Jensen, Gwyer, Shepard, & Hack, 2000), which has raised concerns regarding whether care providers, such as aides, receive adequate supervision to meet toddlers' needs in everyday settings (Brentnall et al., 2008; Reeder & Morris, 2016).

Aides are a heterogeneous group of care providers; they often lack professional education and thus have varying levels of skills, abilities and capacities (Hannås & Hanssen, 2016). This means that aides have individual needs for supervision and follow-up. A recent public health report (Health-Care-Services, 2015) stated that non-professionals have become the main providers of therapy to children who require physiotherapy, while PTs are less often present. This trend seems to be increasing in scale. Simultaneously, advancements in medicine have resulted in increased survival rates among children with complex health needs (Moster, Lie, & Markestad, 2008). Consequently, aides are expected to provide more radical follow-up, including advanced handling of the child and the simultaneous adjustment of therapeutic measures, despite a lack of knowledge regarding their contributions and achievements in this context. It is particularly important to obtain more knowledge about aides' contributions and achievements considering that the Norwegian acts concerning health personnel and health care in the municipalities state that the full responsibility for providing services rests on the PT, including responsibility for the activities performed by others (e.g., aides) (Health-Care-

Services, 2001; 2011, §§ 4-5; § 4). Despite this lack of knowledge regarding how PTs adapt their supervision approach to both the child and care provider and how care providers further apply this knowledge in their daily practices, public health reports accentuate the importance of the increased involvement of care providers in the habilitation of children with disabilities (Health-Care-Services, 2008, 2015).

This project explored supervision in pediatric physiotherapy. We chose a particular field, namely, physiotherapy provided in preschool settings to children with CP, classified at Gross Motor Function Classification System (GMFCS) levels III-IV. These children are of particular interest because they require long-term physiotherapy follow-up that often involves advanced methods, and each child has her/his own personal aide who collaborates with the local PT. Further, due to reduced core stability, postural control and balance (Girolami, Shiratori, & Aruin, 2011), these children require particular care and support, which imply the importance of competent handling skills among aides to enhance the child's development, functionality and participation.

The project was exploratory and qualitative, involving observations of how PTs supervise aides and how aides apply the knowledge gained from supervision in daily contexts. The observations were further complemented by individual semi-structured interviews. We included 21 participants, i.e., 7 PTs, 7 aides and 7 toddlers with CP, for a total of 7 PT-aide-toddler constellations. In our interpretations of the data, we emphasized contextual and interactional factors and connected them to the enactive theoretical perspective, which allowed us to discuss supervision in the light of embodiment, interaction and the creation of meaning. Our results contribute new insights into PT competence and the content and organization of the physiotherapy service in primary health care. Thus, the study benefits children with motor disabilities, their daily caregivers, and policy makers working to improve health care strategies.

# 2 BACKGROUND

In the wake of worldwide changes in health care systems initiated by improved technology, new education programs, demographic shifts, economic demands and health care reforms (Nancarrow & Borthwick, 2005; Nicholls, 2017; Sellars, 2004), PTs have used supervision to accommodate increased health care demands by delegating treatment tasks to others. Although supervision lacks a clear definition, there is a common consensus that supervision relates to a professional relationship that enhances learning and development and promotes patient care (Redpath, Gill, Finlay, Brennan, & Hakkennes, 2015; Sellars, 2004). In the context of pediatric physiotherapy, the implementation of family-centered care (Bamm & Rosenbaum, 2008; Law et al., 1998) and new motor-learning theories (Hadders-Algra, 2000; Kamm, Thelen, & Jensen, 1990) has accentuated and legitimized supervision as a key component of clinical practice.

The evolution of family-centered care has shifted professional practices from 'expert'-driven therapy – direct one-to-one interaction between the therapist and child – to sharing skills, knowledge and experience with the child's parents and other care providers (Beckung, 2014; Lammi & Law, 2003; Law et al., 1998). This shift expanded the role of care providers to involve them in planning and conducting treatment interventions (Jansen, Ketelaar, & Vermeer, 2003; Lammi & Law, 2003), and PTs largely started to define themselves as consultants rather than therapists, i.e., treaters (Paulsen, 1985, 1989). At the same time, neuronal group selection theory and the dynamic system approach provided PTs with new principles for understanding and treating motor disorders (Hadders-Algra, 2000; Kamm et al., 1990). By recognizing the importance of practice and repetition in a meaningful context, PTs started to emphasize the child's exploration and the practice of functional tasks and skills in the context of daily activities and routines (Ahl, Johansson, Granat, & Carlberg, 2005; Hadders-Algra, 2000; Kamm et al., 1990; Valvano, 2004; Valvano & Rapport, 2006). Thus, interventions went from being child-centered to task-oriented; instead of focusing on changing impairments in the child, the new approaches focused on changing identified constraints in the task or environment (Ahl et al., 2005; Lammi & Law, 2003).

As a result of these converging events, supervision became a widely accepted concept and practice in physiotherapy for children, and PTs took for granted that their supervision of others would lead to the integration of professional knowledge into the child's everyday activities. In recent years, however, critical voices in physiotherapy have questioned the practice of supervision and what actually is gained through this practice (Nicholls, 2017;

Nicholls, Reid, & Larmer, 2009). It has even been suggested that the quality of health care decreases when practitioners other than PTs conduct the therapy (Nicholls, 2017). This critical stance is particularly problematic in relation to physiotherapy for children, especially children with CP. Research has shown that for an intervention to be effective, the child's care provider must be knowledgeable about the early manifestations of CP and skilled at using the environment to drive development and specific actions (Morgan et al., 2016; Shepherd, 2013; Spittle & Morgan, 2018).

## 2.1 Supervision in pediatric physiotherapy – what do we know?

The research literature provides brief descriptions of how supervision is provided by pediatric PTs. The supervision process can be encapsulated as follows: 1) provide information about the child, 2) provide written instructions, 3) demonstrate exercises while being observed, and 4) care provider-child interaction, including feedback from PT (Benzies, Magill-Evans, Hayden, & Ballantyne, 2013; Håkstad, 2017; Lillo-Navarro et al., 2015; Øberg, 2008).

Currently, there are few randomized controlled trials (RCT) concerning supervision and child outcomes. The few that exist, along with other studies of supervision, focus largely on the PT-parent-child constellation. A recent systematic review involving parent education indicated a small but significant short-term effect on motor functioning in infants enrolled in RCTs concerning early intervention (Spittle, Orton, Anderson, Boyd, & Doyle, 2015). Beyond that, we have less, if any, knowledge concerning short- or long-term effect of supervision.

According to literature review, the interpersonal complexity of supervision makes it especially difficult to demonstrate the effect of particular supervision interventions (Kilmister & Jolly, 2000). To accommodate this problem, research has instead investigated the educational effect on the person who undergoes supervision. However, the results are inconsistent (Jansen et al., 2003). Some of these studies report that involving parents in interventions enhances the parent-child relationship and increases parents' confidence and their ability to cope with the child's challenges, which are associated with beneficial outcomes for the child (Benzies et al., 2013; Håkstad, 2017; Jansen et al., 2003). In contrast, other studies report that caregiver burden increases, as do overwhelming feelings, when parents must provide therapeutic care that surpasses their practical skills and knowledge, particularly in relation to stretching and passive range of motion exercises (Lillo-Navarro et al., 2015; McCann, Bull, & Winzenberg, 2012).

Regarding the supervision of care providers, such as preschool aides, one study of intensive group training for children with CP reported an interesting side effect: a factor that contributed to improved child outcomes and the maintenance of function during the study's follow-up phase was whether the aides received *daily* supervision in handling techniques and information about how to facilitate the environment and tasks (Sorsdahl, Moe-Nilssen, Kaale, Rieber, & Strand, 2010). Although we cannot draw conclusions based on one study, the results might point to the importance of intensity in supervision to enhance aides' learning.

An overlooked aspect in research concerning supervision is how the characteristics of the child's diagnosis might affect supervision. For instance, CP is caused by damage to the immature brain, which affects the development of motor functioning and posture, accompanied by disturbances of perception, sensation, cognition, communication and epilepsy (Campbell, Palisano, & Orlin, 2012); thus, it comprises a very heterogeneous group of disabilities with variations in severity and motor developmental outcomes. Consequently, each toddler with CP requires individualized therapy; intervention strategies that are effective for one toddler may be inappropriate for another, and optimizing training as the toddler improves and obtains new functionality is challenging, even for PTs (Campbell et al., 2012; Stamer, 2016). Moreover, for toddlers with CP, therapeutic interventions provide a starting point for the refinement and plasticity of the central nervous system (CNS) and may positively impact neural development and skill acquisition (Brodal, 2010; Morgan et al., 2016). However, changing environments and the growth, plasticity, development and maturation of the CNS constantly affect functioning in new ways, good or bad (Stamer, 2016). Movement and experience are therefore important for toddlers' learning, their ability to participate and thus their formation of an identity and a sense of self (Sheets-Johnstone, 2010). These aspects underscore the need for specificity and appropriate timing in physiotherapy for children with CP and the need for competent PTs who continuously adapt their supervision to these ongoing changes. Additionally, they underline the importance of providing therapy to this group of children, and enabling and empowering aides to work effectively and safely on their own.

Children with CP represent many of the challenges PTs face when working with children with other complex conditions and therefore provide a suitable context for exploring PTs' supervision practices. Empirical findings accentuate the importance of being sensitive to a child's bodily expressions and adapting handling to promote new motor strategies and movements (Håkstad, 2017; Øberg, 2008; Øberg et al., 2014). Given these findings, we need

more studies of how PTs convey such skills during supervision and how aides integrate professional handling and attunement into their everyday support and training of the child.

## 2.2 Supervision in physiotherapy – an implicit practice

The literature on supervision in physiotherapy provides knowledge regarding the structures and frameworks of supervision but offers few descriptions of how supervision actually should be performed. One possible explanation for this is that supervision encompasses many different aspects of the profession, such as patient supervision which aims to enhance the patient's self-efficacy and self-management skills (Forbes, Mandrusiak, Smith, & Russell, 2018), and peer supervision of physiotherapy students and novice and expert PTs (Clouder & Sellars, 2004; Lekkas et al., 2007; Sellars, 2004). In the case of peer supervision, all supervision modalities aim to impart ethical insights, knowledge and skills; facilitate personal and professional development; and offer support for the supervisee. Thus, supervision operates across the PT's professional lifespan, demonstrating that professional development is a continuous process and acknowledging the value of experiential learning and reflective practices (Davys & Beddoe, 2010; Schön, 1992). In that respect, supervision is associated with positive *learning* outcomes for the supervisee through collaboration with individuals in the same profession (Moore, Westwater-Wood, & Kerry, 2016). Historically, such learning has been supported primarily through apprenticeship model, which entails a learning process that advances the supervisee from novice to expert under the supervision of a skilled PT (Delany & Watkin, 2009; Lindquist, Engardt, & Richardson, 2004; Patton, Higgs, & Smith, 2013; Richardson, 1999). However, PTs increasingly supervise non-professionals, such as the aides that are the focus of this thesis; in such cases, the purpose of supervision is to empower non-professionals to develop professional handling skills, facilitate tasks and adapt environments in a therapeutic way. This also implies *learning*; however, it differs from peer supervision in that its prerequisites are somewhat different. Specifically, PTs and aides are not professional equals but have an asymmetrical relationship in which the PTs are the authoritative knowledge holders.

The literature concerning supervision in physiotherapy sometimes makes references to more general literature in supervision. This literature spans a broad range that includes fields such as psychology, sociology and philosophy, in which the theoretical underpinnings of learning in supervision originally stem from traditional behaviorist and cognitive learning theories that view knowledge acquisition as a mere cognitive matter, an internal psychological process (Moore et al., 2016; Reed et al., 2010; Rendell et al., 2011). That is, the supervisee (or

learner) actively builds or constructs her/his learning as mental structures that exist in the brain as *mental schemas* or dispositions that are activated in situations that require coping (Illeris, 2009). Additionally, social learning theories, which emphasize external processes between the supervisee (or learner) and her/his social, cultural and material environment, have been incorporated (Rendell et al., 2011). According to the supervision literature, supervision largely emphasizes learning through *talking about* knowledge through reflective thinking, which highlights the importance of the supervisory relationship and the social context (Davys & Beddoe, 2010; Kilmister & Jolly, 2000; Schön, 1992; Sellars, 2004). Such verbal dialogue is described as cognitive processing, in which critical and analytical enquiry into one's own experience is initiated by questions and guidance from an 'expert' (Donaghy & Morss, 2000; Thompson & Pascal, 2012). These supervisory conversations focus on what the supervisee thinks, sees, feels or behaves, in a way that lets the supervisee discover her/his own solutions and decisions. Moreover, observing the attitudes and behaviors of others, such as a skilled supervisor in action, is a central component of social learning theories as observations are believed to enhance intelligent behavior and the ability to adapt and cope with new situations (Jaques et al., 2018). This assumption has been boosted by neuroscience, which shows that mirror neurons in the premotor and parietal cortexes respond to visual actions and code them for motor responses, thus supporting the idea that mental simulation can be prompted by observing another's actions, intentions and emotions (Nelissen, 2018; Rizzolatti & Craighero, 2004).

These learning theories are applicable, but because physiotherapy is a complex activity, other elements need to be added. As previously described, the defining feature of PTs' work is the human body, with an emphasis on posture, movement and bodily actions (Nicholls, 2017; Nicholls & Gibson, 2010). PTs' practical knowledge takes many integrated forms, some of which are tacit or implicit in the way PTs act and interact (Normann, 2013; Øberg et al., 2015) and are therefore sometimes difficult to express in words or detect through mere observations. Thus, physiotherapy is a complex bodily activity that develops through experience.

Pediatric PTs have a professional obligation to adequately supervise non-professionals, such as aides (Health-Care-Services, 2001; 2011, §§ 4-5; § 4). When dealing with non-professionals, PTs face additional challenges because they must teach handling skills and treatment tasks that they have spent years learning.

# 3 STUDY AIMS AND RESEARCH QUESTIONS

In light of developments in pediatric physiotherapy, new motor learning theories, and changes in the content of practice, we need to know more about a particular aspect of contemporary practices in pediatric physiotherapy, namely PTs' supervision practices. The aim of our study is to explore the supervision of non-professionals in pediatric physiotherapy and to generate knowledge about aspects of this practice that are important for the development of competence in non-professionals. The overall research question was as follows:

What characterizes the supervision of non-professionals as a clinical practice in pediatric physiotherapy?

The secondary research questions addressed in the three included papers were:

1. How do PTs perceive the management and dissemination of professional knowledge during clinical encounters?
2. What is the relationship between the interaction and dissemination of knowledge during clinical encounters?
3. How do aides bring experiences from the supervision session into their daily work with the child?

# 4 THEORETICAL PERSPECTIVE

Physiotherapy in pediatrics involves embodied interactions, social processes and contextualized knowledge (Håkstad, 2017; Øberg et al., 2014). This understanding of clinical practice has inspired my study of supervision practices in pediatric physiotherapy. Enactive theory, a new theory regarding embodiment and cognition, has previously been introduced in clinical studies of physiotherapy and used to successfully analyze the complexity of the practice (Håkstad, 2017; Lahelle, Øberg, & Normann, 2018). Because physiotherapy is a complex practice, supervision practices in physiotherapy must also be complex. Therefore, I chose enactive theory as the underpinning framework for this study.

## 4.1 Enactive theory

Enactive theory is an embodied cognition approach that understands the mind and human ways of knowing by integrating insights from phenomenology, pragmatism, biology, dynamical systems theory, psychology and cognitive neurosciences (Froese & Di Paolo, 2011; Gallagher, 2017a). The enactive approach offers a new and innovative perspective on how the mind, body and environment are interrelated sets of processes, and thus form the core of our cognition and how we understand ourselves, the world, and others (Gallagher, 2017a). This is in contrast to the traditional Cartesian understanding of the body as a purely physical mechanism – a biomechanical system – in which the mind or consciousness is viewed as a product of the brain (Gallagher, 2017a). Thus, the mind is not a predetermined *thing* located in the brain, but an *evolving* capacity embedded in the brain, the environment, our (inter-) actions, and all biological and bodily systems, i.e., sensory, motor, nervous, immune, endocrine, etc. (Thompson, 2007).

Enactive theory builds on a synthesis of five intertwined tenets (Di Paolo, Rohde, & De Jaegher, 2010). At its center is our *autonomous* nature and how we perceive ourselves, others and our surroundings through (inter-) active processes of *sense-making* (knowing). Our identity and ways of knowing *emerge* from this 'to-from' interaction between the mind-body and our surroundings. Thus, *embodiment* plays a crucial role in sense-making (knowing), whereas *experience* enables us to comprehend, learn and develop skills (De Jaegher & Di Paolo, 2007).

The enactive approach is nonreductive in nature. This means that all its basic ideas are interrelated parts and thus belong under a single banner (Di Paolo et al., 2010). However, to

enable the reader to comprehend its complexity, the following presentation is divided into six subchapters that describe sense-making in terms of (1) embodiment, (2) motor experience and skill acquisition, (3) the grounding of values and transformation of knowledge, (4) the constitution of thinking and language as a mediating tool, (5) the emergence of identity and (6) social perception through participatory processes.

## 4.2 Sense-making as a mind-body-environment interaction

At the center of supervision is the meeting between the PT, aide and child in an intimate setting; as such supervision is a meeting between minds and bodies. Building on the phenomenology of the body, the enactive approach highlights how the mind-body and its surroundings constitute an essential relationship in which we always aim or direct our efforts *at* something or someone in our surroundings. This basic directedness is termed embodied intentionality, and it involves the body as the center from which we make firsthand experiences (Gallagher, 2012). In clinical encounters, the PT, the aide and the child all display a certain intentionality that orients each of them (individually) towards a specific point of seeing, hearing, and acting. This mind-body-environment interaction is what the enactive approach conceptualizes as embodiment (Di Paolo et al., 2010; Gallagher, 2017a). Furthermore, as human bodies, we are adaptive and autonomous, which means that we are all living, self-organizing beings who continuously self-generate and regenerate our goals, significance and meanings through our active engagement with our surroundings (Di Paolo et al., 2010). In enactive theory, this dynamic interaction between the mind-body and our surroundings is termed *sense-making*, a process through which meaning and understanding emerge to create our knowing or 'know-how' (De Jaegher & Di Paolo, 2007); thus, 'sense-making' comprises several meanings, including knowing. Consequently, meaning and understanding are found neither in the surroundings nor in the individual, but in the relational bond connecting these two entities. In this respect, the enactive notion of cognition is expanded to include processes that occur *between* the mind-body and our surroundings (Gallagher, 2017a). In pediatric physiotherapy, different contexts (e.g., homes, preschools, and schools) create inherently different contextual affordances, which influence what PTs make relevant in clinical encounters, including various forms of knowing. Contextual factors also represent the background of the child's life and experiences, including the physical, social and attitudinal environment, and thus inform the therapist's clinical reasoning and decision-making (Øberg et al., 2014; Øberg et al., 2015).

## 4.3 Sense-making, motor experience and self

The aim of supervision is to empower other people (aides in the case of this thesis) by enhancing their skills. According to the enactive approach, skill development is a flowing and dynamic process involving both pre-reflective and reflective forms of sense-making (McGann & De Jaeger, 2009). As previously stated, our sense-making (knowing) emerges from the *to-from* structure comprised of the unity of mind and body engaging with our surroundings. This ongoing process of feedforward-feedback cycles (i.e., rounds of trial and error) gives rise to experience, particularly motor experiences. Movements and motor experiences are further made possible through neural processes, such as central (brain processes) and peripheral (proprioceptive and sensory) systems that inform us about obstacles in our surroundings, body posture and limb positions (Gallagher, 2005). Thus, there is a fundamental relationship between *bodily* movements and cognition, i.e., skill development and 'know-how' are not strictly mental processes that occur 'in our heads' but are ongoing mind-body-environment interactions involving proprioception and kinesthesia (Gallagher, 2005). According to the enactive approach, our consciousness is structured by two different but closely related perceptual systems: body image and body schema (Gallagher, 2005). Body image pertains to a reflective awareness (attitudes and beliefs) of our body, while body schema derives from sensory-motor capacities that largely function without our awareness. Novel movements (i.e., learning a new skill) may motivate reflective perception of our body and thus are more body image driven, while 'automatic' movements enable us to direct our attention away from the body and towards the environment or task; thus, the body schema drives these actions. From my experience as a PT, I may be aware of how to use my hands to facilitate extension of the child's trunk but may not be aware of my hands as *objects* to manipulate. Thus, my 'know-how' resides *in my body* as a tacit performance and not in a reflective awareness of the hands and the positioning of the fingers.

