Occupational therapy practice for clients with cognitive impairments following acquired brain injury
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— Occupational therapists' perspective
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Abstract


The overall aim of this thesis was to describe occupational therapy practice for clients with cognitive impairment following acquired brain injury (CIA-BI) from the perspective of practicing occupational therapists (OTs).

To fulfill this aim, qualitative and quantitative approaches were used including interviews (Study I) and questionnaires (Studies II - IV). Based on the qualitative descriptions generated in Study I, a questionnaire was developed and evaluated for content validity and test-rest validity (Study II). The questionnaire was then used in a survey (Study III). The reactive Delphi technique was used to empirically define the aspects that OTs found to be consistent with the concept of therapeutic use of self (Study IV).

The results showed that a predominant practice pattern was the use of ADL activities for intervention regardless of whether limitations in occupational performance or cognitive function were assessed, or whether the approach to therapy was remedial or compensatory. General ADL-instruments were used more than instruments focused on impairment level. Therapies covering a wide range of cognitive impairments, and abilities important to organizing and executing occupational performance were commonly targeted. Therapies targeting clients’ activity limitations were prioritized before remediating impairment. Therapeutic use of self was regarded as being important and the results identified client-specific aims not earlier described in relation to therapeutic use of self. Another prominent practice pattern was the collaborative approach toward clients, relatives, and other staff. Theories used to support practice were primarily general. Occupational therapy practice for clients with CIA-BI was found to be complex, and the practice patterns were affected by circumstances such as the ‘hidden’ nature of the cognitive impairments, perceived lack of knowledge, and organizational issues. The results of this thesis can be used as a foundation for further research on practice patterns or the specific therapies used. It can facilitate discussions on strengths and weaknesses with current practice, the need for development, and research utilization.

Keywords: occupational therapy, cognition, rehabilitation, practice, acquired brain injury, stroke, TBI, assessment, intervention.

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Publications

This thesis is based on the following papers, which are referred to in the text by their Roman numerals:


IV. Therapeutic use of self as defined by Swedish occupational therapists working with clients with cognitive impairments following acquired brain injury – A Delphi study. Australian Occupational Therapy Journal, In press.

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## List of abbreviations

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<tr>
<td>ABI</td>
<td>Acquired brain injury</td>
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<tr>
<td>ADL</td>
<td>Activities of daily life</td>
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<tr>
<td>AMPS</td>
<td>Assessment of Motor and Process Skills</td>
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<td>CI</td>
<td>Confidence interval</td>
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<td>CIABI</td>
<td>Cognitive impairments following acquired brain injury</td>
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<tr>
<td>CMOP</td>
<td>Canadian Model of Occupational Performance</td>
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<td>Canadian Occupational Performance Measure</td>
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<td>CVI</td>
<td>Content Validity Index</td>
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<td>Instrumental activities of daily life</td>
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<tr>
<td>Md</td>
<td>Median</td>
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<td>MMSE</td>
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<tr>
<td>MoCA</td>
<td>Montreal Cognitive Assessment</td>
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<td>MoHO</td>
<td>Model of Human Occupation</td>
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<tr>
<td>OT</td>
<td>Occupational therapist</td>
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<tr>
<td>OTPPQ-cog</td>
<td>Occupational Therapy Practice Pattern Questionnaire-cognition</td>
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<tr>
<td>PA</td>
<td>Percentage agreement</td>
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<tr>
<td>P-ADL</td>
<td>Personal activities of daily life</td>
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<tr>
<td>RP</td>
<td>Relative position</td>
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<tr>
<td>RC</td>
<td>Relative concentration</td>
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<tr>
<td>RV</td>
<td>Relative rank variance</td>
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<tr>
<td>TBI</td>
<td>Traumatic brain injury</td>
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Introduction

In my clinical work as an occupational therapist (OT) within the field of medical rehabilitation, and later as a consultant on assistive devices at a centre for cognition and communication, I have met with many people with cognitive impairment following acquired brain injury (CIABI). My interest in occupational therapy interventions for this client group has increased the more I have learned and worked with them. In parallel with my clinical work, I have also been a manager for occupational therapy departments, and this has raised my interest in the occupational therapists’ perspectives on their practice and their professional development. I have also become interested in the development of evidence-based occupational therapy methods. Occupational therapy practice and its relation to the best evidence and theories is also important in my recent work as a lecturer in an occupational therapy program.