Empowering aides then should involve enhancing their agency in everyday practice. Both body schema and body image are closely related to awareness and ownership of actions, i.e., the sense of agency and the sense of ownership (Gallagher, 2005). Sense of ownership involves a strong afferent component that indicates the state of the body, e.g., a child with CP may experience that a part of her/his body is moving when I as a PT stretch her/his elbow flexors [1]. In a more superficial sense, sense of ownership also includes a sensation of being the

[1] The distinction between sense of agency and sense of ownership may be found in both reflective consciousness and pre-reflective experience (Tsakiris, Schütz-Bosbach, & Gallagher, 2007). In this study, we are primarily concerned with this distinction at a pre-reflective level.

owner of ideas and activities; e.g., I can self-ascribe those ideas as mine, but I may not have the sense of being the initiator of those ideas, as may be an aide's experience when she/he integrates a PT's instructions into her/his daily practices. Sense of agency involves a strong efferent component as it is the sense of intending and executing actions (Gallagher, 2005), e.g., when I as a PT experience that I initiate and control my own hand movements when stretching a child's flexors. In a more superficial sense, sense of agency also includes a feeling of control (i.e., agency) in daily life that enables us to act and interact with our surroundings in a flexible way. Thus, sense of agency is closely related to autonomy; we are in control of our own choices and actions, such as when an aide performs therapeutic actions in a random sequence (individualized to the context and the child) instead of following a recipe. In sum, our sense-making (knowing) is not a pre-given capacity; instead, it evolves from the position and posture of our perceiving body in and through movement, and constitutes our embodied self (Gallagher, 2005; Sheets-Johnstone, 2010). We experience our actions differently depending on whether we are in 'the driving seat' or are instructed (or passively moved) by others. Attitudes and beliefs pertaining to our own bodies may enhance self-confidence. Both body image and body schema are integrated parts of such bodily experiences, while the capability to (inter-) act provides a sensation of embodied knowledge of *I-can* (Sheets-Johnstone, 2010).

### 4.4 Sense-making, values and the four modes of concern

Through supervision, PTs convey professional knowledge to aides, who in turn is meant to utilize this knowledge in their everyday practice. According to the enactive approach, a basic capacity for sense-making ('know-how') is the agency we produce through our adaptive and autonomous nature (Froese & Di Paolo, 2011). This means that we are always concerned in our engagements; we attend to things that appear relevant and significant to our goals and intentions and ignore other things. In supervision, for instance, there might be certain topics that an aide understands and relates to better than others. Furthermore, in our engagements, we fluctuate between four modes of concern[2] (Di Paolo et al., 2010). *The point mode* refers to here-and-now coping; it involves concrete, goal-directed activities in which meaning is well defined by situational constraints. This apply to most everyday activities, such as dressing a child for an outdoor activity, setting the table, preparing meals and so on. *The line mode* involves a larger spatial range then we occupy in the point mode and refers to a here-and-then

[2] The four modes of concern were originally developed by psychologist Margaret Donaldson (1993) to describe child development; however, according to the enactive stance, they are meaningful when explaining how people in general understand and make sense (Di Paolo et al., 2010).

coping. This involves purpose-generating activities in which meaning is more fluid and is constructed on the fly. Additionally, this mode concerns events that we perceive at a distance *from the present*, although the expected outcome of the events have not yet taken place. That is, we plan for the future by drawing upon knowledge from the past, and in that way, potential future occurrences direct our actions in the here-and-now (i.e., in point mode). This occurs, for instance, when I as a PT arrange the therapeutic space for a child I have treated before; in this case, I have some previous experience regarding the child's motor function and interest in toys and play activities. *The construct mode* involves the decentering of cognitive activity, in which we think abstractly and reason about events that occur in some remote time and place. We are no longer restricted to the consideration of events that concretely exist in our own experience but can consider the general nature of things. In treatment, for instance, I as a PT may pick up a pen and use it as a flying spaceship to stimulate movement patterns such as grasping and reaching in the child (even though neither I nor the child have necessarily been on a spaceship). Thus, the construct mode involves *seeing* something *as* something else in a transformation of meaning (Gallagher & Lindgren, 2015, p. 396), e.g., seeing beyond the pen *as if* it was involved in such actions. *The transcendent mode* refers to nowhere-coping and involves the concepts and ability to identify patterns of relationship (i.e., similarities and differences) between situations and ideas (Di Paolo, Buhrmann, & Barandiaran, 2017). In the example with the pen, in this mode, I as a PT might motivate the child to perform similar grasp and reach movements but in other contexts: for instance, during outdoor climbing activities or as integrated movements in daily activities, such as stretching an arm while putting on a jacket.

Most of the time, we engage in a mix of activities across all four modes, although sense-making in both the abstract and transcendent mode can sometimes be challenging to attain (De Jaegher, 2013a; Di Paolo et al., 2017). As we progress through these modes from beginners to 'experts', experience is transformed, i.e., our perceptions and actions shift, transforming the meaning inherent in the activity, and our goals and intentions start to operate in different ways (McGann, De Jaegher, & Di Paolo, 2013). Thus, the ability to transition our knowing or sense-making within and between contexts is not achieved through the right kind of *information*, but through the right kind of *transformation* (Di Paolo et al., 2010). In that respect, knowing is not pre-determined but co-evolves with changes in our decisions and (inter-) actions. Furthermore, the enactive approach foregrounds values as the basis for all sense-making (knowing). Once we imbue the environment, objects or actions with meaning,

they become valuable to us and thus constitute affordances, dispositions or action-tendencies that vary across different situations and contexts (Di Paolo et al., 2010). This means that experience is shaped by the way we engage with experience (Di Paolo et al., 2010). Therefore, not every experience provides the opportunity for transition, although it occurs over time (McGann & De Jaeger, 2009). Notably, interest, motivation and affection are important bodily and emotional states that drive our ability to understand and participate in challenging actions that require coping. We experience emotion and thus knowing only in relation to things that are of concern. Each emotion has different agencies in the ongoing mind-body-environment interaction, suggesting that cognition and emotion are not separate domains but are deeply continuous with one another (De Jaegher, 2015).

### 4.5 Sense-making, thinking and languaging

The use of language is crucial to the supervision process and can be considered a particular kind of sense-making, i.e., PTs generate meaning *in languaging* with aides during supervision. According to the enactive perspective, languaging is an activity – a way of living, not a static thing; hence, the enactive term 'languaging' as opposed to 'language' (Cuffari, Di Paolo, & De Jaegher, 2015). That is, spoken words are not something that is added, i.e., an external medium for sharing internal thoughts; rather, we are always immersed in languaging. This is why it is so difficult to say where languaging begins or ends, and how it supports thinking and action. From the enactive perspective, conceptualizing, thinking and languaging are grounded in body experiences via metaphors that arise from sensory-motor experiences, and thus depend on embodied-environmental processes (Cuffari et al., 2015; Gallagher, 2017a; Gallagher & Lindgren, 2015). For instance, from the very beginning, the opening and closing of an infant's hands or a toddler's play activities, such as peek-a-boo and hide-and-seek, can translate into abstract thoughts of *appearance-disappearance* later in life (Gallagher, 2017a; Sheets-Johnstone, 2010). For example, as a PT my understanding of professional concepts, such as balance and/or postural control, may also derive from a combination of (pre-reflective) motor experiences of falling, clinical experiences from treating balance disorders and a theoretical understanding of the efferent networks that generate action dynamic stability, which are often termed anticipatory postural adjustments (APAs) in physiotherapy (Shumway-Cook & Woollacott, 2007). Thus, PTs may have a more complex understanding of the term 'balance' than aides but may be unable to explain it explicitly through spoken words. Thus, while words and concepts are patterns available for enacting certain forms of sense-making (Cuffari et al., 2015) (e.g., in the case of PTs'

professional jargon), they require some shared experiences (De Jaegher, Peräkylä, & Stevanovic, 2016). Furthermore, words and/or languaging in combination with bodily utterances (e.g., hand gestures, gaze, etc.) allow us to conceptualize and shape reality in both a material and social sense; therefore these acts function as mediating tools in our sense-making processes, including thinking and reasoning (Cuffari et al., 2015). Clinical reasoning in physiotherapy, for instance, cannot be reduced to a purely intellectual event; rather it is an embodied process enhanced by eye-gaze and gesture as the PT interacts with the child. In other words, it is a kind of proprioceptive/kinesthetic communication that emerges through bodily interactions in a pre-reflective manner (Øberg et al., 2014; Øberg et al., 2015).

### 4.6 Sense-making and the concept of identity

Supervision constitutes a teaching-learning context in which the PT and aide exchange, modify and develop skills in a way that allows the child to benefit from more advanced care. This transition of skills might mark an important change in the PT's and the aide's identity. According to the enactive approach, identity is closely related to autonomy, i.e., we always care about what happens, and thus, we direct our attention and actions towards potential benefits or harms. In doing so, we generate an identity: a sense of who we are and where we are aiming (Di Paolo et al., 2010). Over the course of our lives, culture, history, experience, and different contexts and people shape and form our identity. Thus, identity is changeable. In the context of physiotherapy, the PT identity relates to a profession, a group of similarly qualified people with a unique body of knowledge and training, including cultural and historical heritages (Nicholls & Gibson, 2010). Over time, the PT role has changed as a result of professional bodies, policies and public perceptions (Nicholls, 2017). Although the traditional PT role is related to treatment, a diversity of professional identities are possible among municipal PTs working with children, including therapists, consultants, and facilitators (Paulsen, 1985, 1989). Furthermore, in our daily coping, our actions shape our identity, and in turn, our identity shapes our actions. Therefore, skills (both motor and social skills) and identity are complementary concepts; changes in one often involve changes in the other. This means that aides can progress from being vulnerable to being empowered and from novices to experts, i.e., their self-perception is linked to their daily tasks and coping during this transition. A particular identity also allows us to distinguish ourselves from others, as in the case of the distinction between PTs and aides. This occurs because some of our engagements are asymmetrical; that is, we hold different kinds of identities and designated roles. Inherent norms, values, skills and action-tendencies color our perceptions; thus, they constrain or

modulate the way we regulate our interactions in such engagements, and may require constant rounds of negotiations. In supervision, for instance, the PT may strive to connect and interact with the aide while simultaneously ignoring the child's initiative - and vice versa. Thus, we can assume different identities simultaneously within the same context or in different contexts, situations and interactions, and these identities will always act in relation to the identities we maintain during our engagements (De Jaegher, Peräkylä, et al., 2016). This implies that we are always precariously vulnerable. However, precariousness does not results only from an external threat to our personal integrity; it is also a necessary (internal) enabling condition for how we proceed in our engagements, which further suggests, as previously stated, that identity is not a static condition but is situation- and context-dependent.

### 4.7 Participatory sense-making

Given my clinical experience as a PT, the literature review findings regarding physiotherapy as a complex practice and the tenets of the enactive approach, we may assume that supervision is a highly *participatory* process for the PT, aide and child. While sense-making as such is an embodied process in which we actively regulate our engagement with our surroundings, social interaction – through patterns of bodily coordination, mismatches, breakdowns and reestablished engagements - allows us to share our sense-making with others. This shared form of sense-making is called *participatory sense-making* (De Jaegher & Di Paolo, 2007) and occurs to various degrees; at one end of the spectrum, we find orientation, in which our attention is *coordinated-to* an event, process and/or other people. Orientation is not very participatory because there is not much mutuality in the sense-making, e.g., the aide observes the PT's actions at a distance. At the other end of the spectrum, is full participatory sense-making, in which we gain new insights through joint actions that are *coordinated-with* one another through a process that would not be possible to achieve on our own, according to the enactive description (Di Paolo et al., 2010). Here, our sense-making activities increasingly and mutually change through embodied interaction – a sensory-motor process called primary intersubjectivity (Gallagher, 2005; Trevarthen, 1979; Øberg et al., 2015). When applied to supervision, we would assume that this kind of embodied interaction entails understanding among the PT, aide and child based in part on facial expressions, posture and movements. In that respect, physical interaction involving therapeutic handling and functional exercises, could be considered part of the communicative exchange between the PT and aide. As previously stated, the context itself also adds meaning, which means that the supervision context will color how the PT, aide and child understand one another and thus will contribute to the generation of meaning through participatory processes.

However, in social interactions, we are always autonomous, i.e., even as we relate to other people, we are distinct individuals (De Jaegher & Di Paolo, 2007). Consequently, our sensory motor capabilities, embodied habits, history of actions, societal norms and cultural patterns shape the way we consider, understand and interact (Di Paolo et al., 2010). Both PTs and aides may hold different assumptions and experiences that may influence how and what they emphasize during supervision. Hence, full participatory sense-making consists of several temporal and complex processes, and these processes that become even more complex when more than two people are involved because each added person is independently and interdependently engaging with both the environment and the other people. In this view, coping with features that can and often do change unexpectedly, i.e., in encounters that vary from context to context, from situation to situation depending the participants, requires social perception and understanding based on the mastery of self-other contingencies (McGann & De Jaeger, 2009). However, we do not always control the interactions in which we engage, and sometimes, the interaction process itself can move in various directions, forming and transforming our intentions and sense-making in the same way that we can form and transform the interaction.

# 5 METHODOLOGY AND METHODS

In this study, we investigated the phenomenon of supervision in the context of pediatric physiotherapy to explore the characteristic features of supervision and to identify significant elements in the development of competences in non-professionals. We recognized that pediatric physiotherapy is a complex, embodied, intersubjective process that occurs among the PT, the aide, and the child in dynamic and changeable contexts and interactions.

By positioning the study within enactive theory, we take on some of the fundamental methodological consequences of this theory, i.e., the diversity of philosophical perspectives on which the theory is built. The enactive contribution includes a rethinking of the epistemology and ontology of living, allowing us to disclose the dynamic, temporal and relational nature of cognition and life phenomena by viewing the relationship between mind-body and world as dependent and co-evolving, rather than as a representation of a pre-given world by a pre-given mind (Di Paolo et al., 2010). In that respect, the enactive approach offers an alternative to both subjectivism and objectivism – an 'entre-deux'- by grounding cognitive scientific investigation in the phenomenological and hermeneutical analysis of lived experience (Gallagher, 2012). This allows us to explore and interpret supervision and its complexity according to the information and meaning conveyed and generated through the participants' lived bodies, subjective experiences and interactions (De Jaegher, Pieper, Clénin, & Fuchs, 2016).

Furthermore, the enactive positioning has implications for the researcher. According to the enactive approach, nobody has privileged access to an external reality of truth. Therefore, the researcher is both the subject and object of the investigation, i.e., the researcher engages in different social interactions while simultaneously investigating and detecting aspects of both subjectivity and intersubjectivity in those interactions (De Jaegher, Pieper, et al., 2016). Hence, the researcher is never a detached, passive observer; rather, s/he bring her/his embodied experiences to all stages of the research process and thus becomes an embodied '*instrument'* in the investigation (De Jaegher, 2016). Thus, I recognize that my pre-assumptions, i.e., prior knowledge, sensations, feelings, thoughts and values, along with internalized social and cultural norms, have guided my sense-making processes from the beginning to the end. In the parts of the research process where I exchanged my sense-making with my supervisors, we challenged, questioned and negotiated each other's pre-assumptions and sense-making to reach a consensus.

Nevertheless, the enactive approach involves a different kind of intellectual inquiry than contemporary scientific approaches (Gallagher, 2017a, pp. 22-24). By emphasizing the questions asked rather than the methodological associations, the enactive approach opens up the possibility of investigating particular phenomena, such as supervision, by using different conceptions across disciplines that usually operate in *isolation* from one another (Di Paolo & De Jaeger, 2015; Froese & Di Paolo, 2011; Gallagher, 2017a). For instance, the enactive approach has strong roots in biological principles, and at such concerns itself with not only human agency but with the continuity of all living systems (Di Paolo et al., 2017). Therefore, positioning the study in enactive theory requires particular care. This holistic conception may be challenging to operationalize due to the intertwining of many disciplinary traditions with their own theories and vocabularies based on particular assumptions regarding ontology and epistemology (Blaikie, 2007; Froese & Di Paolo, 2011; Polit & Beck, 2012). However, a driving force in the enactive approach is to explore phenomena from different angles and perspectives. In the current study, we addressed this issue by adopting conceptual tools that are shared among these perspectives, which further enabled us to integrate a diverse set of observations to our explorations (Di Paolo & De Jaeger, 2015).

There are a variety of contemporary approaches within enactive theory that broadly view mind-body and world-directed action and perception as co-constitutive entities (Gallagher, 2017a). In our study, however, the emphasis was on the enactive approach that builds on the works of Varela (1991), Thompson (2007), Di Paolo (2017), De Jaeger (2007) and Gallagher (2005, 2012, 2017a). Thus, any references to the enactive approach relate to this particular approach unless otherwise stated.

## 5.1 Study design

In alignment with the study's aim of exploring and generating new insights into supervision in pediatric physiotherapy, we adopted a qualitative, exploratory design. We chose to explore supervision in the context of physiotherapy provided in preschool settings for children with CP who have a personal aide responsible for daily follow-up under the supervision of a PT. The qualitative, exploratory design included in-depth interviews and observations and addressed both the PT and the aide perspective: We first we observed and video-recorded a clinical session involving supervision and then interviewed the PT immediately after that session; then, one week later, we observed the aide throughout an entire work day, video-recorded sequences of interests (i.e., sequences that involved elements from the supervision

session) and then interviewed the aide at the end of that working day. The child perspective was addressed indirectly through the perceptions, actions and interactions of the PT and aide.

Combining these two methods allowed for a more complex understanding of supervision in pediatric physiotherapy that more thoroughly reflected actual practice in physiotherapy in a way that single methods cannot. Observation provided contextual, temporal and interactional information regarding how PTs perform their supervision practices, and further, how aides apply this knowledge in their everyday practices. The interviews provided opportunities for the PTs and aides to reflect on own experiences related to the observed observations as well as their general views and experiences concerning supervision and daily support and follow-up of children with CP.

The aim of the study was not to test the truth of opinions and actions (Polit & Beck, 2012). We did not ask the PTs and aides to justify *why* they do what they do; instead, we sought insights into what they did and how they did it by obtaining privileged access to their basic lived doings and experiences of supervision and knowledge application.

## 5.2 Study context

The study was conducted in seven different municipalities in the Norwegian primary health care setting, in which pediatric PTs serve to enhance motor development and prevent functional impairments and disabilities in children with disabilities, including children with CP.

An overarching political view in Norway holds that society is responsible for the welfare of its citizens, which includes providing high-quality health services within acceptable waiting times and distances regardless of the citizen's financial situation, social status, age, gender and ethnic background. The Norwegian healthcare system is the result of a dynamic interplay among political provisions, health needs, public expectations, various professions' demands, interests groups' involvement and available sources (Health-Care-Services, 2015). Since these are changing elements, the health care system is in constant development.

Organizationally, the Norwegian health care system is based on the principle of local self-government and decentralization. This means that the government controls the health care policy and finances the hospital sector (i.e., secondary care), while the municipalities organize and finance primary health care services (Health-Care-Services, 2008). Currently, there are approximately 440 municipalities spread across 19 counties in Norway (Ringard, Sagan,

Saunes, & Lindahl, 2013). The primary health care services we see today were established through the Norwegian Primary Health Services Act of 1984 (Health-Care-Services, 2008), which in turn were replaced by the Norwegian Coordination Reform in 2012 (Health-Care-Services, 2015). The new reform aimed to ensure better coordination of health care services, between both primary and secondary care and within each care level (Health-Care-Services, 2015). However, despite the goal of creating a primary health care system that coordinates services more closely, the municipalities continue to organize health care services (as before the coordination reform) as separated and independent entities, e.g., general practitioners' office, child and school service, physiotherapy service, etc. (Health-Care-Services, 2015).

The physiotherapy service is further organized into two branches: employed municipal PTs and private practice PTs on contracts (special agreements). In larger municipalities with high population figures, PTs work in specialized fields, such as pediatrics, while in smaller municipalities with low population, PTs work with patients throughout the lifespan (i.e., 0-100 years). Families and their children have direct access to physiotherapy services, i.e., they do not need a referral from a medical doctor. A common feature is that PTs treat children in homes, preschools and schools, but there can be local variations due to political and economic constraints. Norwegian PTs have a great deal of autonomy, i.e., they are entitled to choose and perform assessments and treatments they find suitable for the child and its family. However, they are subject to certain guidelines through the Health Personnel Act (Health-Care-Services, 2001). The PT workforce ranges from experienced professionals to recent graduates. Regarding competence building, PTs commonly take courses related to the patient groups they serve in clinical practice, including children with CP.

In Norway, the prevalence of CP is 2.4 per 1000 live births (CPRN/CPOP, 2017). CP is classified into three sub-groups: spastic, dyskinetic and ataxic CP (Andersen, 2011). In the Norwegian population with CP, approximately 86%, 7% and 4% of children have spastic, dyskinetic and ataxic clinical features, respectively (CPRN/CPOP, 2017). Children with CP are frequently encountered by many PTs in the municipalities. However, a single PT alone cannot provide all the services that a child with CP needs. Due to the heterogeneity of this group, these children need numerous services at the same time and require life-long follow-up. These needs require a collaborative approach to ensure integration and continuity; consequently, PTs depend on exchanging knowledge with others who see the child on a daily basis, such as preschool teachers and aides.

In Norway, PTs collaborate extensively with preschools[3], which are responsible for the daily care of children with CP. The municipalities are in charge of organizing and adapting preschool services to meet national legislation and local needs. In Norway, preschools are viewed as the first step in lifelong learning and an investment in future productive citizens (Ellingsæter, 2014). Therefore, Norwegian preschools are integrated into the national educational system, where The Kindergarten Act[4] regulates the preschool content and organization (Education-and-Research, 2005). Norwegian preschools can be public or private and offer half- or full-day service all year round for children between 0 and 5 years of age. Typically, the preschools (both public and private) are organized around a head teacher who is responsible for the administration of the whole preschool, and pedagogical leaders who lead their own age-based unit of children (i.e., 0-3 years and 3-5 years) (Ellingsæter, 2014).