In practice OTs often work alone with their clients. Other colleagues or team members often have little insight into what happens during intervention (1). A recent Cochrane review emphasizes this by stating that occupational therapy has been shown to have a positive effect on activity performance among clients with CIABI, but the content of the interventions is insufficiently described in terms of actual research and needs to be clarified to be able to identify the successful components of the interventions (2). Stringer (3) has made similar arguments stating that the development of evidence-based practice within cognitive rehabilitation must start with identifying to what extent current content of practice is in line with the best evidence. Descriptions of practice can also identify successful content that can be verified in clinical research (3, 4). Clarifications of practice also benefit the clients with CIABI by contributing to knowledge important to improving occupational therapy practices.

The reasons for the paucity of empirical studies of practice for clients with CIABI are probably multifaceted. Is it too complex? Is it too broad to research? Is there an uncertainty for sharing daily practices? Is each client so unique that there are no patterns? From my point of view, occupational therapy practice for clients with CIABI can be described. By using the OTs themselves as a source of information my hope is that this thesis will provide a positive contribution to the field of occupational therapy practice for clients with CIABI.
Occupational therapy

The primary goal of all occupational therapy practice is to enable occupation for people. A core assumption underlying this primary goal is that humans are occupational beings, and that occupation gives meaning and structure to life and is important for health and well-being. Further, occupation is seen as having a therapeutic potential and helps to organize behavior (5, 6).

The term occupation refers to groups of activities and tasks of everyday life that are named, organized, and given value and meaning by individuals and cultures. “Occupation is everything people do to occupy themselves, including looking after themselves (self-care), enjoying life (leisure), and contributing to the social and economic fabric of their communities (productivity)”(7, p. 34). The sets of activities in a person’s occupational life are often categorized into personal, or basic, activities of daily life (P-ADL) and instrumental activities of daily life (I-ADL). P-ADL includes activities related to self care such as grooming, bathing, and dressing. I-ADL refers mostly to household activities such as cooking, cleaning, grocery shopping, and paying bills (8), but also includes leisure and work or productivity related activities (9, 10). In occupational therapy practice, the interventions are primarily directed to one or more of these areas.

The definition of occupation within the occupational therapy field is broad and is related to a number of other terms such as activity, task, and action that all contribute to a person’s occupational performance. The differences in significance between the related terms, especially occupation in relation to activity, have been described in different ways. Polatajko and colleagues (7, 11) suggested a taxonomy with occupation at the top. In this scheme occupation consists of a set of activities that in turn consist of a set of tasks, and these themselves consist of a set of actions that consist, finally, of a set of voluntary movements or mental processes. Pierce (12) has proposed another, nonhierarchical way, of defining activity and occupation. She defines activity as “an idea held in the mind of persons and their shared cultural language” (p.139). An activity in this definition has a general, common sense meaning and includes general actions such as ‘cooking’ that enables us to readily communicate in regards to the various categories of our occupational life. Occupation, on the other hand, is defined as the individual’s personal performance and experience of an activity. Consequently, an occupation is a subjective event that has unique conditions for each person and for each specific occasion (12). As such, occupation is influenced by value and context, time-related, and incorporates the person’s process of performing or doing (6, 12).
In line with the definition of occupation as highly individual and context-dependent (6, 12), another core assumption within occupational therapy is that occupational performance depends not only on a person’s physical, cognitive, and emotional capacity, but also on the occupation in question and the environment in which the occupation is performed. Environment refers here both to the physical and the social environment (5, 9, 10, 13). In other words, occupational performance is seen as being dynamic and depends on the person, the environment, and the occupation in question. Changes in one of these three conditions affect a person’s ability to perform a particular activity (9, 13, 14).

OTs work with clients having occupational gaps. These are discrepancies between what a person will do or needs to do and what that person can do or does do (15). To meet the challenges of every person’s unique occupational repertoire, client-centered occupational therapy has been emphasized (10, 16, 17). To work client-centered means that the OT takes a collaborative approach to the client and recognizes the client’s knowledge, experiences, and choices. Decision-making and goal-setting are done in collaboration with the client (10, 16).

To assess the person’s capacity, and to understand the difficulties from the client’s perspective, different types of assessments are used. It is common to start the assessment process with an interview to gain an understanding of how the client perceives his or her occupational performance and what his or her priorities are. When necessary, relatives or others close to the client are also interviewed (5, 18). In continuing the assessment process, OTs use both observation-based assessments and standardized tests. These assessment instruments can be either impairment-directed or occupation-directed. Impairment-directed assessment provide information about a person’s capacity regarding body functions important for voluntary movements such as flexion, extension, and abduction, or regarding body functions important for cognitive functioning such as memory and attention (18). Impairment-directed assessments also give information about actions such as grasping, pushing, walking, or remembering. Based on this type of assessment, the OT can determine and understand the level of impairment underlying or explaining a client’s occupational gaps. Occupation-directed assessments determine the client’s ability to perform tasks and activities, and highlight how the consequences of the impairments manifest themselves in daily activities. With occupation-based assessments, the OT also assesses how personality, activity, and environment affect the performance of a given task. These two types of assessment complement each other and are often used in combination with each other.
Based on the assessment, the therapy can be directed towards the person, a specific activity, or a particular environment. Therapy directed towards the client can be based on impairment level, such as memory training, or on an occupational level such as task-specific training or training to use a strategy to compensate for his or her limitations. Therapy directed towards the activity has a focus on occupation such as simplifying the activity to match the client's ability. Therapy directed to the environment includes such things as adaptations in the form of housing adaptation or providing environmental cues.

Evaluation of therapy outcomes is important in practice and it is essential to incorporate a valid measurement as part of evidence-based occupational therapy (19). The same instruments and tests that are used for assessment can be used to evaluate outcomes (9). Evaluation of therapy outcomes also often incorporates an assessment of the client’s satisfaction with the therapy (19).

Practice can be defined as the carrying out, or exercise, of a profession. In other words, practice is the actual application or use of the ideas, beliefs, and methods of a profession, as opposed to the theory or principals behind it (20). The term ‘practice patterns’ has been widely used to describe the content of clinical practice. However, the term is often used without any definition of its meaning. The word pattern can be defined as a set of behaviours in relation to a phenomenon (21), in this case practice. Based on this, the practice patterns of occupational therapy can be understood as the behaviours forming the actual, practical application of occupational therapy. Within occupational therapy research in general, the term practice patterns has been used to describe the content and forms of intervention (i.e. direct/indirect, individual/group), in which environment the intervention is provided (3, 22, 23), the frames of reference and theoretical models used (22-24), professional development, further education (22, 25), and collaboration with team members (23, 25). Interventions refer here to the actions taken by the OT in regard to assessment of the client’s need for occupational therapy, the therapy used, and the evaluation of the therapy’s outcome.

Occupational therapy is a part of the rehabilitation process within most fields in health care and it has a long tradition of being an essential part of the rehabilitation of clients with acquired brain injury (ABI) (14, 26, 27). The OT plays an important role in the multidisciplinary team caring for persons with CIABI and is responsible for interventions addressing the consequences of the cognitive impairments in occupational performance (27, 28). Occupational therapy interventions have been shown to have a positive effect on the occupational performance among clients with CIABI.
However, the content of these interventions are insufficiently described (2, 26) leading to a lack of knowledge regarding what components that form the OT’s interventions. By identifying and describing the component parts of OT practice patterns with regard to clients with CIABI, the content of interventions can be clarified. Such knowledge can be used in the continuing development of evidence-based interventions, the identification of content not previously researched, and separating effective practice patterns from ineffective.

**Persons with acquired brain injury**

Acquired brain injury (ABI) is a generic term for brain injuries cause mainly by stroke or traumatic brain injury (TBI), although other causes are included as well.

Every year about 30,000 persons in Sweden have a stroke (29), and of them about 26% are recurrent strokes (30). Stroke is a generic term for cerebral vascular diseases of the brain and includes cerebral infarction (85%), cerebral haemorrhage (10%), and subarachnoidal haemorrhage (5%) (31). About 20,000 persons are in need of hospital care for TBI in Sweden each year, most of them due to accidents (32, 33). Of them, 15,000 are hospitalised, the majority with a mild TBI (34-36). The age ranges between persons with stroke and persons with TBI differ. The mean age for having a stroke in Sweden is 76 years (31) while most persons having a TBI are younger men (34, 35). An increased incidence of TBI among older people, however, has been noted, mainly caused by falls. This is probably a result of an increasingly large elderly population, and of many of them still living at home (36). From an international perspective, ABI is one of the leading causes of long term disability in the industrialised world, and in Sweden people with ABI are one of the largest client groups in rehabilitation clinics (37).