To ensure equality, an overarching goal for the last two decades has been to enroll *all* children in the preschool system, including children with special needs/disabilities (Bae, 2010). Consequently, the composition of children has changed, i.e., the proportions of toddlers, immigrant children and children with special needs/disabilities have increased significantly. This requires staff with complex expertise, a need that is currently not achievable due to shortages of qualified staff (Ellingsæter, 2014). Thus, Norwegian preschools rely extensively on aides, who do most of the daily 'hands-on' work with the children (Steinnes & Haug, 2013). However, preschools providing services to children with special needs/disabilities, such as children with CP, receive additional funding from the municipalities to provide additional resources in the form of extra staff, i.e., aides[5]. The educational background of these aides ranges from little or no education beyond secondary school to special education-certified preschool teachers (Steinnes & Haug, 2013). Regardless of their educational level, they are commonly called 'aides'. These aides facilitate the environment, adapt activities, and provide training to promote better functioning and participation in daily life, usually under the supervision of a PT. However, preschools utilize aides differently (Steinnes & Haug, 2013).

[3] The term 'kindergarten' is more commonly used in the Norwegian context, but since we used the term 'preschool' in all three papers, we have used it throughout the thesis. However, we use 'preschool' in the Norwegian sense of the word. In Norway, preschools promote children's agency and are an integral component of childhood education (Bae, 2010). Therefore, 'preschool' is provided for all children under the age of five. Other countries, such as the United States and the United Kingdom, distinguish between *care* for children between 0-3 years of age and *preschool* in school-like settings for children between 3-5 years of age.
[4] The first Kindergarten Act was introduced in 1975 (Haug & Storø, 2013). The current Kindergarten Act (Act no.64 of June 2005) was enacted in January 2006 (Education-and-Research, 2005).
[5] In some texts, they are referred to as assistants. To avoid confusion with the term 'physical therapy assistant', which is a substantially different term used in the United States and the United Kingdom, we have used the term 'aide' throughout the thesis.

In some preschools, aides follow a one-to-one approach, in which they focus primarily on a particular child; in other preschools, aides serve as resources for the entire unit, focusing on all the children but taking the primary responsibility for the particular child in need. Currently, there are no specific requirements or nationally specified training routes for aides that allow them to develop skills in specific fields (Steinnes & Haug, 2013).

In sum, PTs and aides occupy to two separate and independent sectors, i.e., health care and education, each of which has its own specific legislation. Within the coordination reform, there are some suggestions concerning inter-sector cooperation, for instance, between the physiotherapy service and (pre)schools (Health-Care-Services, 2015). However, the established divisions (both organizational and legislative) between health care and education (and other sectors, for that matter) are currently not designed to accommodate these suggestions.

## 5.3 Recruitment and study participants

In our study, we sought to include participants with characteristics that were specific to the particular context in which we chose to explore supervision in pediatric physiotherapy. Consequently, we included PTs who provided regular supervision of an aide responsible for the daily follow-up of a preschool child with CP classified as GMFCS level III or IV, and aged between one and six years.

Study participants were recruited by using a purposive sampling approach (Polit & Beck, 2012). Recruitment began after formal approval was received from the Norwegian Center for Research Data (NSD) (appendix 1). Hospital PTs working at two habilitation units, one in southern Norway and one in northern Norway, recruited the children with CP by contacting their parents. The hospital PTs provided both oral and written information (appendix 2) about the project. Interested parents returned a signed informed consent to me as the PhD-candidate via the postal system, and I then contacted the parents and obtained the contact information of the child's local PT and preschool aide. Next, I contacted the municipal PT and preschool aide, provided oral and written information about the project and obtained written consent (appendix 3 and 4).

Initially, the parents of ten children gave their consent to participate. Three of these children were excluded because the PT declined to participate. Eventually, 21 participants were included in the study: seven children with CP and their respective PTs and preschool aides,

for a total of seven PT-aide-child constellations. Additionally, the other parents and children at each preschool were informed of the project and told that a researcher would observe and make video-recordings at the preschool, both in the child's unit and in the outdoor area. At any time, any of the children were free to inform me whether they wanted to be observed and/or video-recorded. For the children included in the study, I introduced myself at each visit and gave oral information about the reason for my presence to ensure the child's consent when possible. Due to lack of language and/or cognitive understanding, the youngest children were unable to provide feedback regarding whether my presence was acceptable to them.

The education level of the seven participating PTs ranged from the recent completion of a bachelor's program in physiotherapy to postgraduate training in pediatric physiotherapy. The variety in the professional backgrounds of the PT sample reflects the typical diversity among PTs in the Norwegian primary health care system (Øberg, 2008). Concerning working conditions, six of the PTs were employed by the municipality, whereas one PT worked on contract (special agreement). Due to economic constraints, one of the municipal PTs did not provide therapy in homes and (pre)schools. Instead, the children came to a clinic at the health care center. The aides ranged from inexperienced/unskilled with no education other than secondary school and limited work experience with children with CP and their typically developing peers to more experienced and educated aides with several years of experience with children with CP. Additionally, the aides had diverse educational backgrounds, although a preponderance of the aides had a low education level, which is described as typical among this occupational group (Hannås & Hanssen, 2016).

Four of the participating children with CP were at GMFCS level III, and three were at GMFCS level IV. GMFCS[6] is a five-level age-categorized system used to describe the child's current motor function abilities and limitations and to measure any progress or reversal in motor function over time (Andersen, 2011; Campbell et al., 2012; Sørsdahl, 2010). GMFCS levels III and IV are characterized by limited abilities to maintain head and trunk postures against gravity (Campbell et al., 2012; Gorter et al., 2009). Children classified as GMFCS level III may require adult assistance to assume sitting and standing positions during the first years of childhood and often have walking difficulties, even when using mobility devices

[6] Level I represents the best gross motor abilities, and level V represent the worst. The GMFCS consists of different age bands within each level; 0-2 years; 2-4 years; 4-6 years; 6-12 years; and an adolescent line (Gorter, Ketelaar, Rosenbaum, Helders, & Palisano, 2009). Research suggests that distinguishing between levels II, III and IV can be difficult when classifying children less than 4 years old as more clinical information becomes available as the children grow and develop (Palisano, Cameron, Rosenbaum, Walter, & Russell, 2006).

such as crutches or walkers (Campbell et al., 2012; Gorter et al., 2009). Children classified as GMFCS level IV require both adult assistance and adaptive equipment for sitting and standing and are not able to walk at all; they depend on a wheelchair for mobility (Campbell et al., 2012; Gorter et al., 2009). By comparison, children classified as GMFCS levels I-II can transition independently between positions (i.e., lying, sitting, and standing) and walk independently in all kinds of settings (Campbell et al., 2012; Gorter et al., 2009). According to the Norwegian CP register, 7% and 9% of the children with CP are classified as GMFCS levels III and IV (CPRN/CPOP, 2017). More information about the participants is provided in appendix 5, tables 1-3.

## 5.4 The starting point

Looking back in time, my thesis arose from my experiences as a PT in clinical practice, where I asked such questions as 'what is the rationale behind supervision?', and 'what will happen to clinical practice when *others* are taught to do the therapeutic work?' In addition, I believed that the more knowledgeable PTs became in certain strategies, the stronger the supervision would be. This belief was part of my 'instructional' perspective at the time, and it reflected the culture in which I worked. However, my curiosity resulted in a qualitative pilot study (i.e., a master thesis) involving three individual semi-structured interviews of experienced PTs concerning supervision in pediatric physiotherapy (Sørvoll, 2012). During this process, my perspective on supervision transitioned, and I became aware of the importance of the social context and bodily interactions during the teaching-learning process. These new insights formed the starting point of the current study. Then, in preparation for data collection, I conducted a minor test study involving one video-recorded observation of a supervision session combined with an aide interview. The test study provided valuable feedback concerning the relevance of aide questions and the conduct of video-recorded observations. Particularly significant was the experience regarding angle and camera focus, i.e., how to capture ongoing interactions among the PT, aide and child within the camera's viewing field. Instead of using the zoom function to capture details of handling techniques, responses and communication, it worked better to move closer to the participants and thus get a better impression of the whole context, i.e., the facial expressions, the body language and the interactions of all three participants. The test study also allowed me to become attuned to the role of researcher.

## 5.5 Data collection

The data collection period was from January to December 2014. I was in charge of all data collection, and visited each child twice over a two-week period. In one case, the child became ill, and I had to reschedule the second visit for the week afterwards (i.e., to the third week after the first observation). In total, I conducted 14 visits in seven different municipalities spread across the northern and southern parts of Norway. As previously stated, at each first-visit, I observed and video recorded the clinical encounter involving the PT-aide-child constellation, followed by an individual PT interview. During each second-visit, I observed the aide and child throughout an entire preschool day and video-recorded sequences that involved the aide-child constellation and sometimes only the child and his/her interactions and engagements, and then conducted an individual interview with the aide at the end of that visit.

### 5.5.1 Observation and video-recording

According to the enactive approach, observing is a way of acting by being coordinated with the interplay between the participants, the context and the occurring events. Observation is thus an emergent process in which ways of knowing are transformed through coordination and interaction into participatory sense-making processes (De Jaegher & Di Paolo, 2007). Thus, my sense-making during the observations was not strictly individual, but it came about in the interactional processes between the PT, aide and child. Although I was present in the periphery of their (inter-)actions, my autonomous, embodied and sense-making capacities could never be reduced to a 'passive' receiver and reproducer of information (Fuchs & De Jaegher, 2009). What I emphasized in my observations and what I decided to video-record likely depended on my history, skills and purposes and was roughly drafted in a semi-structured observation guide (appendix 6).

#### *5.5.1.1 Observation and video-recording of the PT-aide-child constellation*

In agreement with the statements of the municipal PTs, the first-visit occurred where therapy usually took place. I therefore conducted one first-visit at the PT's workplace and six first-visits at the children's preschool. No special arrangements were required in connection with the visits as I wanted to see the practice as it normally occurred. At each visit, I arrived at the location in good time before the clinical encounter was scheduled. This allowed for some informal conversations with all the participants, which contributed to the process of establishing trust and a good relationship. Before each session, I encouraged the participants to carry out their session as usual. The sessions lasted from 40 to 66 minutes. In total, 371

minutes of video-recordings were produced. The focus of the observations was the PT's verbal and/or physical interactions with the child, aide and environment, directed by a semi-structured observation guide (appendix 6).

Observations provide complex information that can be challenging to recall based on pure memory (Tjora, 2006, 2012). Therefore, I chose to use a handheld video recorder to preserve the utterances, actions and interactions in the situation. The handheld video recorder allowed me to move discretely around in the background without disturbing the participants. I was quiet and moved slowly when I needed to change position. My professional background also enabled me to 'read' the situation and follow the participants' verbal and bodily expressions, movements and transitions. To capture the context as a whole, I observed and video-recorded the entire course of action - from the moment the PT introduced herself for the child until the PT left or the aide transferred the child to another activity along with the rest of the children's group – or, as occurred during the observation that took place at the PT's workplace, until the child left.

The presence of a researcher may influence how participants act and interact (Tjora, 2006, 2012). At the beginning of the sessions, some of the oldest children were attentive to my presence and initiated contact by expressing curiosity about the video-recorder, showing me some of their toys or inviting me into the play. I always responded in a friendly way and then withdrew from the interaction when the opportunity arose. Both the PTs and aides commented during the debriefing afterwards that they were surprised how quickly they forgot about my presence. Short field notes were taken in keyword format immediately after each observation, and more complete information was added later that day, after the PT interview. The field notes helped me preserve my first impression of the situation and, along with the video-recordings, contributed to the written summaries of the observations.

#### *5.5.1.2 Observation and video-recording of the aide-child constellation*

All the second visits took place at the child's preschool. The aides were not strangers to me since I had met them previously. In six of the cases, I had also gotten certain impressions of the preschool during the first visit. No special arrangements were required in relation to the visits. In one case, the aide informed me in advance that the child had a scheduled appointment with a second PT[7] the same day as the second visit (as part of a follow-up

[7] This second PT was not included as a participant in the study.

program after Botox[8] injection treatment). I contacted this PT with information about the project and received oral consent to observe and video-record the session, which took place at the PT's private clinic. The observations and video-recordings from this session were not transcribed or analyzed, but they contributed to the overall impressions of the study by providing relevant information regarding PT-child-aide interactions in a setting where supervision was not on the agenda.

A semi-structured observation guide (appendix 6), which I memorized in advance, guided my observations in the field. This guide was more a source of support than of instructions. The focus remained on the aide's verbal and/or physical interaction with the child and environment and the child's interaction with her/his surroundings. The observations brought me close to different situations and interactions, exposing me to sudden events or changes (Tjora, 2012). I used a handheld video recorder to capture situations and events that seemed to be of importance. However, I could not predict what to video-record in advance. To cope with these uncertainties, I strived to be flexible and open to the field in my observations. During the observations, I stayed in the background and strived to move around unnoticed. However, as previously stated, a researcher's presence will always in one way or another influence the situations that occur. Some of the preschool children did not take any special notice of me, while others approached me, asked questions, showed me things and so on. Additionally, at some units, the aide's co-workers approached me, curious about the project or just confirming that my research was important. As previously, I acted friendly, answered their questions and withdrew from the situation as soon as possible. During the debriefing afterwards, all the aides stated that they were nervous and excited at the onset of the observation, but as they experienced at the first visit, they quickly forgot about my presence, mainly because I moved around quietly and did not disturb them in their daily work.

As recommended by Tjora (2006, 2012), I wrote field notes in the forms of both keywords and complementary notes (when natural breaks and other occurrences allowed me to withdraw from the situations). When the second visit was completed, I wrote more detailed descriptions based on notes, video-recordings and memory. The field notes primarily referred to the daily routines and tasks, dispositions of time and space, aide-child interactions, child-environment interactions and other, more general impressions that evoked my emotions and

[8] Botulinum toxin A injections work by paralyzing certain muscles or by blocking certain nerves and are used to treat limb spasticity in children with CP to improve gross and/or fine motor control (Workinger, Kent, & Meilahn, 2017).

thoughts. The observations provided useful information about tensions (good and/or bad) in the aides' daily work, which became an important backdrop during the aide interviews. For instance, in two situations, I experienced (from the PT interviews) that the PTs assumed that the aides performed certain exercises daily with the child because the PTs considered them important. However, during the second visit, I did not observe the completion of these exercises due to busy scheduling and was thus able to ask about this during the individual aide interviews. I would not have been attentive to these tensions without the observations. In total, the data material consisted of 65 hours of interactive observations, 634 minutes of which were video-recorded.

### 5.5.2 Interviewing

According to the enactive approach, interviewing is a process of participatory sense-making between two autonomous, embodied subjects (De Jaegher, Pieper, et al., 2016). I related to the PTs and aides as embodied subjects with relevant experiences; thus, they became central contributors to the interview process, which enabled all of us (in different ways) to generate meaning through ongoing interpretations during the conversations. Although I bore professional responsibility for the content of the conversation, we all brought certain experiences, subjects and concerns that mattered to us in particular ways, which formed a background for the conversation and simultaneously complicated, constrained and enabled the interviewing process (De Jaegher, Pieper, et al., 2016). Consequently, I could never fully control what unfolded, and this uncertainty underlines why interviewing is not a pre-described event but an emergent and participatory process in which individual sense-making co-emerges with collective sense-making (De Jaegher & Di Paolo, 2007).

#### *5.5.2.1 Interviews with PTs*

I conducted the PT interviews, which were guided by a semi-structured interview guide (appendix 7) immediately after the supervision sessions (Brinkman & Kvale, 2015). To collect rich and nuanced descriptions around each topic, the same guide was used in all interviews, regardless of the PTs' workplace and experience level. During the interviews, I let the PTs guide the conversations but ensured that all topics were covered. Sometimes I had to ask questions again to verify my interpretations and/or challenge contradictory aspects of their communication. For instance, in one situation, the PT, who also provided therapy to the adult population, started to talk about supervision in the context of patient education and taking responsibility for one's own health. This was confusing for me since the child in the session was approximately three years old. By pointing this out, the misunderstanding was clarified.

The interviews were audio-recorded, lasted between 46 and 53 minutes, and comprised a total of 371 minutes of audio-recordings. Six of the interviews took place in a sheltered location at the preschool, while one interview took place at the PT's workplace. At the end of each interview, I asked the PTs whether they wanted to discuss other subjects in addition to those I had inquired about. I also invited them to elaborate on how they had experienced the interview setting. All the PTs reported that the topics covered important aspects of their supervision practices and that the conversations became a learning experience.

#### *5.5.2.2 Interviews with the aides*

All the aide interviews took place in a sheltered location at the preschool at the end of the second visit. Guided by a semi-structured interview guide (appendix 8) (Brinkman & Kvale, 2015), I interviewed the aides regarding situations that had occurred that day. I sought to clarify the observed activities and thus prompted the aides recall, elaborate, discuss and reflect on recently experienced situations. In addition, I brought up experiences from the first visit in these conversations. The interviews lasted between 41 and 78 minutes and were audio-recorded. In total, the data comprised seven aide interviews. However, things rarely go as planned all the time. In one case, a more peripheral aide[9] expressed a wish to participate in the study when I arrived for the second visit. The aide had not been part of the first visit but had work tasks related to the child in question. To avoid discrepancies, I decided to interview the aide. I did not transcribe or analyze this interview, but it contributed to the overall impression of the study as the aide was part of the child's daily context. After each interview, I wrote field notes of my first impressions during the interviews, which contributed to my sense-making in the subsequent analysis.

The aides were open-minded and shared their experiences, judgments and beliefs willingly. They gave rich descriptions, that included the emotional and conflicting aspects of their work, which I interpreted as a sign of trust. However, I experienced one of the aide interviews as particular challenging as midway through it took on a 'therapy-like tone'. The aide raised some serious concerns regarding the preschool's management and use of aide resources and started to ask me for advice. I remember that the atmosphere became serious when this transition occurred. Instead of giving advice, I encouraged the aide to elaborate on this topic ,and gradually, the interview shifted back to its original form. Afterwards, I felt exhausted and reflected a great deal upon my role and choices during that interview. I was concerned that I

[9] This peripheral aide was not included as a participant in the study.

had acted more like a therapist than a researcher during this conversation. Notably, this situation demonstrates how interviewing is not a straightforward process and emotions are deeply involved in every step. However, during the debriefing afterwards, all the aides expressed satisfaction with the interview process.

## 5.6 Data analysis

According to the enactive approach, analysis is a particular form of sense-making, in which the researcher, the research context, the research data and theory are interrelated aspects imbued with meaning (Di Paolo et al., 2010). In that respect, meaning does not lie in the 'objective' data waiting to be discovered by the researcher, nor is it already present inside the researcher, who imposes it on the world. Rather, the researcher generates and creates meaning through iterative processes of interpretations that are constantly updated and modified each time the researcher engages with the data, theory, and other empirical literature.

My analytic process started with my initial curiosity about clinical practice and developed through several steps, e.g., running the pilot study, designing and conducting the current study, reflecting during and after fieldwork, writing field notes, etc. During data collection, I applied established qualitative research methods and techniques, as described by the research methods literature (Brinkman & Kvale, 2015; Tjora, 2006, 2012). However, I recognize that my subjectivity have thoroughly influenced my interpretations. As a researcher, I have postgraduate training in qualitative research methods, previous experience in qualitative research and clinical experience from treating children with CP in both primary and secondary care contexts. In addition, I hold a master's degree in clinical neurological physiotherapy in pediatrics. All these characteristics form the basis of my pre-understanding and orient my sense-making in certain directions. Consequently, when I observed the material, some aspects captured my interest, such as PT-aide-child interactions and potential changes in the child's functioning during sessions, while other aspects were ignored.

The audio- and video-recordings and the field notes constituted the raw data of this study. In that respect, the audio- and video-recordings did not function as mere 'hard data', i.e., external representations waiting to be 'grasped'; rather, they represented my first attempt to create meaning from, frame and impose order on the complexity of experiences, perceptions and (inter-)actions of the PTs and aides. Thus, the recordings were a 'participatory' medium in which I invested affection, value and meaning to make sense of the material and thus create

new ways of perceiving it each time the recordings were played (De Jaegher, Pieper, et al., 2016).

The overarching goal of our investigation was to *explore,* interpret and reflect on PTs' and aides' (inter-)actions, meanings and subjectivities. Therefore, the analysis method was not pre-determined but emerged from the process. A qualitative thematic-content analysis with an inductive approach was applied (Polit & Beck, 2012). Qualitative thematic-content analysis is an exploratory technique for analyzing texts based on empirical data (Polit & Beck, 2012). However, during the transcription of the audio- and video-recordings, I found that the two different data sets gave rise to different forms of sense-making that required different approaches to organizing and analyzing the data. This required a bricolage approach that moved freely between analytic techniques and concepts (Brinkman & Kvale, 2015). Thus, the systematic organization of the data followed the thematic-content analysis inspired by Malterud (2012) for paper I and that of Lindseth and Norberg (2004) for papers II and III. In the papers, we described the individual analytical processes used more precisely. However, in the following, I present a more general description of the procedures used in papers I-III.

The data analyzed in paper I included all the audio-recorded PT interviews and post-interview notes. I annotated the interview transcripts my immediate thoughts while transcribing. Initially, I read the transcripts to gain an overall impression, and preliminary themes (meanings) emerged out of the data. I alternated between reading the interviews individually and as a whole. In this phase, my main supervisor (GKØ) independently read all the transcripts. Afterwards, we discussed the preliminary findings to check the internal validity of our interpretations (Malterud, 2012). Then, meaningful units were identified, condensed and labeled with codes or keywords (de-contextualization) (Malterud, 2012). The process was data driven, and I strove to use words and terms similar to those the participants used. This inductive approach allowed themes to emerge from the data. For each theme, I wrote a text. The analysis proceeded further, alternating among discussions, adjustment and refinement. In addition, I studied the literature to address the theoretical framework and enrich my understanding. Finally, themes were identified in relation to the original interview material (re-contextualization) and evaluated against the research question (Malterud, 2012).