Impairments following an ABI are heterogeneous and affect both sensory-motor, cognitive, and emotional functions. Examples of impairments are hemiplegia, aphasia, neglect, impaired memory, and a loss of attention and executive functioning. Mood changes such as depression and aggression also occur (38-40) as well as fatigue (38, 41). Common consequences in daily life are difficulties in performing ADL-activities. Studies have shown that problems with I-ADL activities, leisure, and work are more widespread than problems with P-ADL (15, 42) even though many persons with ABI have difficulties with P-ADL as well (15, 43, 44). Erikkson and colleagues (15) found that the most prevalent impairments causing activity limitations were cognitive and emotional impairments, and impairments in
executive functioning had the greatest influence on the number of occupational gaps perceived by persons with ABI.

**Cognitive functions**

A common method for categorising cognition is to divide it into specific cognitive functions and into higher-level processes (16, 45). A traditional way to describe specific, or basic, cognitive functions is to refer to the underlying functions required to use higher level cognitive processes such as visual perception, spatial relations, attention, memory, purposeful movement, and thinking (16, 46).

*Visual perception* includes several processes that give meaning to all of the information entering the eye. Complex cognitive processing is required to convert the retinal image into the three-dimension world that we perceive around us (18).

*Spatial relations* refer to the ability to interpret visual information about where objects are in space and their relation to each other and to one’s self (47). Spatial abilities are important, for example, in supporting the ability to find one’s way around objects and spaces (topographic orientation) and the ability to construct and arrange objects or groups of objects (18, 47).

*Attention* is the basis for all information processing and can be divided into different levels (18, 47). Grieve and Gnanasakaran (18) have divided it into components that are used on a daily basis: Arousal and vigilance, selective attention, shifting attention, divided attention, and shared attention. Arousal refers to the physiological activity of the cerebral cortex that makes us ready for action. Vigilance, often called sustained attention, refers to the attention that must be sustained over a longer period of time such as when performing repetitive activities. The maximum time that a person can sustain attention is often called the attention span. Selective attention is the brain’s ability to choose what to focus on while ignoring the rest and prevents the brain from becoming overloaded. Shifting attention is the redirection of focus to another location and divided attention refers the ability to pay attention to two or more activities at the same time, often called dual- or multi-tasking. Finally, shared attention is the ability to pay attention to two or more people when doing activities together (18).

*Memory* involves all parts of the brain and is the ability to keep things in mind and to recall them at some point in the future (18). Memory is dependent on attention to gain access to the brain (47). There are different ways to categorize or describe memory and the process in going from attention to storage. Memory is commonly divided into short-term memory, working memory and long-term memory, which itself is divided into dif-
ferent forms (18, 47). Short-term memory is the storage of a limited amount of information for a limited time, such as remembering the name of someone just introduced to you (47). Working memory is related to short-term memory and manipulates and integrates the verbal, visual, and spatial information of both new and old memories over a short period of time before passing this on to other cognitive systems, for example the long-term memory (18). Long-term memory is the storing of information relatively permanently and has an apparently unlimited capacity (47). Depending on the type of information stored, long-term memory can be further categorised into procedural memory (knowing how to do something), declarative memory (knowing what happened), that is related to knowledge of the world and historic episodes, and prospective memory (knowing when something will happen), that is related to the future (18, 47).

Purposeful movement, also called praxis, refers to the ability to perform movement with the correct force, direction, and timing. The sequence of actions in purposeful movements must be planned and executed in the right order to reach the goal. To perform goal-directed purposeful movements requires working memory, long-term memory, and attention (18).

Thinking is dependent upon all the other cognitive functions to work efficiently (48). Sohlberg and Mateer (49) have described three integrated levels of thinking abilities: Problem-solving, reasoning, and concept formation. Problem-solving refers to the process from identifying the problem, via implementing the solution chosen, to evaluation of the desired goal (48). Reasoning is the drawing of conclusions from known and assumed facts and uses sequencing, categorisation and deduction. Concept formation is closely linked to reasoning and refers to the ability to analyse relationships between objects and their properties (49).