The data analyzed in paper II included all the video-recorded observations of the supervision sessions and the post-observation notes. Due to the amount of data, it was challenging to systematically transcribe the video-recorded material (including field notes) from start to

finish. Therefore, particularly at the onset of the analysis, I depended heavily on repeated viewing of the video-recordings (individually and as a whole). During these viewing, I formed a novel (*naïve*) understanding of the meaning content of the recordings (Lindseth & Norberg, 2004). The approach used in this phase was inductive and intuitive (Tjora, 2012). Immediate thoughts and reflections were noted but so were sequences of the video-recordings (units of meaning) that had caught my interest. Additionally, I wrote short summaries of each supervision session that were guided by both the video-recordings and the post-observation notes. The identified video-recorded sequences (units of meaning) were then viewed in collaboration with my supervisors and discussed against my naïve understanding. Then, I approached the data in a structural manner. I transcribed the identified video-recorded sequences (units of meaning) into text scripts, describing the essence (not the details) of the situations. The text scripts (units of meaning) were further organized into sub- and main themes, which were labeled with codes. During this structural process, I alternated between viewing the identified recorded sequences, refining the text scripts, reading theory and discussing findings with my supervisors. Through open and critical reflection, I searched for themes, patterns and relationships within and across the observations. Gradually, I reached a comprehensive understanding of the situations, which formed the basis of the presentation in paper II.

The data analyzed in paper III involved the aide interviews, the field notes from the observations of the aide-child constellations, and the video-recorded sequences. Due to the increased amount of data and the mixture of both interviews and observations, I used the same analytical strategies as in paper II, smoothly transitioning back and forth through three analytical steps: first impression (naïve understanding), structural analysis and comprehensive understanding (Lindseth & Norberg, 2004). I alternated between analyzing the two datasets individually and together, using an inductive and intuitive approach (Tjora, 2012). Through iterative processes, the data sets were (individually and as a whole) reviewed against the initial impression I formed while developing the text drafts and reading theory. Along the way, collaborative discussions with my supervisors enhanced the interpretation and composition of the analysis, that formed the basis of the final description of the findings in paper III.

In papers I-III, the results of my analytical work, i.e., the findings, are presented by using extracts from the data, i.e., quotes and/or descriptions of illustrative situations. The extracts,

which were originally in Norwegian, were translated into English as faithfully as possible, maintaining the essence of the utterances, actions and interactions.

In sum, the analytical process was time consuming due to the complexity of the data and my effort to acquire, integrate and apply the theoretical perspective in a thorough way. Throughout this process, writing was an important and creative endeavor. Writing was not a final step; rather it enhanced my sense-making throughout all the stages of the research process, as described in general by Brinkmann & Kvale (2015). In that respect, writing involved selecting and processing thoughts and experiences and forced me to reconsider the material in new ways. As I gained new insights and understandings, I changed words and sentences in the texts. Thus, writing served as a clarifying process that provided further direction for my work.

## 5.7 Methodological considerations

How to judge the overall quality of qualitative research is a matter of ongoing discussion. This debate comprises several issues, including the transfer of quantitative assessment criteria, i.e., reliability and validity, to qualitative research (Polit & Beck, 2012). In that respect, the main dispute concerns the inherently different natures of quantitative and qualitative research. Consequently, qualitative research has developed its own standard, i.e., *trustworthiness*, which corresponds to the standards of quantitative research (Polit & Beck, 2012). There are several aspects of trustworthiness, including reflexivity, credibility, transferability, dependability, and ethics (Polit & Beck, 2012). In the following, I reflect on these aspects in relation to my study.

### 5.7.1 Reflexivity

Reflexivity concerns how the position of the researcher affects the research processes and thus the generation of knowledge (Polit & Beck, 2012). The enactive perspective had profound implications for how I (re)conceived my research and its quality. Traditional scientific approaches impose a reductive, linear and depersonalized conception that focuses on producing trustworthy reproductions of a 'fixed' reality and on prescriptive, codified and hierarchical approaches to knowing. From this decontextualized perspective, research is understood to be biologically meaningless, an 'objective' perception that plays with ways of knowing that are not personally relevant (Di Paolo et al., 2017). By positioning the study in enactive theory, I acknowledged that research is an integral part of the greater life processes; it opens up the fundamental organic processes that afford sense-making or knowing, beginning at the most primordial levels of embodied being-in-the-world (Van Der Schyff,

2015). Thus, knowledge is dynamic, experiential, social, and context dependent. I also recognized that my subjectivity, i.e., pre-understanding, assumptions, values, beliefs and professional background, would influence my choices and interpretations from start to finish. These subjective factors also affected my becoming as a researcher, i.e., my identity as an interviewer, observer, and interpreter all co-evolved during my interactions with the study's participants, context, data, theory and supervisors.

Based on my work experience in the field, I had an advantageous position, known as *positioned insight* (Paulgaard, 1997), which enabled and constrained the research processes in various ways. For instance, when designing the study, I knew that preschools were arenas that would offer access to typical supervision situations and that PTs delegate treatment tasks to preschool aides. Further, when collecting the data, my knowledge of the field and professional background enabled me to ask relevant questions and pursue relevant follow-up questions during the interviews and enhanced my sensitivity regarding how to explore and focus during observations.

However, with this familiarity comes the risk of ignoring or taking some aspects for granted, phenomenon known as *home-blindness* (Paulgaard, 1997). Home-blindness has a two-way effect; e.g., when interviewing, there might have been questions I did not ask (because I took them for granted), and/or there might have been answers that the participants did not elaborate on because they believed that I had caught the meaning. To prevent that risk, I strove to be sensitive to my pre-understanding, which in turn strengthened my reflexive objectivity. For instance, when interviewing, I tried to behave in a professional and trustworthy manner, exploring and challenging the participants' answers (in a polite way). This contributed to the validation of statements and a collective understanding (Brinkman & Kvale, 2015). When observing, I aimed to be open to the field and curious, always alert for potential situations to video-record or to follow up in the interviews. However, my professional background (as both a PT and researcher) might have influenced the participants' actions and interactions during observations and their sharing of experiences during the interviews. To minimize this effect, the participants were encouraged to speak freely and perform daily activities as usual.

Closeness to the field requires a certain analytical distance to strengthen the rigor of data collection and analysis (Brinkman & Kvale, 2015; Polit & Beck, 2012). To achieve this distance, I applied several strategies. Field notes that captured my first impressions, reflections and feelings challenged, explored and sensitized my pre-understanding. For

instance, during one of my second visits, I empathized with the child in question when it appeared that the child spent what amounted to several hours alone during the preschool day. I recalled this case many times in my reflection work, particularly during analysis. My notes reveal a change in my understanding from child-centered reflections to considerations of the temporality and complexity of the aides' working day. Ultimately, the notes showed that this event was not due to the aide's carelessness but to her/his heavy workload.

During the analysis, I applied other empirical literature in the field and theory to establish the best analytical distance (Malterud, Siersma, & Guassora, 2016). Enactive theory provided conceptual tools for probing, discussing, analyzing and reaching coherence by relating different aspects of the data to one another. In that respect, my ambitions and preunderstanding advanced my work and my interaction with enactive theory enhanced my understanding in two ways. First, I experienced a level of abstraction when relating enactive theory to my own clinical work and reasoning. Then, a second level of abstraction occurred when I applied the conceptual tools to the analysis of the data. Consequently, acknowledging the benefit of relating enactive theory to both my own clinical work and the data enhanced the implications and forward directions of the study. The application of theory contributed new insights that I could not have accomplished given my subjectivity. Adherence to theory and empirical literature was an ongoing process throughout the study.

The varied professional backgrounds of my supervisors (and co-authors) represented another context for understanding and thus creating analytical distance. According to the enactive approach, different researchers engage and interpret experiences in various ways due to different sensorimotor and sense-making capabilities (Gallagher, 2017a). Supervisor and professor Gunn Kristin Øberg is a specialist in pediatric physiotherapy with major experience in the field of neonatal intensive care. Co-supervisor Britt Normann, associate professor, is a specialist in adult neurological physiotherapy and an acknowledged clinician and trainer. The third co-supervisor, Aud Obstfelder, is a professor of sociology but has a professional background in nursing. All the supervisors have extensive experience with planning, conducting, and publishing both qualitative and quantitative research. The members of the research team complemented and challenged one another through different experiential and perceptual processes, which enhanced our flexibility, integrity and reflexivity (Polit & Beck, 2012). However, the study might have benefitted from a co-author who was an outsider, such as a young adult with CP and/or a parent, to represent the user perspective.

### 5.7.2 Credibility

Credibility concerns the confidence in how well the data and the analytical processes address the intended focus (Polit & Beck, 2012). Our aim was to *explore* supervision in pediatric physiotherapy, a field for which available information is limited. As previously stated, the positioning of the study in enactive theory had implications for how I acknowledged knowledge; namely, as a complex, relational and embodied reality perceived through the participatory sense-making capacity of human beings (Di Paolo et al., 2010). Given this methodological point of view, qualitative interviews and observations were the obvious methods to apply. I had to conduct interview to gain access to the PTs' and aides' perceptions, and I had to observe to explore interactions, into which bodily aspects are embedded. In addition, observations can be particularly valuable for exploring the typical and occasional features of everyday practice that participants take for granted and thus might feel are unworthy of commenting on in an interview (Tjora, 2012). Multiple methods allowed for a more comprehensive understanding of the PTs' supervision practices and the aides' application of professional knowledge through individual perceptions and experiences and contextual and socially driven actions and interactions. The use of multiple methods also enhanced the consistency (i.e., dependability) of the findings.

We included a purposeful sample that varied in age, education level and work experience. The inclusion of two populations, PTs and aides, contributed valuable insights concerning aides' application of professional knowledge. If we had depended on the PTs' assumptions about the aides' daily work with the child, we might not have revealed the temporality and tensions that aides face in their daily practice. Furthermore, in both the PT and aide samples women strongly predominated. While we did not evaluate gender issues in our analysis of the data, we recognize that it might have affected our results. The children with CP also varied in age and GMFCS-level, which placed different constraints on both the PTs and aides and gave rise to different clinical issues.

The risk of selection bias was minimized by recruiting participants via hospital PTs instead of PTs in the municipalities. By using municipal PTs, we might have risked parents feeling obligated to participate due to the close relationship between the parents, the municipal PT and the child. However, we do not know the rationale behind the hospital PTs' selection approach (beyond the inclusion criteria) or how many and which types of parents they actually asked, nor do we know the motivation of the PTs, aides and parents who agreed to participate.

The prevailing concept for sample size in qualitative studies is saturation or 'information power', i.e., the sample is sufficient when it presents varied and adequate information to elucidate the aim(s) of the study (Malterud et al., 2016). Therefore, in determining sample size, we aimed for a balance between achieving saturation and managing the amount of data. To increase credibility and reduce the risk of systematic bias, we continuously evaluated the data. During the observations and interviews of the last two PT-aide-child constellations, we started to notice tendencies towards repetition in the data. Additionally, due to the variation and richness of the data, we considered the sample size of seven PT-aide-child constellations optimal for answering the research questions in a credible way. Simultaneously, we considered that the amount of data was sufficient to provide in-depth analysis.

In analyzing the data, I applied a mix of systematic concepts (Brinkman & Kvale, 2015). This provided structure for the process. However, the practice of analyzing observation data rarely receives sustained descriptions in research methods textbooks and is generally discussed in the wake of interview analysis. Consequently, due to the inherently different natures of interview and observation data, I had to improvise and trust my intuition. As previously stated, I depended heavily on viewing and reviewing the video-recordings to generate patterns of meaningful units, similarities and differences. The collective viewing and discussions of the video-recordings also increased the credibility of this process. After several rounds of writing, I found the best way to transcribe the sequences of interest (meaningful units), omitting multi-detailed descriptions and instead highlighting the essence of the situations. Notably, the field notes from my second visits served as both a method of 'recording' and a space for reflection and analysis. The credibility of this process was enhanced by viewing the video-recorded sequences, which helped me recall and reflect upon events and situations.

It is easy to consider analysis a purely cognitive process – a thinking activity that resides in the researcher's mind; however, the enactive approach maintains that the practice of thinking (or analyzing) involves both bodily and environmental aspects (Gallagher, 2017a). The most obvious example in my case is the use of different tools, such as pen, paper, audio/video-recorder, computer, and data programs, which permitted cognitive accomplishments beyond what I could have accomplished only in my head.

As previously described, the varied backgrounds of my supervisors, the peer reviewing and the ongoing discussions from start to finish strengthened the rigor of the research process. In addition, the peer review process for journal publication, which is essentially a quality control

mechanism, represents an additionally credibility factor. I received valuable comments and questions from the reviewers of all the papers that prompted me to reconsider several aspects of the study, such as the study context, research methods, theory and findings. Thus, the review processes strengthened the trustworthiness of the findings.

### 5.7.3 Dependability

Dependability concerns the degree to which the data change over time and the consistency of the data collection process (Polit & Beck, 2012). Dependability is closely related to credibility and therefore is also attained through detailed reporting of the study process.

The one-year data collection period was advantageous because it provided sufficient time to transcribe, begin the data analysis and notice aspects of interest that I carried over to the next PT-aide-child constellation. I visited every PT-aide-child constellation systematically within a two-week period (except for the one case that was previously described). This increased the consistency of data collection and thus enhanced the credibility of the findings.

The use of interview and observation guides helped me stick to the focus areas; I aimed to examine the same areas in each interview and each observation. The use of audio- and video-recorders enhanced the consistency of the documentation, transcription and interpretation of the data. In addition, communicative validations during the interviews and the discussion within the research team produced consistent findings. However, according to the enactive approach, the autonomous organization of the 'research encounters' may have enabled and constrained the unfolding events in a way that facilitated my actions and thus affected the consistency of the data collection process.

### 5.7.4 Transferability

Transferability refers to whether the findings can be transferred to other settings and/or groups (Polit & Beck, 2012). To achieve transferability, I have provided rich and *thick descriptions* of the study context, the participants, the data and the analysis (Polit & Beck, 2012). Further, I achieved transferability through a systematic analytical approach using the conceptual tools of enactive theory. In the analysis and presentation of the findings, I strove to reflect the participants' beliefs and opinions, which reduced the risk of researcher bias and enhanced confirmability (Polit & Beck, 2012).

The study population was similar in age, gender and education level to the Norwegian population of PTs and aides. The findings might therefore be applicable to municipal PTs and aides beyond the study population. However, there are local variations within the

physiotherapy service and the way preschools utilize and organize aides, and PTs within the Norwegian health care system, including primary health care, operate with great deal of autonomy. In addition, the health care system provides free access to physiotherapy for children from 0-18 years of age, and the study findings might not be transferable to countries and settings where this is not the case. However, our overarching goal was to explore the characteristics of supervision in pediatric physiotherapy as a clinical practice. To that end, we produced findings that reveal the significance of social, contextual and temporal aspects of supervision and that may apply to many supervision settings across the physiotherapy profession and other professions within and beyond the Norwegian context.

### 5.7.6 Ethics

Ethics involve considerations of how ethical values and principles inform and guide the research processes (Polit & Beck, 2012). Ethical issues in qualitative research are particularly likely to arise from the researcher's closeness to the participants when investigating their 'private' concerns, beliefs and opinions (Brinkman & Kvale, 2015; Tjora, 2012). Therefore, ethical considerations should be included from the very start of the study. Initially, the Regional Committee for Medical and Health Research Ethics (REK) conducted a preliminary assessment of the project that concluded that the study did not require approval from the REK. The study was then reviewed and approved by the NSD (appendix 1) and was performed in accordance with the Helsinki Declaration (World Medical Association, 2013). All the participants received oral and written information about the study; thus, participation was based on informed consent. However, the qualitative research process is characterized by flexibility (Brinkman & Kvale, 2015; Tjora, 2012), and therefore, I could not describe the central themes of the analysis or the content of the papers in advance. I anonymized the participants and gave them pseudonyms (which were also used in the transcripts), and I linked them to a name list using a code key. The name list, code key and data were stored separately. Only my main supervisor (GKØ) had access to the code key. Additionally, the participants were further anonymized by the thematic presentation of the findings in the papers (Thagaard, 2009, p. 187). The audio- and video-recordings and transcripts were stored on a secure, password-protected server at the university to which only I had access. All the data were confidential and handled with discretion and respect, e.g., information from the PT interviews was not shared during the aide interviews, and vice versa.

Ethical issues, particularly those regarding consent and participation, arise when children are included in research. The researcher holds an ethically informed position, which requires

her/him to be certain of each child's consent throughout the study (Brinkman & Kvale, 2015). However, I recognized that acquiring the youngest children's consent in advance was problematic due to their young age and potential cognitive impairments. Therefore, consent was obtained through the parents. As previously described, I tried to address this issue by introducing myself to each child and briefly providing information about my presence. In hindsight, I recognized that the study might have benefitted from an additional information letter made specifically for children, with less text and simple descriptions supported by pictures. Furthermore, I was aware of my responsibility for interpreting the children's expressions regarding their participation during my visits. For instance, in one of my second visits, the child expressed unwillingness to be observed and/or video-recorded during diaper changing; I respected this unwillingness and waited outside the bathroom.

A main requirement of the NSD was to safeguard the children. Therefore, I had to obtain consent from the parents first, and then the PTs and aides. As previously mentioned, three PTs declined to participate in the study. One of these PTs contacted me later about some ethical issues regarding our inclusion approach, such as parents' disappointment with the PT's refusal and the lack of resources for participation. I provided a careful description of the NSD's review and requirements and contacted the parents of the child in question to clarify potential misunderstandings.

As a researcher, I had a responsibility to establish a good relationship with the participants while at the same time ensuring my independence (Brinkman & Kvale, 2015). However, as previously highlighted, both interviewing and observing involved participatory sense-making processes between the study participants and me. According to the enactive approach, these processes include not only the negotiation of movements but also complex social and ethical concerns, i.e., social-cultural norms and assumptions, and more specific concrete-interactional understanding and interpretations (De Jaegher & Di Paolo, 2007). Thus, as the 'tool' of my own investigation, I was involved in engagements as implicitly *moral* transactions rather than 'simple' social encounters. During data collection, the specific way in which a conversation and/or interaction unfolded was therefore imbued with ethical overtones, such as the previously described aide interview that developed in a serious direction.

# 6 RESULTS

## 6.1 Paper I

In this study, we investigated PTs' perceptions of the opportunities and challenges of conveying their professional knowledge to aides who are responsible for the ongoing daily care and monitoring of children with CP in preschool settings. The study builds on individual interviews with seven pediatric PTs who regularly supervised a preschool aide. The analysis was theme-based, inspired by the four-stage principles of Malterud (2012), and lead to the following three themes: 1) blurred distinctions between supervision, treatment and training; 2) supervision as oral dialogue; and 3) supervision as bodily interaction. We applied the enactive theory of embodiment and autonomy to our interpretations of the data.

The PTs in our study perceived supervision as a complex activity in which supervision, treatment and training are an interwoven process. During this process, the PTs were unclear about what to emphasize and to whom they should attend during the clinical engagement - the aide, to meet his/her needs for supervision, or the child, to ensure optimal interaction. Too often, the PTs experienced supervision that devolved into conversations between the PT and aide that excluded interaction with the child. Further, the PTs found it challenging to instill professional competence in the aides because they simultaneously had to instruct, perform actions and maintain awareness of the aides' verbally and bodily expressions. Since the PTs and aides did not share the same professional position, the PTs deconstructed their knowledge and simplified their actions and language. However, the PTs felt that they lost some of the discipline's specificity when they translated professional jargon into a more common language. The PTs' also perceived their professional performance as blurred, which influenced their perceptions of their professional autonomy and identity.

Our findings suggest that supervision in physiotherapy is more than a mere cognitive process; PTs must exhibit multiple competencies for successful supervision of aides. PTs must develop their ability to understand and respond to the aides' needs for supervision and to supervise via involvement in the therapeutic work, including interaction with the child. Such exercises require sensitivity and the recognition of both the aide and the child as equal participants and contributors in the clinical engagement. Thus, PTs must acknowledge that supervision is not a one-way conveyance of information but includes the mutual exchange of embodied, experiential knowledge among all three parties.

## 6.2 Paper II

In this study, we investigated how the interactional features of real clinical encounters influenced PTs' dissemination of information, treatment tasks and therapeutic handling. The study built on video-recorded observations of seven individual physiotherapy sessions performed by seven different PTs. Each session involved a PT-child-aide constellation in which supervision occurred. The analysis was inspired by the three analytical steps of Lindseth and Norberg (2004), which we connected to enactive theory and the concept of participatory sense-making (De Jaegher & Di Paolo, 2007). In our analysis, the following three supervision approaches emerged: 1) the cognitive supervision approach, 2) the joint action supervision approach, and 3) the embodied supervision approach.