Higher level processes, or metacognitive processes, include (self-) awareness and executive functions (50). The term awareness is often used synonymously with anosognosia in the research literature and is also sometimes incorporated as a part of executive functioning (45). Prigatano and Schachter’s (51) definition of awareness is widely used and says “awareness is a highly integrated brain function, encompassing the ability to perceive oneself in relatively objective terms, maintaining a sense of subjectivity, and involving an interaction of thoughts and feelings (51, p. 13)” In clinical situations awareness is often described as the ability to detect problems or circumstances occurring during activity performance (52). The term executive function is used to describe cognitive processes that are combined to be able to set goals, act in a goal-directed manner in novel situations, and to make choices. Important component skills are initiation...
and termination, goal setting, planning and organising, adaptation, and flexibility (18).

**Cognitive impairments and their consequences in daily activities**

Studies have reported a high frequency of cognitive impairment in both early and late stages after ABI (38, 41, 53). The impairments following an ABI vary among individuals and are dependent on the type, location, and severity of the injury (40, 54). ABI commonly results in cognitive impairments affecting specific, or basic, cognitive functions and include such as visuo-spatial neglect, impaired attention, impaired memory, apraxia, and difficulties in planning and organising (39, 55, 56). Memory impairment is one of the most prevalent impairments related to specific cognitive functions (38, 57, 58). Impairments affecting metacognitive processes, such as decreased self-awareness, and impairments related to executive functioning, such as lack of initiative or adaptation and flexibility during performance, are also common (33, 45, 59). As both specific cognitive functions and higher level processes involve more than one area of the brain, and an ABI often is focal, complete loss of a function is not very common. Instead a person will have, and might experience, limitations due to the impairment even though the cognitive function, such as memory, is not completely lacking.

Cognitive impairment can create difficulties in all areas of daily activities, and consequently, impact on every aspect of life (18, 60). Studies have shown that the consequences of cognitive impairments often have a greater influence on independence in the performance of daily activities than do physical impairments (55, 61, 62). From a health economics perspective, persons with CIABI require more services from the health care system than do persons with an ABI but without cognitive impairment (61, 63).

In regard to the areas of daily life that are affected by brain injury studies indicate that cognitive impairments affect I-ADL more than P-ADL (39, 64), and I-ADL-activities taking place outside of the home have been shown to be affected to an even higher degree (15, 39). Studies have also shown that cognitive impairments affect return to work to a great extent (38, 42) as well as social and leisure activities (15, 60, 65). A subsequent reduction in participation in meaningful activities has been shown to be a common complaint and is associated with diminished life-satisfaction (64, 66).

Carlsson and colleagues (60) found that persons with CIABI experienced an uncertainty about their own cognitive functioning, and reported dependency on others for such things as providing reminders and to help plan and organise everyday life. Their cognitive ability tended to fluctuate
depending on environmental circumstances and they felt a lack of control. Limitations in executive functioning in general, and organising everyday life specifically were hindrances in occupational performance. Their results were in line with those of Eriksson and colleagues (15) who found that executive functioning has the greatest influence on the number of perceived occupational gaps among clients with ABI. However, specific functions have also shown to be impacted as a consequence of impairment in such things as memory, visual perception, and visual attention (65, 67). In relation to memory impairment, many individuals with ABI have described a chaotic world in which things that had previously been taken for granted no longer made sense. Daily life and daily occupations were perceived as fragmentary and they felt dependent on the mercy of their relatives (68). The close relatives of persons with ABI are also at risk for health problems and have been shown to often experience increased physical and emotional burdens and decreased life-satisfaction (69-71).

### Rehabilitation of persons with acquired brain injury

In Sweden the rehabilitation of clients with ABI is based on observed and perceived disabilities rather than specific diagnoses, and clients with various types of ABI are referred to the same rehabilitation units after acute care (36, 66). However, the acute care incorporates initial rehabilitation and the later stages in the care chain may differ depending on the aetiology of the injury.