Clinical encounters comprise a recursive interplay between the context, the participants, the interactions and the tasks, which suggests that supervision is an emergent process. Each supervision approach gave rise to different types of sense-making processes, in both the PTs and the aides. Within the cognitive supervision approach, the PTs merely demonstrated and verbally communicated tasks and handling skills; this approach modulated the more reflective sense-making processes in the aide and excluded the aide's bodily experiences from the process of knowing. Within the joint action supervision approach, the PTs invited the aide into the PT-child interplay to maintain the child's attention through play activities, which provided the aide with expanded insights regarding adaptation of the environment and the task(s) but excluded opportunities for the aide to gain first-hand experience with positioning and handling the child. Within the embodied supervision approach, the PTs invited the aide to perform therapeutic tasks and handling in physical interplay with the child, which provided both the PT and aide enhanced insight regarding each other's handling skills. This physical interplay also created opportunities for joint exploration of the therapist's tacit knowledge, which may contribute to increasing the aide's incorporation of knowledge.

Our findings demonstrated that supervision is not a straightforward but an emergent process and that a variety of factors shape the supervision outcome. Each clinical encounter is different and unique, which requires PTs to be attuned to both the child and aide and the context and task. Furthermore, in combination, the three supervision approaches constitute a powerful repertoire for enhancing insight, awareness and knowledge in aides. However, putting all these supervision approaches into play requires that PTs have incorporated handling skills and action competence.

## 6.3 Paper III

In this study, we investigated how aides integrate their experiences from real supervision sessions into their daily work with the child. The study built on individual interviews with seven different aides and 14 observations of these aides in two different contexts: first in a physiotherapy setting in which supervision occurred, and second, throughout an entire work day. The analysis was aligned with the principles of theme-based content analysis (Lindseth & Norberg, 2004), and the following three main themes emerged: 1) making a difference: dedication and commitment; 2) time, temporality and flexibility; and 3) beyond direct child-centered supervision. In our interpretation of the data, we connected our findings to enactive theory and the concept of participatory sense-making (De Jaegher & Di Paolo, 2007).

The aides in our study expressed passion, dedication and commitment to their work, which drove their ability to learn and to link together specific situations and actions. Their work days were characterized by dynamic and changing contexts and (inter-)actions that affected their ability to engage with the child. The aides highlighted some significant structural elements concerning supervision, including a need for complementary learning arenas, such as informative courses, and a more dualistic supervision approach, with separate sessions for focusing on the child and developing the aide´s skills. Experienced aides both expressed and demonstrated the ability to apply elements from the supervision sessions to their daily interactions with the child, and such skills may strengthen the continuity and quality of care for preschool children with CP. However, the less experienced aides found this process difficult and requested recipes to guide their actions. Thus, the ways that aides brought their experiences from supervision sessions into their daily work with the child did not reflect a mere transfer of knowledge; in contrast, several rounds of knowledge transformation were involved. Nevertheless, our findings demonstrated the importance of incorporated knowledge for helping aides work more effectively with children with CP.

## 6.4 Collective overview of the papers

In summary, the three included papers demonstrate that supervision is not the mere transfer of knowledge but a transformative process in which PTs must recognize both the child and the aide as equal participants and contributors to the teaching-learning process. Papers I-II highlight that supervision in pediatric physiotherapy goes beyond the mere linguistic. At the same time, it appears challenging for the PTs to provide verbalized reflections while performing treatments tasks and handling the child, which suggest that supervision is not a unidirectional endeavor. PTs who have incorporated knowledge and handling skills are more

likely to provide successful supervision because they can approach both the child and the aide in various ways, including by providing exploratory supervision-treatment sessions that aim to improve the child's motor performance and the aide's use of her/his own body and handling and are accompanied by verbalized reflections and discussions during or after the action. Hence, supervision is multidirectional. PTs need to attend both the child and the aide and develop flexibility and fluency in their therapeutic interactions, which in turn influences the PTs' sense-making process. The findings reported in paper III showed that the complexity increases when aides are expected to apply the professional physiotherapy knowledge gained from supervision in their daily work with the child. The tensions and temporality that characterize aides' practices produced new rounds of knowledge transformation that progressed various directions depending on the aide's level of experience. The level of experience was important, as it seemed to influence how aides make sense of and transform knowledge within and between situations.

# 7 DISCUSSION

The results of the three included papers illuminated different aspects of supervision in pediatric physiotherapy. In accordance with explorative qualitative designs (Blaikie, 2007; Polit & Beck, 2012), these results were analyzed in relation to one another and thus generated new insights organized around the following overarching topics: 1) The ambiguity of supervision; 2) Enacting different kinds of rationalities; 3) Supervision trajectory – a course of transformative and temporal processes; and 4) Knowledge application – a matter of transcendence.

Below, I discuss these overarching topics in the context of the three papers, the theoretical framework, relevant research reports and national health reforms.

## 7.1 The ambiguity of supervision

Based on our findings, we suggest that supervision in pediatric physiotherapy requires PTs to transform their knowing for the purpose of supervision. This involves four modes (Di Paolo et al., 2010), during which transformation occurs as the PTs interpret, reflect on and reason about the supervision subject; find multiple ways to communicate their knowing (e.g., using metaphors, examples, demonstration, etc.); adapt the supervision content to the aides' abilities and prior experience; and finally, tailor the information in response to the context and situation. Consequently, supervision management requires that PTs maintain a 'flexible' understanding of their own and the aides' knowing and can *see* supervision subjects from a variety of viewpoints and levels, depending on the subjects' needs and abilities. This implies that supervision in pediatric physiotherapy comprises a course of actions – a supervision trajectory. We chose the term 'trajectory' rather than 'pathway' because 'pathway' is linked to an established concept in care management; it describes a chronological map of the actions involved in a health care process, as described by Allen (2018). The supervision trajectory serves to improve the utilization of physiotherapy resources, promote the child's safety and allow the documentation, monitoring and evaluation of the child's development. The overall aim is thus centered on the child's social, emotional and physical needs rather than on the independent contributions of the PT's expertise or the aide's caregiving activities function. Hence, the contributions of the PTs and aides (within the supervision trajectory) are complementary and supportive.

Our results suggested that supervision is an ambiguous task as temporal processes enabled and constrained its course. In that respect, the image of laying down a path while walking

(paper I and the initial poem in this thesis) is consistent with the uncertain and improvisational nature of supervision. Thus, the term supervision *trajectory*, as opposed to supervision pathway, better reflects the unpredictable and uncertain qualities inherent to supervision contexts, processes and engagements and to the contributions of PTs and aides. Additionally, the enactive view of knowledge distribution emphasizes that knowing is not a 'thing' located in the situation, the therapeutic task, and/or the individual PT, aide and child. Instead, knowledge emerges from the flow of perceptions, actions and interactions of the PT, aide and child interacting with the therapeutic tasks and surroundings, as described in general by Di Paolo et al. (2010). However, this enactive understanding of supervision and knowledge distribution can quickly lead to the misperception of the PTs' supervision practices as random, unjustified and unprepared, especially among those who are unfamiliar with the enactive approach. Notably, as the PTs in our study highlighted, supervision is founded on an organizational structure, that involves a comprehensive plan for treatment and care; furthermore, the PTs recognized the *emergent* nature of their work, which requires 'in-the-moment-management' in response to changing contexts, interactions and individual needs. In that respect, the supervision trajectory seems to consist of two intertwined features: a rational course and an emergent course.

We can examine the rational course and the emergent course in two ways: externally observed, these two courses might appear indistinguishable in the way they play out, i.e., they both consist of actions and interactions that appear to gather around common goals. Internally observed, the rational course presupposes standardization, predictability and disembodied individuals, while the emergent course emphasizes *flexibility* informed by a certain form of rationality (Allen, 2018; De Jaegher, 2013b). That is, to solve an abstract problem, PTs support their decisions by referencing their theoretical background or 'rules'. However, PTs must interpret these 'rules' as they make decisions. That ability is rooted in the PT's history and situation; therefore, the decisions that PTs make cannot be presumed simply according to the 'rules'. Thus, the emergent course brings into view contextual constraints and enablers, different forms of agencies held by PTs and aides, and the interweaving of individual and collective sense-making processes. Additionally, the involvement of multiple identities highlights the complexity of accomplishing collective actions.

However, in this context, the enactive approach does not just add missing elements to the rational course and thus constitute a second (enactive) emergent course. The enactive approach aims to capture the full range of social structures and engagements present in both

courses, i.e., the underlying associations among the rational, the emotional mind-body, the interpersonal and experiences (De Jaegher, 2013b). Hence, the rational and emergent courses are not opposites but represent different aspects of the supervision trajectory that are put into play differently. This may explain why the PTs in our study perceived supervision as an unclear activity; different contexts, interactions and concerns changed their perspectives and their views of their own practice within the ongoing relationships.

Generally, PTs are educated and trained within a biomechanical context to develop and utilize categories and classification terms ('rules') to make sense of their practices (Nicholls, 2017; Thornquist, 2001). Consequently, many PTs are influenced and their practice is to some extent determined by social and cultural laws, regulations and norms within the profession, which leads them to incorporate a pre-reflective fragmented way of viewing the body, treatment tasks, and context (Thornquist, 2001). These classification systems, regulations and laws represent the mere rational aspects of the trajectory. However, on a reflective level, PTs may hold some assumptions about practice that run counter to their professional (pre-reflective) attitude and beliefs. For instance, the PTs in our study highlighted the importance of approaching the child and aide as embodied subjects but simultaneously recognized that the child often became an object in the supervision sessions due to conversations that took place 'over the child's head' (paper I). Hence, the PTs' reflective assumptions *about* practice and their actual (pre-reflective) *lived* experiences *in* practice led to discrepancies in their perceptions *of* practice. In other words, the PTs' perceptions represented different colorations of practice in which beliefs, attitudes and actual clinical performance melted together and reemerged in slightly different forms. In such cases, individual experiences took on new forms and intertwined with other social characteristics that emerged across supervision contexts and daily practices.

## 7.2 Enacting different kinds of rationalities

Our results suggest that different kinds of rationalities came to play during supervision. These rationalities comprised supervision, treatment and training, and treatment and training were intertwined. Broadly speaking, supervision builds on the logic of creative problem solving and requires the aide to find her/his own way through reflection (Davys & Beddoe, 2010). Treatment and training, however, build on the logic of goal and task achievement, with the aim of promoting the child's motor learning and development (Campbell et al., 2012). Thus, whereas supervision is rooted in a two-way PT-*aide* relationship in which the PT operates as a mentor or facilitator, treatment and training involve a two-ways PT-*child* relationship in

which the PT fulfills a therapist role. Consequently, the PTs in our study took on a multiplicity of relationships during supervision. According to the enactive approach, within any relationship, we become *somebody* as our identity is enacted (Di Paolo et al., 2010). For the PTs, however, this multiplicity seemed to strain their professional obligation to offer optimal services to both the aide and the child, which in turn placed them at the intersection of who they should be (i.e., therapist versus mentor) and what they should do (i.e., supervise versus provide therapy). This forced the PTs to develop two kinds of acumen: management of the self (in treatment) and the management of diversity (in supervision). The biomedical approach has proven to be a powerful, dominant constraint on PTs' thinking and their provision of therapy (Nicholls, 2017). Consequently, supervision seems to challenge PTs' normative assumptions about *what* pediatric physiotherapy should entail and consequently on their identity as 'therapists'.

In sum, our results suggest that supervision represents a radically different way of engaging in the clinical encounter as it lies outside the rational logic of treatment. In this context, supervision tends to have an invisible quality given its close attachment to the PTs' clinical practice. For instance, according to our results, supervision goals and topics were not clearly defined in treatment terms but were rather vague, evolving and invisible. Consequently, PTs perceived supervision as an ambiguous effort (as opposed to a straightforward, targeted effort), which created a sense of confusion among the PTs about how to describe and demarcate their supervision activities. Due to its *invisible* nature, supervision may not receive the same recognition that treatment has. Our results suggest that supervision in pediatric physiotherapy is characterized by an ambiguous distinction between supervision and treatment and by the collaboration of PTs and aides in emergent patterns in response to contingencies.

### 7.3 Supervision trajectory – a course of transformative and temporal processes

Up to this point, we have considered the supervision trajectory broadly, in terms of the unpredictable nature of supervision, how that affects supervision efforts, and the different rationalities that come to play in supervision. However, it is necessary to examine the supervision trajectory in greater depth to enhance our understanding of the mechanisms at play as supervision progresses and shapes (and is shaped by) the contributions of the PT, the aide and the child. As previously stated, our results suggest that supervision comprises an essential trajectory involving transformative and temporal processes that affect every step and turn in the supervision course, including how the PTs and aides make sense of their own

practices, themselves and the child. Consequently, the outcome of supervision is not just enhanced knowledge or deeper insight into one's own experiences but the transformation of experiences. This includes the transformation of experience itself and – inevitably - the transformation of the PT's, aide's and child's identities and thus highlights the existential aspect of supervision.

### 7.3.1 The (trans)formation of the child

According to our results, supervision in pediatric physiotherapy concerned the knowledge and competencies of PTs and aides that enabled them to meet the complex demands of the child with CP. In that respect, it became important for the PTs and aides to make sense or reach a consensus about the child (papers III and I). The PTs operated across a broad landscape and provided temporally intermittent services, whereas the aides worked continuously in the child's context. Consequently, the PTs and aides filled in each other's gaps and complemented each other's efforts through the generation of trajectory disseminations. These disseminations were pragmatic condensations of the child's current status through which the PTs reviewed and checked the progress since their last visit. At their center were the child's needs, characteristics, progress in motor and social skills, emotional regulation, and the actual activities provided. This exchange of information suggest that individual sense-making intertwine with collective sense-making, which resonates with the concept of participatory sense-making (De Jaegher & Di Paolo, 2007). Participatory sense-making is always a matter of gestures, expression, speech and concrete actions that allows the participants to experience trajectory dissemination beyond mere verbal transference. The dynamic nature of sense-making acknowledges that the child was not a fixed and pre-given 'structure' but an emergent structure that shaped and was shaped by the PT-aide-child interaction. In that respect, the formation of the child was not a mental process and/or a behavioral output established before the PT-aide-child encounter but was created by the concrete activities of the PT, the aide and the child in the supervision context and further co-created by their interactions. Therefore, no matter how many times the PT-aide-child constellation has met before, each meeting will always represent a new start for how the PT and aide make sense of the child based on different forms of agency and intentionality negotiated within that unique context.

In sum, the concept of participatory sense-making maintains that PTs, by enacting their own sense-making, directly contribute in part to the sense-making of the aides (and vice versa) – and thus to the creation of an impression of the child. This process is not about gaining the right kind of information but about how the PTs and aides disseminate their experiences of the

child across time and space – typically through individual and collective sense-making processes. In that respect, the concept of participatory sense-making draws attention to the multiple versions of the child created by the PTs and aides as they understand the child in relation to different practices, contexts, attitudes and beliefs. Therefore, achieving consensus about the child is a matter of child *transformation*.

### 7.3.2 Lost in translation – conceptualization issues in supervision

Our results showed that the PTs and aides drew on different resources in their sense-making processes and thus created their own unique forms of working knowledge based on their history and situation. Hence, the aides did not come to the supervision session as 'blank slates' but were already embedded within a milieu that had developed historically. Both the PTs and aides adapted different sense-making modalities to enact their domain of meaning based on inherently different values, beliefs, attitudes and behaviors, according to the concept of participatory sense-making described in general by De Paolo et al. (2010). In their work, the PTs had access to the professional language of anatomy and physiology, therapeutic handling skills, and background knowledge of the child's medical condition and motor impairments. The aides, who were a heterogeneous group in terms of education and experience, had their own kind of 'work language' and work competencies, including knowledge about the child in the context of daily life.

However, discrepancies arose when the PTs tried to share their professional embodied knowledge with the aides, especially through spoken words, as the aides did not relate to the essential concepts of physiotherapy. In supervision, the PTs aimed for coherence by demonstrating and explaining their competencies through dyadic and triadic interactions. According to the enactive approach, this is an aspect of participatory sense-making called *interpretive*[10] sense-making (Cuffari et al., 2015); it requires the PT to simultaneously attend to her/his 'utterances'[11] *and* to the aide, which raises issues related to the aide's understanding. The same applies for the aide, but in the reverse direction, prompting the aide to ask *'What do you mean?'* Supervision therefore became a particular style of participatory sense-making in which the PT and aide attempted to make sense of each other's acts and utterances *and* of each other's interpretations of those responsive acts and utterances[12]. Under such conditions, performative and expressive aspects may lead to misinterpretations,

[10] Note that *interpretation* here is enacted in embodied understanding and not mind-reading (Cuffari et al., 2015).
[11] Utterances in this context include both verbal and bodily utterances.
[12] Interpretive sense-making applies in all kind of interactions, but here, we focus on the PT-aide interaction.

particularly when the PTs and aides do not have shared concepts and theories with which to describe, explain and reflect on their practices. However, according to the enactive approach, such misinterpretations can be constructive in the sense that one must evaluate and re-consider one's own utterances and acts, which gives rise to abstraction, imagination and reasoning (Cuffari et al., 2015). Therefore, the interpretive aspect of participatory sense-making resonates with enactive embodied clinical reasoning in physiotherapy as both concepts call for sensitivity or awareness in sense-making, in which languaging emerges as a special kind of agency (Cuffari et al., 2015; Øberg et al., 2015).

In physiotherapy, clinical reasoning skills are considered to be among the key competencies PTs should hold (Øberg et al., 2015). In our study, we observed that movement analysis, including the analysis of movement quality, provided the PTs with a language with which to *speak about* movements and motor functions and therefore a vocabulary (professional jargon) with which to describe professional reflections and decision-making. Thus, the particular ways PTs expressed their clinical reasoning and movement analysis were inseparably and circularly linked to their professional jargon, which resonates with the enactive understanding of movement, languaging and thinking as embedded entities (Cuffari et al., 2015; Gallagher, 2017a). That is, the PT's body displayed a particular linguistic way of being that is structured and shaped by sensory-motor actions and enculturated by the profession's shared registers of normativity and referents. The aide's body, however, also had a linguistic way of being, but it differed from that of the PT. This implies that PTs are sensitive to other registers of significance, a skill that involves a special kind of autonomy acquired via embodied linguistic practices of sense-making.

However, we found that uncertainties arose when the PTs and aides were confronted with these differences during supervision. The PTs accommodated these uncertainties by transforming their professional jargon into an everyday language, which resulted in some loss of specificity. This loss of specificity of language in turn created an impression of decreased specificity in the PT's actions, creating a challenge to the PTs' identity. The aides, on the other hand, noted that there were aspects of the PTs' dissemination that were hard to understand, such as the therapeutic principles for treatment; in response, they requested recipes for working with the child. However, while therapeutic principles (e.g., anatomy, physiology, theory, etc.) give shape and discipline to the PTs' knowing, they provide limited directions regarding how PTs should *act out* their knowing in live sessions with the child, when interactional and contextual components come to the fore.

Our discussions suggest that supervision in pediatric physiotherapy takes place in an ethical dimension in which the autonomy and the precarious position of both the child and the aide are continuously at stake. That is, within the PT-aide-child constellation, the interactional dynamics and the identities and values of the participants may make one participant more or less irrelevant and more or less influential. In our study, the PTs held a particular position through their professional role. How PTs execute their role in this asymmetrical relationship may determine whether the aide's and the child's autonomy is enhanced or reduced. According to the enactive approach, sharing professional knowledge with others, such as aides, is always a *doing-to* self and others (Cuffari et al., 2015). Consequently, PTs should exercise caution with aides who struggle to understand and thus have little opportunity to reach solutions through reflection. Additionally, moving the supervision activity from an anecdotal level to a more analytical-reflective level may decrease the child's autonomy; informal conversations that take place 'over the child's head', which seemed to be an established feature of the PTs' supervision practice, may place the child on the periphery of the sense-making activities. As others have noted, the ultimate demand of the supervision context is to care for the patient/child (Normann, 2013; Øberg, 2008), which implies that the aide is a secondary priority.

### 7.3.3 Supervision awareness and transformative knowing

Our results suggest that managing the supervision trajectory requires certain competencies in PTs, including clinical skills, support and communication. Additionally, sensitivity and awareness, known as interpretive sense-making (Cuffari et al., 2015), appeared to be inherent to the PTs' skills. As previously discussed, the PTs displayed languaging awareness by recognizing linguistic barriers and determining appropriate responses to these barriers. In addition, the PTs demonstrated awareness in the way they approached the aides by activating and modifying their professional knowing in various ways. For instance, to enhance the aides' learning, the PTs fluctuated among three different supervision approaches. What the PTs thought and disseminated depended on *how* they experienced and interacted in the situation. They alternated between addressing the individual (the child or the aide) and the collective (the child and aide), which implies that PTs integrate both the aide and the child into their clinical reasoning and decision-making during supervision. This awareness enabled the PTs to adjust and modify the supervision content in response to their perceptions of the aides' competence and to concentrate on details that were relevant to the ongoing interaction. However, these PT-aide-child explorations took place at the intersection of ambiguous

transformative knowing processes, i.e., the circularity of implicit and explicit knowing through spoken words and actual performances and interactions, material alterations through the integration of equipment (mats, walking devises, toys, etc.) into the therapeutic/supervision context, and temporal adaptations involving the coordination of the PT, the aide and the child in time and space.

However, not all the PTs were able to maneuver all these simultaneous contingencies. Only skillful PTs managed to adapt the therapeutic process to these particular dynamics, which relate to the enactive understanding of operating in construct and transcendent modes (Di Paolo et al., 2010). Notably, in this context, 'skillful' does not correspond to years of practice, as some of the unexperienced PTs displayed the ability to apply and integrate all three supervision approaches while some of the experienced PTs did not. This highlights that managing the supervision trajectory requires something in addition to experience, namely, engaging with experience and imbuing professional actions with meaning, affection and value, as described in general by Di Paolo et al. (2010). In the enactive approach, there is no consensus regarding what underlies the more advanced skills that some people develop, but it is has been suggested that such skills emerge in infancy and continue through developmental processes (Gallagher, 2005). In other words, early capacities for intersubjectivity form the foundation for understanding others in adulthood and thus for the constitution of the self. Through previous situated experiences (from infancy to adulthood), these capacities are structured, fostered and nurtured differently within the mind-body-environment entity, giving rise to individual differences in sensory-motor capabilities (Gallagher, 2005). Thus, how PTs relate meaning to actions and expressive movements will differ according to their individual constitutional structures despite their shared cultural practices and referents.

Connecting to the three supervision approaches, they represented different modalities of sense-making, which imply that the PTs enacted and modified various forms of own professional knowing in supervision. Thus, supervision was as much a learning process for the PTs as it was for the aides; it involved shifts in perspectives and concerns, as described in general by Di Paolo et al. (2010). Concerning skill development, the three approaches may illustrate the journey PTs must pass to advance from novice to expert in supervising. As previously discussed, this journey is not related to years in practice but how the PTs engage with experience. This may involve phases during which PTs find themselves in the spaces between skills, activities and situations, which implies a transitional breakdown. However, during these transitional breakdowns, the PT's autonomy and identity may be reasserted in a

way that drives creativity and thus propels sense-making and skill development in new directions.

We suggest that reflection-in-interaction (Øberg et al., 2015) as an enhancement of participatory sense-making, creates another kind of awareness through the mastery of self-other contingencies in supervision (McGann & De Jaeger, 2009). Mutuality or reciprocity provides PTs with the capacity for contextualized understanding, i.e., a more developed understanding of the aide-child in context that involves shifts of perception in which the PTs attach new meaning to actions. In response, the PT's personal space may extend to include the aide and the child, and the body schemas of all three may merge into one system, advancing the 'we' in supervision and thus enhancing agency, according to Gallagher's & Tollefsen's (2017) general descriptions of body schemas and we-intentions in joint actions.

## 7.4 Knowledge application – a matter of transcendence

Our results showed that supervision was inevitably a learning process for the aides as the PTs provided new experiences, enhanced skill development and helped the aides succeed in their interactions with the child. However, how the PTs supervised did not seem to be related to the aides' actual agency. Like the PTs, the aides stood above transformative processes in their work. For instance, they had to organize the child and themselves in time and space according to daily routines, the child's condition and the treatment tasks/exercises, i.e., temporal adaptations. They also integrated equipment (standing devices, wheel chairs, mats, etc.) into the daily context and coordinated their interaction dynamics in response to the actual child, the other children and co-workers. Thus, much of the aides' agency consisted of knowing how to mediate within this temporal (and transformative) flow, which resonates with the ability to engage across all four modes of concern (Di Paolo et al., 2010). In that respect, the aides were constantly creating novelty, which was given existence in the momentum of interacting with the child. Therefore, their application of knowledge may be viewed as a basic reciprocal being-with-the child that anchored the very possibility of being perceptually attuned to particular situations and events. This involved knowing and doing within and between various contexts of daily life. An ignored aspect of the PTs' supervision practices was that knowing and doing in the supervision context had to go through this 'mill' of temporal and transformative processes. Notably, not all the aides possessed the ability to complete this ambiguous task as it required them to pick up on appropriate perceptual information and transform the inherent meaning of that information.

The aides differed in skill levels from novice to competent and advanced. The novice aides showed a rigid adherence to following recipes and lacked the ability to subtly differentiate the way they applied professional knowledge to their daily work with the child. They struggled to connect the supervision content to everyday contexts and operated mostly in the line and point modes (Di Paolo et al., 2010). Consequently, they seemed to require learning environments in which they could learn *from* experience, consistent with the enactive understanding that sensory-motor processes through bodily interaction provide more detailed practical know-how through proprioception or the feeling of movement, as in Gallagher's (2017b) general descriptions of sensory-motor processes in skill development. Unfortunately, not all the novice aides had the opportunity to try out exercises and handling during PT-aide-child interactions, which could have enhanced the development of their agency.

The competent aides differentiated among different applications and were able to use information gained from the supervision context to plan routines and create order. Faced with similar situations, they displayed a kind of forward *seeing* or sensitivity in the child-context interaction, which resonates with the construct mode (Di Paolo et al., 2010). While they did not catch on to certain elements, such as facilitating movements and movement quality, they recognized that it was important to further develop these skills by executing them through bodily PT-aide-child interactions.

Finally, the advanced aides operated in a completely different league; they transcended the therapeutic principles demonstrated during supervision and intuitively grasped situations as they occurred in their daily work with the child. They demonstrated context sensitivity, which involves awareness of the situation and the child. Compared to the competent aides, the advanced aides displayed complex gestalt comprehensions and used kinematic pattern recognition to *see* in context, as described in general by Gallagher (2018). Although these aides did not participate in embodied PT-child-aide interactions during the supervision sessions, they picked up on significant elements by observing the PT-aide interaction, which in enactive terms can be described as the aide's body schemas being attuned into the PT's actions, as described in general by Gallagher (2017b).

In sum, a massive amount of knowledge work occurred in the aides' daily practices with the child, to which the PTs did not have access. This implies that the application of knowledge makes a largely invisible contribution to the supervision trajectory. Although the aides seemed to identify their role through their relationship with the child, their contributions

extended far beyond direct childcare activities. Across the spectrum of responsibilities they held, the aides supported and sustained the delivery of physiotherapy services.

Our results raise the question whether aides are sufficiently supervised to adjust and adapt treatment tasks according to the daily context and the child's ongoing development, a question that is of particular interest given newer motor learning theories and recent knowledge regarding neuroplasticity (Hadders-Algra, 2000; Kaur et al., 2017; Shepherd, 2013; Shiow et al., 2017). As previously highlighted, the preschool years are critical to learning and development for children with CP, who require individualized and targeted interventions (Shepherd, 2013). This raises questions about the structure, frequency and individualization of supervision for aides. Notably, municipal PTs are responsible for ensuring their accountability for the services they provide (Health-Care-Services, 2001), but it seems unlikely that current supervision practices enhance a sense of agency when supervision occurs once a week or less. At the same time, the service is not structured to provide an increased frequency of supervision.

Nevertheless, this highlights an interesting aspect of a more disciplinary debate: specifically, how the articulation and description of supervision in national health reforms suggest that PTs' professional knowledge is easily accessible – even though PTs spend years learning about the profession, its thinking and artifacts, and therapeutic skills (Jensen et al., 2000). In this way, health reforms and policy documents seem to convey a functionalist, rule-based kind of cognition (De Jaegher, 2013b) in which the role of PTs is to provide aides (and others) with instructions. Thus, policy makers appear to ignore the nature of physiotherapy, i.e., the subjectivity, interpersonal connections and temporal processes distributed across time and space.

## 7.5 Conclusions

In this study, I explored supervision in pediatric physiotherapy by connecting enactive perspectives to my explorations of PTs' practices while supervising preschool aides responsible for the daily follow-up of children with CP. The insights gained from this study, presented through the articles, the overall analysis and the theoretical perspective, have led to an understanding of supervision as an unpredictable trajectory of transformative and temporal processes that incorporate different kinds of rationalities, including supervision, treatment and training. Consequently, supervision challenged the PTs' identity as 'therapists'.

The dissemination of professional knowledge during supervision required several rounds of transformations in which sense-making (knowing) occurred when experience elicited a transformation of both reflective and pre-reflective aspects, which lead to greater understanding of the self, others and the environment. Thus, supervision is not the unconditional transfer of predetermined knowledge, but the creation of a condition with the potential to transform both the PTs and aides on many different levels, e.g., cognitively, emotionally, socially, intuitively, etc. All these elements made transformation a time-consuming process, which had implications for the organization and management of PTs' supervision practices. Essentially, management of the supervision trajectory required PTs with incorporated action competencies and interaction skills to adapt the supervision to a variety of factors depending on the context, the child's impairments and the needs and abilities of the aides. The complexity of this process suggests that supervision that occurs once a week or less may be insufficient to enhance the aides' agency and thus inadequate to provide optimal care for the child.

Aide participation appeared to be a vital element in supervision. During supervision, physical interaction and movement played a crucial role in the sense-making process between the PT, the aide and the child, allowing pre-reflective information to be exchanged and integrated. Observing the aide interacting with the child seemed to provide the PTs with vital information about the aides' practical skills. The aides' own exploration of handling during physical interactions with the child seemed to enhance their reflections on their own performance and encourage the development of active elements of their practical skills. However, previous experiences derived from therapeutic handling and task performance seemed to determine what the aides extracted from the sessions and applied to their own practices. Complexity also increased when the aides were expected to integrate the therapeutic measures into their daily work with the child as several rounds of knowledge transformation were involved.

In sum, this thesis highlights the significance of systematic and individualized supervision of non-professionals. Such supervision should be characterized by multidirectional and exploratory supervision approaches that involve body and movement and transformative and temporal processes. All these elements should be considered when policy makers discuss future health care strategies for children. Thus, our findings may serve to expand the knowledge base in physiotherapy and create a foundation for policy makers to develop more appropriate health care strategies that will benefit children with both CP and similar disabilities and their daily caregivers in the future.

### 7.5.1 Implications

Public documents emphasize that collaboration between municipal PTs and preschool and school staff is important for the fulfillment of health care strategies regarding the habilitation of children (Health-Care-Services, 2015; Helsedirektoratet, 2009). However, before the health care service can achieve its maximum performance, organizational structures must reflect professional requirements. Our results reveal that PTs and aides each have their own kinds of knowledge and that they must cooperate to exchange vital information and enhance awareness of one another's competencies. Adaptive learning environments are important for encouraging such collaboration. Although preschool settings represent authentic learning environments for the child, our results suggest that these settings are insufficient interaction arenas for allowing adjustment and knowledge development to occur. Moreover, there seems to be a lack of coherence among the various laws governing the health and education sectors (i.e., the Health and Care Services Act and the Kindergartens Act). This indicates the importance of experience-based co-designing of future health care services (Bate & Robert, 2006; Cribb, 2018). That is, both education and health care staff (i.e., PTs and aides), the children (i.e., the user perspective) and their families should jointly reflect on their experiences with the service to identify priorities for improvement, formulate changes and design a service that maintains a view of the entire pathway of care to effectively deploy resources and staff.

Physiotherapy education is at a crossroad as the demands on PTs will continue to change. Yet, contemporary education tends to privilege particular skills and hard knowledge (i.e., knowing-that) and value certain narrow aspects of practice (Broberg et al., 2003). However, as our results suggest, the existing practice is inherently more complex, which implies that universities need to carefully consider the skills and type of knowledge that future PTs should have. Although many contemporary education programs emphasize communication skills and reflective thinking along with assessment and treatment methods (Broberg et al., 2003), such skills apply to traditional therapist-patient encounters with adults (not children). How to become part of multidisciplinary communities and how to approach these communities when sharing skills (i.e., the specific actions) are absent from the curriculum. Such capacities will be expected from future PTs and are illuminated in contemporary health care strategies for the future (Health-Care-Services, 2015). This implies that future physiotherapy education must place greater emphasis on the many ways knowledge is (trans)formed and must enhance the sense of personal and professional self gained through students' own experiences.

Beyond the overall results, we anticipate and hope that the publication of the findings will provoke awareness among PTs of the complexities of clinical practice, particularly in terms of supervision and that this will encourage PTs to rethink and if necessary change their clinical course.

### 7.5.2 Future directions

In this study, I explored knowledge transformation during clinical encounters involving supervision in the context of pediatric physiotherapy in primary health care. Collaboration between PTs and non-professionals, such as aides, was highlighted, with implications for the contemporary organization of services for children across sectors. However, a pivotal element of the Norwegian coordination reform is the restructuring of tasks and responsibilities among health care levels (Health-Care-Services, 2015). Based on our results, this will involve rounds of *transformation* of specialized knowledge. Practice and further research should focus on *how* PTs in specialized care communicate their skills and competence to PTs in primary health care. Moreover, it would be of interest to investigate whether the two levels of health care allow sufficient time and space to permit the transformation of knowledge.

The integration of the enactive perspective generated new ways of understanding supervision, PTs' professional actions, aides' learning needs, and the interaction dynamics between the PT, the aide and the child during clinical sessions. The concept of participatory sense-making in particular highlighted certain aspects of the complexities and uncertainties that characterize clinical practice, such as the generation of meaning through the coordination of movement, gestures and verbal communication during physical interaction. However, the use of the enactive approach within the context of pediatric physiotherapy needs to be further developed in terms of content and conduct across diagnoses and age levels.

Our results highlighted the importance of experienced and competent aides. At present, we lack organized programs for skill development in aides. Future research should investigate training type and content to find appropriate training approaches for aides that resonate with their responsibilities. Such approaches might include a combination of everyday learning through interaction with the child under the direction of a PT *and* group training courses solely for aides. To that end, we recommend strengthening aides' perspectives as a basis for supervision and mutual collaboration, for instance, by focusing on basic information regarding the CP diagnosis, classifications of motor impairments and basic principles of therapy.

The present study was small and should be complemented with similar studies in the future. Nonetheless, our findings can serve as a starting point for future quantitative studies, such as questionnaire surveys or effect studies.

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# Paper I

Submitted to The Clinical Supervisor, in review

# Paper II

# Paper III

# Appendices

1. Ethical approval NSD
2. Informed consent letter parents
3. Informed consent letter physiotherapists
4. Informed consent letter aides
5. Basic demographic details about the participants
6. Observation guide
7. Interview guide physiotherapists
8. Interview guide aides

# Appendix 1

Ethical approval NSD

Tilrådning av behandling av personopplysninger NSD

**Norsk samfunnsvitenskapelig datatjeneste AS**
NORWEGIAN SOCIAL SCIENCE DATA SERVICES

Harald Hårfagres gate 29
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Marit Sørvoll
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Universitetet i Tromsø
MH-bygget
9037 TROMSØ

Vår dato: 28.05.2013 Vår ref:34467 / 3 / JSL Deres dato: Deres ref:

## TILBAKEMELDING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 06.05.2013. Meldingen gjelder prosjektet:

| | |
|---|---|
| *34467* | *Kommunal barnefysioterapi: Fagutøvelse i spenning mellom behandling og veiledning?* |
| *Behandlingsansvarlig* | *Universitetet i Tromsø, ved institusjonens øverste leder* |
| *Daglig ansvarlig* | *Marit Sørvoll* |

Personvernombudet har vurdert prosjektet, og finner at behandlingen av personopplysninger vil være regulert av § 7-27 i personopplysningsforskriften. Personvernombudet tilrår at prosjektet gjennomføres.

Personvernombudets tilråding forutsetter at prosjektet gjennomføres i tråd med opplysningene gitt i meldeskjemaet, korrespondanse med ombudet, ombudets kommentarer samt personopplysningsloven og helseregisterloven med forskrifter. Behandlingen av personopplysninger kan settes i gang.

Det gjøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema, http://www.nsd.uib.no/personvern/meldeplikt/skjema.html. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.

Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, http://pvo.nsd.no/prosjekt.

Personvernombudet vil ved prosjektets avslutning, 01.03.2023, rette en henvendelse angående status for behandlingen av personopplysninger.

Vennlig hilsen

Vigdis Namtvedt Kvalheim

Juni Skjold Lexau

Kontaktperson: Juni Skjold Lexau tlf: 55 58 36 01
Vedlegg: Prosjektvurdering

# Personvernombudet for forskning

## Prosjektvurdering - Kommentar

Prosjektnr: 34467

VEDLEGG
Vi ber om å få tilsendt spørreskjema og informasjonsskriv for spørreskjemaundersøkelsen så snart dette er utarbeidet. Denne delen av prosjektet kan ikke gå i gang før vi har vurdert det.

DATAINNSAMLING OG METODE
Det skal totalt gjennomføres 12 observasjoner. Seks observasjoner av triaden fysioterapeut, nær voksenperson/assistent fra barnehage og barnet, samt seks observasjoner av nære voksenperson/assistent i barnehage og barn. Det skal i tillegg gjennomføres 12 dybdeintervju. Seks intervju av fysioterapeut og seks intervju av nær voksenperson/assistent i barnehage.

Det skal videre gjennomføres en spørreundersøkelse blant alle landets kommunalt ansatte fysioterapeuter, og evt øvrige fysioterapeuter.

Det vil i prosjektet bli registrert sensitive personopplysninger om helseforhold, jf. personopplysningsloven § 2 nr. 8 c).

Jf. e-post mottatt 24.05.2013, vil barn som gir uttrykk for at de ikke vil bli filmet, ikke bli filmet.

TREDJEPERSON
Det vil kun innhentes informasjon om barn (pasienter) som er inkludert i studien. Det innhentes informerte samtykker fra foreldre.

KONTAKTETABLERING
Framgangsmåte for førstegangskontakt som er beskrevet i meldeskjemaet finnes tilfredsstillende.

INFORMASJON OG SAMTYKKE
Ifølge prosjektmeldingen skal det innhentes muntlig og skriftlig samtykke basert på muntlig og skriftlig informasjon om prosjektet og behandling av personopplysninger. Personvernombudet finner reviderte informasjonsskriv, mottatt per e-post 27.05.2013, tilfredsstillende utformet i henhold til personopplysningslovens vilkår.

- Foreldre vil få tilsendt observasjons- og intervjuguide sammen med informasjonsskrivet.

DATABEHANDLER
Questback er databehandler for prosjektet. Det er inngått kontrakt mellom UIT og QuestBack AS, der retningslinjer regulerer begge parters plikter og rettigheter. Personvernombudet forutsetter at det foreligger en databehandleravtale mellom Questback og Universitetet i Tromsø for den behandling av data som finner sted, jf. personopplysningsloven § 15. For råd om hva databehandleravtalen bør inneholde, se Datatilsynets veileder på denne siden:
http://datatilsynet.no/verktoy-skjema/Skjema-maler/Databehandleravtale---mal/

PROSJEKTSLUTT
Prosjektet skal avsluttes 01.03.2023 og innsamlede opplysninger skal da anonymiseres, og lyd- og videoopptak slettes. Anonymisering innebærer at direkte personidentifiserende opplysninger som

navn/koblingsnøkkel slettes, og at indirekte personidentifiserende opplysninger (sammenstilling av bakgrunnsopplysninger som f.eks. yrke, alder, kjønn) fjernes eller grovkategoriseres slik at ingen enkeltpersoner kan gjenkjennes i materialet.

Verken direkte eller indirekte personidentifiserbare opplysninger skal finnes verken hos Questback eller UiT. Adresser og logger slettes. Det er inngått kontrakt mellom UIT og Questback AS, der retningslinjer regulerer begge parters plikter og rettigheter.

# Appendix 2

Informed consent letter parents

Informasjonsskriv

# Forespørsel om deltakelse i forskningsprosjektet:

# ”Kommunal barnefysioterapi: fagutøvelse i spenning mellom behandling og veiledning”

**Bakgrunn og hensikt**
Dette er et spørsmål til deg om å la ditt barn delta i en forskningsstudie for å øke kunnskapen om veiledningspraksis i barnefysioterapi, og hva som synes betydningsfullt for at barns nære voksenpersoner (assistent, støttepedagog og lignende) kan klare å trene med barn på en hensiktsmessig måte. Studiens fokus er rettet mot hvordan praktisk fysioterapikunnskap formidles, anvendes og blir forstått, samt hvordan denne type praksis erfares av fysioterapeuter og barns nære voksenpersoner i barnehagen. Forespørselen rettes til deg fordi du er forelder til et barn med Cerebral Parese som får jevnlig fysioterapi og hvor den daglige treningen gjennomføres av andre enn fysioterapeuten selv. Studien er et doktorgradsprosjekt ved Institutt for helse- og omsorgsfag, Universitetet i Tromsø. Universitetet i Tromsø er ansvarlig institusjon.

**Hva innebærer studien?**
Studien innebærer at barnefysioterapeut og stipendiat Marit Sørvoll observerer ditt barn i to ulike situasjoner. Første observasjon gjøres i en veiledningssituasjon hvor fysioterapeut, nær voksenperson og barnet er til stedet. Fokus vil være rettet mot veiledningens formål, hvilke roller barnet, fysioterapeuten og nær voksenperson inntar underveis, hva som skjer i samhandlingen mellom de tre, samt om det skjer endringer underveis hos de ulike deltakerne. En uke etter første observasjon gjøres en ny observasjon. Denne gangen observeres samhandling mellom barnet og nær voksenperson i barnehagen. Fokus vil nå være rettet mot de tiltak som barnets nære voksenperson har ansvar for å gjennomføre til daglig i barnehagen. Begge observasjonene vil bli filmet. Dersom barnet selv gir uttrykk for at det ikke vil bli filmet, vil barnet bli hørt.

Stipendiaten vil i tillegg gjennomføre intervju med lydopptak av lokal fysioterapeut etter første observasjon, og nær voksenperson etter andre observasjon. Samtalene vil dreie seg om erfaringer omkring det å gi og få veiledning. Intervju- og observasjonsguidens ulike temaer er lagt som vedlegg til dette skrivet, og er å finne etter samtykke til deltakelse i studien. På forespørsel til stipendiaten kan du også få se temaenes underpunkter.