In Sweden most people suffering from an acute stroke (88%) are initially cared for at a stroke unit (31), which is an identifiable unit at a hospital where only, or almost only, stroke clients are taken care of. A multidisciplinary team with expert knowledge in stroke and rehabilitation work at the unit, and it is here that immediate mobilisation and early rehabilitation starts (72). The median length of stay in hospital care after a stroke in Sweden is 15 days though there is a broad range among different hospitals. Many clients with stroke are referred directly from acute care to community-based or primary care without inpatient rehabilitation. The acute care for clients with TBI differs depending on the severity of the injury, consciousness, and need for neuro-surgery (33). Every client who has sustained a TBI is assessed for rehabilitation, and clients with a moderate to severe TBI commonly continue to inpatient rehabilitation whereas clients with mild TBI are often discharged back home without rehabilitation (33, 36).

Inpatient rehabilitation for clients with ABI takes place at a geriatric or rehabilitation clinic/unit where day care and policlinic can also be offered. Some geriatric clinics offer home-based rehabilitation as well. Although the length of the hospital stay is relatively short for clients with stroke,
clients with moderate to severe TBI often have a period of several months of inpatient rehabilitation (36) that is accomplished by a multidisciplinary team usually organized in a common manner in every hospital (36, 56, 72). Team members usually consists of physician, nurses, nurse assistants, occupational therapists, physiotherapists, a neuropsychologist, a social worker, and a speech and language therapist (36). OTs have a long tradition of being a part of the multidisciplinary team within ABI rehabilitation (8, 14) and they are an important part of the rehabilitation in regard to the client’s cognitive impairments (27, 28, 48, 73).

After inpatient rehabilitation, continued rehabilitation in municipality or primary care can take place at practices, day care units, short-term facilities, or in the clients’ homes. The organization of this continued rehabilitation differs among different parts of Sweden (36). Many clients, especially with stroke, are discharged from the hospital early and with remaining needs for rehabilitation and rehabilitation at home from a multidisciplinary team with competence in treating stroke has high priority in the Swedish national guidelines for stroke (72). This form of rehabilitation, however, has been shown to be limited and of those clients receiving rehabilitation after discharge from hospital 14% had received it at home (29).

It is common that an OT bears the main responsibility for rehabilitation in municipality settings. Within primary care facilities, a physician is often responsible for the services but OTs and physiotherapists accomplish the rehabilitation interventions (36). In municipality and primary care, neuropsychologists and speech and language therapists are not commonly part of the rehabilitation team, and the OT alone is responsible regarding cognitive rehabilitation.

**Occupational therapy for clients with cognitive impairment following acquired brain injury**

The core assumptions and methods of occupational therapy create the foundation for occupational therapy practices with clients with CIABI. However, these foundations are general and give little specific guidance regarding services required by clients with CIABI. To meet this need for guidance, practice models and therapeutic approaches that address the occupational problems following CIABI have been developed (47, 74).

**Practice models and approaches for cognitive rehabilitation used in occupational therapy**

There is no single accepted occupational therapy practice model addressing occupational problems following CIABI. Instead, several approaches have
been developed that are overlapping in many ways but have specific differences in term of client and intervention focus. For example, the Averbuch and Katz model focuses on retraining (also called remediation) within the early stages of inpatient rehabilitation, but the Giles neurofunctional approach focuses on clients with severe brain injury in later stages of their rehabilitation (74).

Common to all occupational therapy practice models is that cognition and cognitive impairment are explained using interdisciplinary knowledge (16). Luria’s neuropsychological theory on functional brain units (75) is commonly used to explain brain functioning and the consequences of a brain injury at the level of impairment (45, 76). In Sweden, Luria’s theory has been one of the foundations in the development of occupational therapy assessment instruments (77, 78). In addition, different theories on learning are commonly used within the occupational therapy approaches to explain how people learn and generalize information (13, 79, 80).

An approach often referred to in occupational therapy research is Toglia’s dynamic interactional approach to cognitive rehabilitation (13). In this approach, cognition is not divided into sub-skills such as attention or memory. Instead, the focus is on the underlying conditions and process strategies that influence performance with the goal of restoring functional performance. It is important to note that this is not the same as recovery, or reverting to the same ways of doing things as before the injury. Cognition is seen as the product of the dynamic interaction between the person, the activity and the environment, and means that cognition can be modified depending on the circumstances. Successful, that is, functional, occupational performance can be reached by changes in one or more of these factors (13).