**Mulige fordeler og ulemper**
Studien medfører ikke at det skal gjøres noe annerledes med ditt barn i fysioterapien enn det som vanligvis gjøres. Dermed vil ikke studien ha direkte påvirkning på ditt barn her og nå. Samtidig vil studien kunne frembringe kunnskap som på sikt kan være av betydning for det fysioterapitilbudet barn med cerebral parese får i primærhelsetjenesten. For noen barn kan det oppleves uvant å bli filmet.

**Hva skjer med informasjonen om ditt barn?**
Informasjonen som registreres om ditt barn skal kun brukes slik som beskrevet i hensikten med studien. Alle opplysningene vil bli behandlet uten navn og fødselsnummer eller andre direkte gjenkjennende opplysninger. En kode knytter ditt barn til de gitte opplysninger gjennom en navneliste. Det er kun autorisert personell som har adgang til navnelisten og som kan finne tilbake til ditt barn. Det vil ikke være mulig å identifisere ditt barn i resultatene av studien når disse publiseres.

I henhold til regelverket om etterkontroll av doktorgradsarbeid ved Universitetet i Tromsø, vil alle data bli oppbevart i et innelåst skap/rom på universitetet i minimum 5 år etter innlevering av doktorgradsoppgaven. Prosjektslutt er derfor satt til 01.03. 2023. På dette tidspunktet vil navnelister og

alle lyd- og videofiler bli slettet. Skriftliggjøring av lyd- og videofiler vil bli anonymisert og tatt vare på etter prosjektslutt med tanke på fremtidig etterprøvbarhet av egen forskning.

**Frivillig deltakelse**
Det er frivillig å delta i studien. Du kan når som helst og uten å oppgi noen grunn trekke ditt samtykke til at barnet ditt skal delta i studien. Dette vil ikke få konsekvenser for ditt barns videre behandling. Dersom du ønsker at barnet ditt skal delta, undertegner du samtykkeerklæringen på siste side og sender den til stipendiat Marit Sørvoll i den vedlagte ferdig utfylte konvolutten. Skriv ned det telefonnummeret hvor du er tilgjengelig på dagtid, slik at kan kontaktes. Du har fått to eksemplarer av samtykkeerklæringen. Den ene beholder du som en kopi.

Om du nå sier ja til å delta, kan du senere trekke tilbake samtykket uten at det påvirker ditt barns øvrige behandling og oppfølging. Dersom du senere ønsker å trekke deg eller har spørsmål til studien, kan du kontakte **barnefysioterapeut og stipendiat Marit Sørvoll, telefon : 776 25152,**
**e-mail: marit.sorvoll@uit.no**

**Ytterligere informasjon om studien finnes i kapittel *A*** – *utdypende forklaring av hva studien innebærer.*

**Ytterligere informasjon om personvern og forsikring finnes i kapittel B** – *Personvern, økonomi og forsikring.*

**Samtykkeerklæring følger etter kapittel B.**

# Kapittel A- utdypende forklaring av hva studien innebærer

**Kriterier for deltakelse:**
Følgende kriterier må være oppfylt for å kunne delta i studien:

- Barnet må ha diagnosen Cerebral Parese, GMFCS-nivå III-IV.
- Barnet må være mellom 1-6 år.
- Barnet har ikke startet på skolen.
- Barnet har oppfølging av kommunal fysioterapeut.
- Barnet har tildelt ressurs i form av støttepedagog, assistent eller tilsvarende.

**Bakgrunnsinformasjon om studien**
Barn med Cerebral Parese utgjør en stor andel av de barn kommunale barnefysioterapeuter møter i sin praksis. For å fremme bevegelsesutviklingen hos disse barna, er det nødvendig med individuelt tilpassede tiltak fra tidlig småbarnsalder. I den forbindelse veileder ofte fysioterapeuter barnets nære voksenperson i barnehagen for å kunne tilrettelegge for daglig stimulering av barnet. Vi har i dag lite kunnskap om hvordan veiledning utformes og gjennomføres i praksis. Like lite vet vi hva som vektlegges som betydningsfullt i veiledningen, og hvordan den erfares av fysioterapeuter og barnas nære voksenpersoner.

**Studiens design**
For å frembringe kunnskap om kommunefysioterapeuters veilednings praksis, er både en kvalitativ og kvantitativ tilnærming valgt. I kvalitativ tilnærming er både observasjon og intervju valgt som metode. Observasjon for å gi et bilde av praksis slik den utspiller seg, og intervju for å få en dypere innsikt i erfaringer og refleksjoner over fysioterapeutens og nær voksenpersons egne handlinger i praksis. På bakgrunn av funnene i den kvalitative tilnærmingen vil det utarbeides et strukturert spørreskjema som skal sendes til alle kommunalt ansatte barnefysioterapeuter i Norge. Svar på spørreskjemaet vil kunne si noe om hvor utbredt ulike aspekter ved veiledningspraksis er blant kommuneansatte fysioterapeuter i Norge.

**Tidsskjema – hva skjer og når skjer det?**
Etter hvert som stipendiaten mottar samtykkeskjema per post, vil deltakerne inkluderes i studien. Når samtykke fra barnets foreldre foreligger, vil Sørvoll ta direkte kontakt for å få kontaktinformasjon til barnets lokale fysioterapeut og nære voksenperson i barnehagen. Hun vil så opprette kontakt og rette en forespørsel til dem om deltakelse i prosjektet. Når informert samtykke foreligger fra disse, tar Sørvoll kontakt på nytt med fysioterapeut og nær voksenperson i barnehagen for å avtale tid og sted for henholdsvis observasjoner og intervju. Fra første observasjon vil det gå ca. en uke før stipendiaten kommer tilbake og gjennomfører andre observasjon. Observasjon av veiledning vil foregå der veiledningen vanligvis finner sted (barnehage, fysioterapeutens lokaler, eventuelt annet sted). Intervjuene vil finne sted der det passer best for henholdsvis fysioterapeut og nær voksenperson.

**Stipendiat:** Barnefysioterapeut og stipendiat Marit Sørvoll, Institutt for Helse- og Omsorgsfag, Universitetet i Tromsø. Telefon: 776 25152. E-mail: marit.sorvoll@uit.no

**Veileder:** Førsteamanuensis, spesialist i barnefysioterapi Gunn Kristin Øberg, Institutt for Helse- og Omsorgsfag, Universitetet i Tromsø. Telefon: 776 23260. E-mail: gunn.kristin.oeberg@uit.no

**Prosjektdeltakernes ansvar**
Som deltakere i studien har du som foreldre ansvar for, så langt som det er mulig, å sørge for at barnet kommer til avtalt fysioterapitime.

# Kapittel B - Personvern, økonomi og forsikring

**Personvern**
Opplysninger som registreres om ditt barn er: navn, alder, diagnose, GMFM-nivå, eventuelle operasjoner og botox-behandling.

**Utlevering av materiale og opplysninger til andre**
Opplysninger vil ikke bli utlevert til andre. Deler av materialet vil bli diskutert med veileder

**Rett til innsyn og sletting av opplysninger om deg**
Hvis du sier ja til deltakelse i studien, har du rett til å få innsyn i hvilke opplysninger som er registrert om ditt barn. Du har videre rett til å få korrigert eventuelle feil i de opplysningene som er registrert. Dersom du trekker barnet fra studien, kan du kreve å få slettet innsamlede opplysninger, med mindre opplysningene allerede er inngått i analyser eller brukt i vitenskapelige publikasjoner.

**Økonomi og Fondets rolle**
Studien er finansiert gjennom forskningsmidler fra Fond for etter- og videreutdanning for fysioterapeuter. Fondets tildelinger skal medvirke til styrking og utvikling av fysioterapifaget i tråd med helsepolitiske utfordringer og til kvalitet i fagutøvelsen. Det er ingen kjente etiske eller praktiske utfordringer knyttet til økonomi, samt ingen kjente interessekonflikter.

**Forsikring**
Barnet er dekket gjennom de lover og regler som gjelder i kommunehelsetjenestelovgivningen.

**Informasjon om utfallet av studien**
Hvis du på vegne av ditt barn sier ja til å delta har du rett til å få informasjon om resultatet av studien. Informasjon om resultater og publiserte artikler vil du kunne få ved å henvende deg til stipendiat Marit Sørvoll. Telefon: 77625152 E-mail: marit.sorvoll@uit.no

# Samtykke til deltakelse i studien

Jeg er villig til at mitt barn deltar i studien, og opphever samtidig taushetsplikten for fysioterapeut og nær voksenperson i denne sammenheng. Jeg er også gitt muligheten til å lese gjennom intervju- og observasjonsguidens ulike temaer.

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(Signert av forelder, dato)

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(BLOKKBOKKSTAVER: mors navn/fars navn)

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(Telefonnummer, mor/far)

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(Barnets navn)

Jeg bekrefter å ha gitt informasjon om studien

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(Signert, rolle i studien, dato)

# Appendix 3

Informed consent letter physiotherapists

Informasjonsskriv fysioterapeuter

# Forespørsel om deltakelse i forskningsprosjektet

# ”Kommunal barnefysioterapi: fagutøvelse i spenning mellom behandling og veiledning”

**Bakgrunn og hensikt**
Dette er et spørsmål til deg om å delta i en forskningsstudie for å øke kunnskapen om veiledningspraksis i barnefysioterapi, og hva som synes betydningsfullt for at barns nære voksenpersoner (assistent, støttepedagog og lignende) kan klare å trene med barn på en hensiktsmessig måte. Studiens fokus er rettet mot hvordan praktisk fysioterapikunnskap formidles, anvendes og blir forstått, samt hvordan denne type praksis erfares av fysioterapeuter og barns nære voksenpersoner. Forespørselen rettes til deg fordi du er lokal fysioterapeut til et barn med Cerebral Parese. Studien er en doktorgradsstudie ved Institutt for helse- og omsorgsfag ved Universitetet i Tromsø. Universitetet i Tromsø er ansvarlig institusjon.

**Hva innebærer studien?**
Studien innebærer at stipendiat Marit Sørvoll vil observere barnet som har Cerebral Parese i to ulike situasjoner. Første observasjon gjøres i et klinisk møte mellom deg som fysioterapeut, barn og nær voksenperson i barnehagen. Fokus vil være rettet mot hva som utspiller seg i situasjonen der veiledning er en større eller mindre del av det som skal skje i det kliniske møtet. En uke etter første observasjon gjøres en ny observasjon. Denne gangen observeres samhandling mellom barnet og nær voksenperson i barnehagen. Fokus vil nå være rettet mot de tiltak som nær voksenperson i barnehagen har ansvar for å gjennomføre til daglig. Begge observasjonene vil bli filmet. Dersom barnet selv gir uttrykk for at det ikke vil bli filmet, vil barnet bli hørt.

Stipendiaten vil i tillegg gjennomføre intervju med lydopptak av deg som fysioterapeut etter første observasjon, og nær voksenperson etter andre observasjon. Samtalene vil dreie seg om erfaringer omkring det å gi og få veiledning.

**Mulige fordeler og ulemper**
Studien medfører ikke at det skal gjøres noe annerledes med barnet i fysioterapien enn det som vanligvis gjøres. Dermed vil studien ikke ha direkte påvirkning verken på dine forberedelser eller det som du gjør sammen med barnet i situasjonen. For deg som barnets fysioterapeut vil det imidlertid kunne oppleves som en ulempe at du må sette av tid til å samtale med stipendiaten i forbindelse med observasjonen. På den annen side får du mulighet til å formidle hva du opplever som vesentlig i sammenheng med veiledning. For noen kan det oppleves uvant å bli filmet.

**Hva skjer med informasjonen om deg?**
Informasjonen som registreres om deg skal kun brukes slik som beskrevet i hensikten med studien. Alle opplysningene vil bli behandlet uten navn og fødselsnummer eller andre direkte gjenkjennende opplysninger. En kode knytter deg til de gitte opplysninger gjennom en navneliste. Det er kun autorisert personell som har adgang til navnelisten og som kan finne tilbake til deg. Det vil ikke være mulig å identifisere deg i resultatene av studien når disse publiseres.

I henhold til regelverket om etterkontroll av doktorgradsarbeid ved Universitetet i Tromsø, vil all data bli oppbevart i et innelåst skap/rom på universitetet i minimum 5 år etter innlevering av doktorgradsoppgaven. Prosjektslutt er derfor satt til 01.03. 2023. På dette tidspunktet vil navnelister og alle lyd- og videofiler bli slettet. Skriftliggjøring av lyd- og videofiler vil bli anonymisert og tatt vare på etter prosjektslutt med tanke på fremtidig etterprøvbarhet av egen forskning.

**Frivillig deltakelse**
Det er frivillig å delta i studien. Du kan når som helst og uten å oppgi noen grunn trekke ditt samtykke til å delta i studien. Dersom du ønsker å delta, undertegner du samtykkeerklæringen på siste side og sender den til Sørvoll i den ferdig utfylte konvolutten. Du har fått to eksemplarer av samtykkeerklæringen. Den ene beholder du som en kopi.

Om du nå sier ja til å delta, kan du senere trekke tilbake samtykket. Dersom du senere ønsker å trekke deg eller har spørsmål til studien, kan du kontakte **barnefysioterapeut og stipendiat Marit Sørvoll, telefon : 776 25152, mail: marit.sorvoll@uit.no**

**Ytterligere informasjon om studien finnes i kapittel *A*** – *utdypende forklaring av hva studien innebærer.*

**Ytterligere informasjon om personvern, økonomi og forsikring finnes i kapittel B** – *Personvern, økonomi og forsikring.*

**Samtykkeerklæring følger etter kapittel B.**

# Kapittel A- utdypende forklaring av hva studien innebærer

**Kriterier for deltakelse:**
Følgende kriterier må være oppfylt for å kunne delta i studien:

- Barnet må ha diagnosen Cerebral Parese, GMFCS-nivå III-IV.
- Barnet må være mellom 1-6 år.
- Barnet har ikke startet på skolen.
- Barnet har oppfølging av kommunal fysioterapeut.
- Barnet har tildelt ressurs i form av støttepedagog, assistent eller tilsvarende.

**Bakgrunnsinformasjon om studien**
I dagens fysioterapipraksis til barn fremstår veiledning å ha en sentral plass i fagutøvelsen. Det vil si at tilrettelegging og motorisk stimulering veiledes og delegeres videre til barnas nære voksenpersoner. Cerebral Parese utgjør en stor nevrologisk diagnosegruppe som kommunale barnefysioterapeuter har ansvar for. For å fremme bevegelsesutviklingen hos disse barna, er det nødvendig med individuelt tilpassede tiltak fra tidlig småbarnsalder. I den forbindelse veileder ofte fysioterapeuter barnets nære voksenperson for å kunne tilrettelegge for daglig stimulering av barnet. Vi har i dag lite kunnskap om hvordan veiledning utformes og gjennomføres i praksis. Like lite vet vi hva som vektlegges som betydningsfullt i veiledningen, og hvordan den erfares av fysioterapeuter og barnas nære voksenpersoner.

**Studiens design**
For å frembringe kunnskap om kommunefysioterapeuters bruk av veiledning, er både en kvalitativ og kvantitativ tilnærming valgt. I kvalitativ tilnærming er både observasjon og intervju valgt som metode. Observasjon for å gi et bilde av praksis slik den utspiller seg, og intervju for å få dypere innsikt i erfaringer og refleksjoner over egne handlinger i praksis. På bakgrunn av funnene i den kvalitative tilnærmingen vil det utarbeides et strukturert spørreskjema som skal sendes alle kommunalt ansatte barnefysioterapeuter i Norge. Studiens kvantitative tilnærming vil kunne si noe om hvor utbredt ulike aspekter ved veiledningspraksis er blant kommuneansatte fysioterapeuter.

**Tidsskjema – hva skjer og når skjer det?**
Etter hvert som undertegnede mottar samtykkeskjema per post, vil deltakerne inkluderes i studien. Informert samtykke fra foreldre er innhentet i forkant av stipendiatens henvendelse til deg. Gjennom informert samtykke har foreldre opphevet din taushetsplikt i denne sammenheng. De har også fått muligheten til å lese gjennom intervju- og observasjonsguidens ulike temaer.

Når informert samtykke foreligger fra foreldre, fysioterapeut og nær voksenperson, tar stipendiaten kontakt på nytt og avtaler tid og sted for henholdsvis observasjoner og intervju. Fra første observasjon vil det gå ca. en uke før stipendiaten kommer tilbake og gjennomfører andre observasjon.

**Stipendiat:** Barnefysioterapeut og stipendiat Marit Sørvoll, Institutt for Helse- og Omsorgsfag, Universitetet i Tromsø. Telefon: 776 25152, e-mail: marit.sorvoll@uit.no

**Veileder:** Førsteamanuensis, spesialist i barnefysioterapi Gunn Kristin Øberg, Institutt for Helse- og Omsorgsfag, Universitetet i Tromsø. Telefon: 776 23260, e-mail: gunn.kristin.oeberg@uit.no

**Prosjektdeltakernes ansvar**
Som deltaker i studien har du som fysioterapeut ansvar for, så langt som det er mulig, å sørge for at inngåtte avtaler blir overholdt, samt sette av tid til intervju i etterkant av observasjonen.

# Kapittel B - Personvern, økonomi og forsikring

**Personvern**
Opplysninger som registreres om deg er: navn, arbeidssted, utdanningsår, arbeidserfaring, eventuell type videreutdanning eller spesialisering.

**Utlevering av materiale og opplysninger til andre**
Opplysninger vil ikke bli utlevert til andre. Deler av materialet vil bli diskutert med veileder

**Rett til innsyn og sletting av opplysninger om deg**
Hvis du sier ja til å delta i studien, har du rett til å få innsyn i hvilke opplysninger som er registrert om deg. Du har videre rett til å få korrigert eventuelle feil i de opplysningene er registrert. Dersom du trekker deg fra studien, kan du kreve å få slettet innsamlede opplysninger, med mindre opplysningene allerede er inngått i analyser eller brukt i vitenskapelige publikasjoner.

**Økonomi og Fondets rolle**
Studien er finansiert gjennom forskningsmidler fra Fond for etter- og videreutdanning for fysioterapeuter. Fondets tildelinger skal medvirke til styrking og utvikling av fysioterapifaget i tråd med helsepolitiske utfordringer og til kvalitet i fagutøvelsen. Det er ingen kjente etiske eller praktiske utfordringer knyttet til økonomi, samt ingen kjente interessekonflikter.

**Forsikring**
Som prosjektdeltaker er du dekket gjennom de lover og regler som gjelder i kommunehelsetjenestelovgivningen.

**Informasjon om utfallet av studien**
Som deltaker i prosjektet har du rett til å få informasjon om resultatet av studien. Informasjon om resultater og publiserte artikler vil du kunne få ved å henvende deg til stipendiat Marit Sørvoll, telefon: 776 25152, e-mail: marit.sorvoll@uit.no

# Samtykke til deltakelse i studien

Jeg er villig til å delta i studien

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(Signert av prosjektdeltaker, dato)

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(BLOKKBOKSTAVER, prosjektdeltakers navn, telefonnummer, arbeidssted)

Jeg bekrefter å ha gitt informasjon om studien

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(Signert, rolle i studien, dato)

# Appendix 4

Informed consent letter aides

Informasjonsskriv assistenter

# Forespørsel om deltakelse i forskningsprosjektet

# ”Kommunal barnefysioterapi: fagutøvelse i spenning mellom behandling og veiledning”

**Bakgrunn og hensikt**
Dette er et spørsmål til deg om å delta i en forskningsstudie for å øke kunnskapen om veiledningspraksis i barnefysioterapi, og hva som synes betydningsfullt for at barns nære voksenpersoner (assistent, støttepedagog og lignende) i barnehagen kan klare å trene med barn på en hensiktsmessig måte. Studiens fokus er rettet mot hvordan praktisk fysioterapikunnskap formidles, anvendes og blir forstått, samt hvordan denne type praksis erfares av fysioterapeuter og barns nære voksenpersoner. Forespørselen rettes til deg fordi du er nær voksenperson til et barn med Cerebral Parese og får veiledning av fysioterapeut for å kunne tilrettelegge og trene med barnet til daglig. Prosjektet er et doktorgradsprosjekt ved Institutt for helse- og omsorgsfag ved Universitetet i Tromsø. Universitetet i Tromsø er ansvarlig institusjon.

**Hva innebærer studien?**
Studien innebærer at stipendiaten vil observere barnet som har Cerebral Parese i to ulike situasjoner. Første observasjon gjøres i et klinisk møte mellom fysioterapeut, barn og du som nær voksenperson i barnehagen. Fokus vil være rettet mot hva som utspiller seg i situasjonen der veiledning er en større eller mindre del av det som skal skje i det kliniske møtet. En ny observasjon gjøres ca. en uke etter første observasjon. Denne gangen observeres samhandling mellom deg og barnet i barnehagen. Fokus vil nå være rettet mot de tiltak som du har ansvar for å gjennomføre til daglig. Begge observasjonene vil bli filmet. Dersom barnet selv gir uttrykk for at det ikke vil bli filmet, vil det bli hørt.

Stipendiaten vil i tillegg gjennomføre intervju med lydopptak av lokal fysioterapeut etter første observasjon, og med deg som nær voksenperson etter andre observasjon. Samtalene vil dreie seg om erfaringer omkring det å gi og få veiledning.

**Mulige fordeler og ulemper**
Studien medfører ikke at det skal gjøres noe annerledes med barnet i fysioterapien enn det som vanligvis gjøres. Dermed vil ikke studien ha direkte påvirkning på hva som gjøres der og da. Det skal heller ikke skje noen spesiell tilrettelegging i barnehagen i forbindelse med den andre observasjonen. Dersom andre barn i barnehagen vanligvis bruker å være tilstede i situasjoner der daglig trening finner sted, må samtykke fra foreldrene innhentes i forhold til at disse barna kan komme på film.

For deg som barnets nære voksenperson kan det oppleves som en ulempe at du må sette av tid til å samtale med stipendiaten i forbindelse med den andre observasjonen. På den annen side får du mulighet til å formidle hva du opplever som vesentlig i sammenheng med veiledning. For noen kan det oppleves uvant å bli filmet.

**Hva skjer med informasjonen om deg?**
Informasjonen som registreres om deg skal kun brukes slik som beskrevet i hensikten med studien. Alle opplysningene vil bli behandlet uten navn og fødselsnummer eller andre direkte gjenkjennende opplysninger. En kode knytter deg til de gitte opplysninger gjennom en navneliste. Det er kun autorisert personell som har adgang til navnelisten og som kan finne tilbake til deg. Det vil ikke være mulig å identifisere deg i resultatene av studien når disse publiseres.

I henhold til regelverket om etterkontroll av doktorgradsarbeid ved Universitetet i Tromsø, vil all data bli oppbevart i et innelåst skap/rom på universitetet i minimum 5 år etter innlevering av doktorgradsoppgaven. Prosjektslutt er derfor satt til 01.03. 2023. På dette tidspunktet vil navnelister og alle lyd- og videofiler bli slettet. Skriftliggjøring av lyd- og videofiler vil bli anonymisert og tatt vare på etter prosjektslutt med tanke på fremtidig etterprøvbarhet av egen forskning.

**Frivillig deltakelse**
Det er frivillig å delta i studien. Du kan når som helst og uten å oppgi noen grunn trekke ditt samtykke til å delta i studien. Dersom du ønsker å delta, undertegner du samtykkeerklæringen på siste side og sender den til Sørvoll i den ferdig utfylte konvolutten. Du har fått to eksemplarer av samtykkeerklæringen. Den ene beholder du som en kopi.

Om du nå sier ja til å delta, kan du senere trekke tilbake samtykket. Dersom du senere ønsker å trekke deg eller har spørsmål til studien, kan du kontakte **barnefysioterapeut og stipendiat Marit Sørvoll, telefon : 776 25152, e-mail: marit.sorvoll@uit.no**

**Ytterligere informasjon om studien finnes i kapittel *A*** – *utdypende forklaring av hva studien innebærer.*

**Ytterligere informasjon om personvern, økonomi og forsikring finnes i kapittel B** – *Personvern, økonomi og forsikring.*

**Samtykkeerklæring følger etter kapittel B.**

# Kapittel A- utdypende forklaring av hva studien innebærer

**Kriterier for deltakelse:**
Følgende kriterier må være oppfylt for å kunne delta i studien:

- Barnet må ha diagnosen Cerebral Parese, GMFCS-nivå III-IV.
- Barnet må være mellom 1-6 år.
- Barnet har ikke startet på skolen.
- Barnet har oppfølging av kommunal fysioterapeut.
- Barnet har tildelt ressurs i form av støttepedagog, assistent eller tilsvarende.

**Bakgrunnsinformasjon om studien**
I dagens fysioterapipraksis til barn fremstår veiledning å ha en sentral plass i fagutøvelsen. Det vil si at tilrettelegging og motorisk stimulering veiledes og delegeres videre til barnas nære voksenpersoner. Cerebral Parese utgjør en stor nevrologisk diagnosegruppe som kommunale barnefysioterapeuter har ansvar for. For å fremme bevegelsesutviklingen hos disse barna, er det nødvendig med individuelt tilpassede tiltak fra tidlig småbarnsalder. I den forbindelse veileder ofte fysioterapeuter barnets nære voksenperson for å kunne tilrettelegge for daglig stimulering av barnet. Vi har i dag lite kunnskap om hvordan veiledning utformes i praksis og dens ulike aspekter. Like lite vet vi hva som vektlegges som betydningsfullt i veiledningen, og hvordan den erfares av fysioterapeuter og barnas nære voksenpersoner.

**Studiens design**
For å frembringe kunnskap om kommunefysioterapeuters bruk av veiledning, er både en kvalitativ og kvantitativ tilnærming valgt. I kvalitativ tilnærming er både observasjon og intervju valgt som metode. Observasjon vil kunne gi et bilde av praksis slik den utspiller seg, mens intervju vil kunne gi dypere innsikt i erfaringer og refleksjoner over hva som skjer i praksis. På bakgrunn av funnene i den kvalitative tilnærmingen vil det utarbeides et strukturert spørreskjema som skal sendes alle kommunalt ansatte barnefysioterapeuter i Norge. Studiens kvantitative tilnærming vil kunne si noe om hvor utbredt ulike aspekter ved veiledningspraksis er blant kommuneansatte fysioterapeuter.

**Tidsskjema – hva skjer og når skjer det?**
Etter hvert som undertegnede mottar samtykkeskjema per post, vil deltakerne inkluderes i studien. Informert samtykke fra foreldre er innhentet i forkant av stipendiatens henvendelse til deg. Gjennom informert samtykke har foreldre opphevet din taushetsplikt i denne sammenheng. De har også fått muligheten til å lese gjennom intervju- og observasjonsguidens ulike temaer.

Når informert samtykke foreligger fra foreldre, fysioterapeut og nær voksenperson, tar stipendiaten kontakt på nytt og avtaler tid og sted for henholdsvis observasjoner og intervju. Fra første observasjon vil det gå ca. en uke før stipendiaten kommer tilbake og gjennomfører andre observasjon.

**Stipendiat:** Barnefysioterapeut og stipendiat Marit Sørvoll, Institutt for Helse- og Omsorgsfag, Universitetet i Tromsø. Telefon: 776 25152, e-mail: marit.sorvoll@uit.no

**Veileder:** Førsteamanuensis, spesialist i barnefysioterapi Gunn Kristin Øberg, Institutt for Helse- og Omsorgsfag, Universitetet i Tromsø. Telefon: 776 23260, e-mail: gunn.kristin.oeberg@uit.no

**Prosjektdeltakernes ansvar**
Som deltaker i studien har du som barnets nære voksenperson ansvar for, så langt som det er mulig, å sørge for at inngåtte avtaler blir overholdt, samt sette av tid til intervju i etterkant av observasjonen. Det gis ingen økonomisk kompensasjon for deltakerne i studien.

# Kapittel B - Personvern, økonomi og forsikring

**Personvern**
Opplysninger som registreres om deg er: navn, arbeidssted, arbeidserfaring, eventuell utdanning og utdanningsår, eventuell type videreutdanning/spesialisering.

**Utlevering av materiale og opplysninger til andre**
Opplysninger vil ikke bli utlevert til andre. Deler av materialet vil bli diskutert med veileder

**Rett til innsyn og sletting av opplysninger om deg**
Hvis du sier ja til å delta i studien, har du rett til å få innsyn i hvilke opplysninger som er registrert om deg. Du har videre rett til å få korrigert eventuelle feil i de opplysningene er registrert. Dersom du trekker deg fra studien, kan du kreve å få slettet innsamlede opplysninger, med mindre opplysningene allerede er inngått i analyser eller brukt i vitenskapelige publikasjoner.

**Økonomi og Fondets rolle**
Studien er finansiert gjennom forskningsmidler fra Fond for etter- og videreutdanning for fysioterapeuter. Fondets tildelinger skal medvirke til styrking og utvikling av fysioterapifaget i tråd med helsepolitiske utfordringer og til kvalitet i fagutøvelsen. Det er ingen kjente etiske eller praktiske utfordringer knyttet til økonomi, samt ingen kjente interessekonflikter.

**Forsikring**
Som prosjektdeltaker er du dekket gjennom de lover og regler som gjelder i kommunehelsetjenestelovgivningen.

**Informasjon om utfallet av studien**
Som deltaker i prosjektet har du rett til å få informasjon om resultatet av studien. Informasjon om resultater og publiserte artikler vil du kunne få ved å henvende deg til stipendiat Marit Sørvoll, telefon: 776 25152, e-mail: marit.sorvoll@uit.no

# Samtykke til deltakelse i studien

Jeg er villig til å delta i studien

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(Signert av prosjektdeltaker, dato)

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(BLOKKBOKSTAVER, prosjektdeltakers navn, telefonnummer, arbeidssted)

Jeg bekrefter å ha gitt informasjon om studien

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(Signert, rolle i studien, dato)

# Appendix 5

Basic demographic details of the participants: tables 1-3

Grunnleggende informasjon om deltakerne: tabell 1-3

## Basic demographic details of the participants: tables 1-3

**Table 1. Basic demographic details of the PTs**

| Basic education in physiotherapy | Gender | Clinical practice children in general | Number of children with CP | Further education |
|---|---|---|---|---|
| In the 2010s | Female | 8 years | Few | Postgraduate training in pediatric physiotherapy |
| In the 2010s | Female | >2 years | 3 | Some courses in pediatrics |
| In the 1990s | Female | 3 years | Few | Some courses in pediatrics |
| In the 1990s | Female | 10 years | 1 | None |
| In the 1970s | Female | 25 years | Several | Postgraduate training in pediatric physiotherapy |
| In the 2010s | Female | >2 years | 2 | Postgraduate training in pediatric physiotherapy |
| In the 1990s | Female | 20 years | Several | Several courses in pediatrics |

**Table 2. Basic demographic details of the aides**

| Education | Gender | Practice with children | Number of children with CP | Further education |
|---|---|---|---|---|
| Child care and youth worker | Female | <10 years | Several | Several courses in special education. Certified as a parental coach. |
| None | Male | Almost none | 1 | No |
| Child care and youth worker | Female | 7 years | 1 | No |
| None | Female | <10 years | 1 | No |
| Preschool teacher | Female | 25 years | Some | Special needs teacher |
| Child care and youth worker | Female | 10 years | 1 | No |
| Child care and youth worker | Female | 13 years | Several | No |

**Table 3. Basic demographic details of the children with CP**

| Gender | Age at observation | Cerebral palsy subtype | GMFCS |
|---|---|---|---|
| Girl | 4 years + 1 month | Bilateral spastic CP | IV |
| Boy | 3 years + 8 months | Bilateral spastic CP | III |
| Boy | 4 years + 7 months | Dystonic CP | III |
| Boy | 6 years + 4 months | Bilateral spastic CP | III |
| Girl | 2 years + 5 months | Bilateral spastic CP | III |
| Girl | 1 year + 3 months | Bilateral spastic CP | IV |
| Girl | 3 years + 3 months | Bilateral spastic CP | IV |

# Appendix 6

Observation guide (English version)

Observasjonsguide (norsk versjon)

# Observation of supervision session/the aide's work day – a semi-structured guide

Date: Start: Finish:

**Context**

- Where do the supervision session take place? Preschool, home, the PT's work place?
- Who is present? PT – aide – parents - child? Others?
- How is the room organized? Equipment, toys and placement of the participants, etc.?
- Sounds/noises?
- Use of aids: orthosis, walking device, wheel chair, etc.

**Content and measures**

- How do the supervision /aide's workday start? Talk, play, training? Other activities?
- What is the supervision issue? Environment, task, function?
- What do the aide and child do during the day?
- Time used
- What occurs between the PT, the aide and the child? Initiatives - responses
  ➔ The PT's response? The child's response? The aide's response?
  ➔ What does the PT, the child, the aide do?
- Use of body – hands
- Use of equipment – toys
- Conversations – silence
- Verbal, visual, bodily supervision and interaction
- Concentration and attention during supervision and interaction
- The PT role: central, peripheral, alternating
- The aide role: central, peripheral, alternating
- The child role: central, peripheral, alternating

- Activities at the preschool unit, in-doors/out-doors. Aide-child interaction during the day. Any particular situations that evolve?
- Routines

**Changes/outcomes**

- Changes in the child during supervision /the preschool day? Which? When?
- Changes in the PT and/or aide during supervision/the preschool day? Which? When?
- Which changes emerge: verbal and/or bodily expressions of feelings, safety/insecurity, balance, mastery of activity/function, etc.

**Disruptions**

- My position in relation to the observed participants
- Do other children, persons, telephone calls, etc. interrupt the supervision/the aide-child interaction?

**Afterwards/during observation**

- Immediate thoughts, first impressions, overall impression
- Debriefing of the observation process

# Observasjon av veiledning/assistentens arbeidshverdag – en semi-strukturert guide

Dato: Start: Stopp:

**Kontekst**

- Hvor foregår veiledningen? Barnehage, hjem, fysioterapeutens arbeidssted?
- Hvem er tilstede?
- Hvordan er rommet organisert? Utstyr, leker, plassering av deltaker, etc.?
- Lyd/støy
- Bruk av hjelpemidler: ortoser, rullator, rullestol, etc.

**Innhold og tiltak**

- Hvordan starter veiledningen/assistentens arbeidsdag? Prat, lek, trening? Andre aktiviteter?
- Hva gjelder veiledningen? Miljø, oppgave, funksjon
- Tidsbruk
- Hva skjer mellom fysioterapeut, assistent og barn? Initiativ - svar
  →Fysioterapeutens svar? Barnets svar? Assistentens svar?
  →Hva gjør fysioterapeuten, barnet, assistenten?
- Bruk av kropp - hender
- Bruk av utstyr - leker
- Samtale og stillhet
- Verbal – visuell - kroppslig veiledning og samhandling
- Konsentrasjon og oppmerksomhet i veiledning og samhandling
- Rolle fysioterapeut: sentral – perifer - vekslende
- Rolle assistent: sentral – perifer - vekslende
- Rolle barnet: sentral – perifer – vekslende

- Aktiviteter på barnehageavdelingen, innendørs/utendørs. Assistent-barn samspill i løpet av dagen. Noen spesielle episoder som utspiller seg?
- Rutiner

**Endringer**

- Endringer hos barnet underveis? Hvilke? Når?
- Endringer hos fysioterapeut og/eller assistent underveis? Hvilke? Når?
- Hvilke endringer kommer til uttrykk: Kroppslige og/eller verbale uttrykk for følelser, trygghet/utrygghet, balanse, mestring av aktivitet/funksjon, etc.

**Forstyrrelser**

- Egen posisjon i forhold til de observerte deltakerne.
- Forstyrres veiledningen/assistent og barnet av andre barn, personer, telefoner, etc?

**Etter observasjonen/ underveis i observasjonen**

- Umiddelbare tanker, førsteinntrykk, helhetsinntrykk
- Gjennomgang av observasjonsprosessen

# Appendix 7

Interview guide physiotherapists (English version)

Intervjuguide fysioterapeuter (norsk versjon)

# Interview with the physiotherapists – a semi-structured guide

| **Themes** | **Possible questions** |
|---|---|
| Background questions | • Name?<br>• Age?<br>• Education level?<br>• How long have you worked in the municipality? |
| Work conditions | • How would you describe a typical working day/week?<br>• What kind of diagnostic groups do you work with in your practice? → How many children with CP?<br>• How is the physiotherapy service organized?<br>• How many PTs are you? |
| Opening question to the topic | • How would you describe a recent supervision situation? |
| Supervision related to concrete situation | • What was central in your dissemination?<br>• What was important and in what way?<br>• What was less significant?<br>• How did you find the collaboration/interaction with the aide and/or the child?<br>• What do you think are necessary to promote the child's motor development? →What do you consider as significant? |
| Supervision in general | • What is your general experience of supervision?<br>• How do you proceed?<br>• Kind of approaches? What determines?<br>• What do you think about teaching professional knowledge to non-professionals /aides? |

Follow up questions: Could you deepen or describe? What do you mean? Could you specify?

Debriefing of the interview process afterwards.

# Intervju med fysioterapeutene – en semi-strukturert guide

| **Temaer** | **Mulige spørsmål** |
|---|---|
| Bakgrunnsspørmål | • Navn<br>• Alder<br>• Utdanning<br>• Hvor lenge har du jobbet i kommunen? |
| Arbeidsforhold | • Hvordan vil du beskrive en typisk arbeidshverdag / uke?<br>• Hva slags diagnosegrupper jobber du med i din praksis?<br>→ Flere barn med CP?<br>• Hvordan er fysioterapitjenesten organisert?<br>• Hvor mange fysioterapeuter er dere? |
| Åpningsspørsmål til tema | • Hvordan vil du beskrive en nylig veiledningssituasjon? |
| Veiledning relatert til konkret situasjon | • Hva var sentralt i formidlingen?<br>• Hva var viktig og på hvilken måte?<br>• Hva var mindre betydningsfullt?<br>• Hvordan synes du samarbeidet/samspillet fungerte med assistenten og/eller barnet?<br>• Hva tenker du må til for å fremme barnets motoriske utvikling?<br>→ Hva vurderer du som betydningsfullt? |
| Veiledning generelt | • Hva er dine generelle erfaringer med veiledning?<br>• Hvordan går du frem?<br>• Type tilnærminger? Hva avgjør?<br>• Hva tenker du om å veilede fysioterapifaglig kunnskap til ikke-profesjonelle/assistenter? |

Oppfølgingsspørsmål: Kan du utdype eller beskrive? Hva mener du? Kan du spesifisere?

Gjennomgang av intervjuprosess i etterkant.

# Appendix 8

Interview guide aides (English version)

Intervjuguide assistenter (norsk versjon)

# Interviews of the aides – a semi-structured guide

| **Themes** | **Possible questions** |
|---|---|
| The aide's background | • Name?<br>• Age?<br>• Education?<br>• How long have you worked in preschool?<br>• What is your work experience with children with cerebral palsy? |
| Work conditions | • How is your workday organized?<br>• What is your work instruction?<br>• How is the aide resource used when co-workers are not at work? |
| Opening question to the topic | • Could you elaborate on the today's situations that I have observed? |
| Today's settings | • What did you want to achieve?<br>• Did you do everything as intended?<br>• What would you have done in other ways? Examples?<br>• What worked well / less well? |
| Supervision session with the PT | • What are your thoughts regarding the supervision session?<br>• What occurred in the situation that contributed to your learning?<br>• What did you specifically learn? Something new? Repetition?<br>• What do you think about your own participation during the session? |
| Training during the previous week | • Is there a training situation that went particularly well/not well?<br>• What did you do? What happened?<br>• What do you do together? Elaborate<br>• What do you think is requested for the child to be physically active? Tell about such a situation. |
| Supervision in general | • How would you describe to be supervised?<br>• What do you learn?<br>• In your experience, what contributes to learning? Is there enough time?<br>• What do you have to know to perform actions on your own? Could you describe?<br>• Is there anything you should know more about/been supervised in?<br>• How do you apply the supervision content in your daily practice?<br>• Other comments? |
| The impression of the child | • How would you describe the child?<br>• What do the child like to do? Examples?<br>• What are your thoughts about what is needed to promote the child's development?<br>• What do you consider significant?<br>• How would you describe your interactions with the child? |

Follow up questions: Could you deepen or describe? What do you mean? Could you specify?

Debriefing of the interview process afterwards.

# Intervju av assistentene – en semi-strukturert guide

| **Temaer** | **Mulige spørsmål** |
|---|---|
| Assistentens bakgrunn | • Navn?<br>• Alder?<br>• Utdanning?<br>• Hvor lenge har du jobbet i barnehage?<br>• Hva er din arbeidserfaring med barn med cerebral parese? |
| Arbeidsforhold | • Hvordan er arbeidsdagen din organisert?<br>• Hva er din stillingsinstruks?<br>• Hvordan brukes assistentressursen når kollegaer er borte fra jobb? |
| Åpningsspørsmål til tema | • Kan du fortelle litt om dagens situasjoner som jeg har observert? |
| Dagens situasjoner | • Hva ville du å oppnå?<br>• Fikk du gjort alt du hadde tenkt?<br>• Ville du ha gjort noe annerledes? Eksempler?<br>• Hva fungerte bra / mindre bra? |
| Veiledningssituasjonen med fysioterapeuten | • Hvilke tanker har du om veiledningen?<br>• Hva skjedde i situasjon som bidro til at du lærte?<br>• Hva lærte du konkret? Noe nytt? Repetisjon?<br>• Hva tenker du omkring egen deltakelse i situasjonen? |
| Trening i uka som har gått | • Er det en treningssituasjon du synes du fikk godt / ikke godt til?<br>• Hva gjorde du? Hva skjedde?<br>• Hva gjør dere sammen? Fortell<br>• Hva synes du skal til for at barnet er fysisk aktiv? Fortell om en slik situasjon. |
| Veiledning generelt | • Hvordan vil du beskrive det å bli veiledet?<br>• Hva lærer du?<br>• Hva erfarer du bidrar til læring? Settes det av nok tid?<br>• Hva må du vite for å kunne gjøre på egen hånd? Beskriv<br>• Hvordan bruker du veiledningsinnholdet i din daglige praksis?<br>• Andre kommentarer? |
| Inntrykk av barnet | • Hva kan du fortelle om barnet?<br>• Hva liker barnet å gjøre? Eksempler<br>• Hva er dine tanker om hva som skal til for å fremme barnets bevegelsesutvikling?<br>• Hva vurderer du som betydningsfullt?<br>• Hvordan vil du beskrive samspillet med barnet? |

Oppfølgingsspørsmål: Kan du utdype eller beskrive? Hva mener du? Kan du spesifisere?

Gjennomgang av intervjuprosess i etterkant.