Toglia has emphasised the client’s self-awareness as the key to successful rehabilitation and efficient and safe occupational performance (13, 81). Toglia is not alone in focusing on this issue. During recent years there has been an increased interest within the occupational therapy field in self-awareness as a concept and in how it influences occupational performance as well as realistic goal setting and interventions (82-85).

Research is limited regarding the utilisation and spread of theoretical approaches to occupational therapy practices for cognitive rehabilitation but a study of Canadian OTs found that 38% used Toglias dynamic interactional approach (86).
Occupational therapy practice

Assessment
As with rehabilitation after ABI in general, the severity and location of the injury are more important for cognitive rehabilitation than the aetiology of the injury, and similar assessments and interventions are recommended for all ABIs (87).

To assess the need for occupational therapy, the OT uses a range of procedures and tools incorporating both impairment-level-directed and occupationally directed assessments. Structured interviews with the client, and relatives if needed, are also a part of the assessment process (18). The purpose of the interview is to gain the client’s perspective on his or her occupational performance and to collaborate in goal-setting. Within cognitive rehabilitation, the interview is also important to start to determine the client’s level of self-awareness and to detect cognitive impairments in need of further investigation (18). A recent review evaluating client-centered practice in stroke rehabilitation showed strong evidence that the use of a client-centered interview instrument such as the Canadian Occupational Performance Measure (COPM) (88) helped the client to recall goals and feel more involved in goal-setting (17). COPM is an instrument that is commonly used in Sweden. However, it has been shown to be problematic to use the COPM with clients who have poor self-awareness (89) and the self-ratings need to be interpreted in the context of the client’s cognitive impairments (90). Based on the knowledge of both the strengths and weaknesses of the COPM in relation to clients with CIABI the question is to what extent the COPM or other interview instruments are used.

Much research within occupational therapy and cognitive impairment has focused on development of occupational-directed instruments such as the Assessment of Motor and Process Skills (AMPS) (91), Perceive, Recall, Plan, Perform (PRPP) (92), the Executive Function Performance Test (EFPT) (93), the Baking Tray Task (BBT) (94), the Catherine Bergego Scale (CBS)(95), the Assessment of Awareness of Ability A3 (formerly known as AAD) (85, 96), and the ADL-focused Occupation-based Neurobehavioral Evaluation (A-ONE) (97). There is little known regarding to what extent these instruments have been used in practice for clients with CIABI. In a study of Australian OTs, Koh and colleagues (24) found that 47% did not report the use of any I-ADL-instrument and 27% reported that they used informal I-ADL-assessments. A study of Canadian OTs showed that the AMPS was used by 4-9%, depending on their level within the care chain (86). Some instruments developed by occupational therapists are, however, not primarily occupational-directed but directed instead to the assessment...
of function. One example is the Loewenstein Occupational Therapy Cognitive Assessment (LOTCA) that aims to test a person’s cognitive processing ability (98). In Australia, the LOTCA is the most common assessment and is used by 45% of OTs (24).

Besides occupational-directed instruments, OTs also use a range of neuropsychological instruments that were not developed within the occupational therapy field such as the Mini Mental State Examination (MMSE) (99), the Clock Drawing Test (100), the Montreal Cognitive Assessment (MoCa) (101), and Cognistat (102). Korner-Bitensky and colleagues (86) found that between 58-77% of Canadian OTs, depending on their position in the care chain, used standardised tests, with the lowest usage rate being at the community level. Studies of Australian and Canadian OTs have shown that the MMSE and Cognistat are the most widely used tests among OTs working with clients with CIABI (24, 86, 103). Clinical experience says that both of these instruments are used in Sweden, but is that the case? And to what extent?

Therapy
There are two traditional approaches to therapy within cognitive rehabilitation: the remedial approach and the adaptive (also called compensatory or functional) approach (104, 105). The remedial approach focuses on restoration of impaired cognitive function, and the adaptive approach focuses on compensating for the limitations that the impairments cause in daily activities. OTs use both approaches separately or in combination depending on the client’s individual needs and their phase of rehabilitation (104, 106).

Characteristic of the remedial approach is the use of table top exercises such as paper and pencil and computer-based activities, but graded activities are also used. Grading is the adjustment of the difficulty of tasks and activities in a way that meets the needs and capacities of the client. The activity should challenge the client’s cognitive capacity at an appropriate level and the demands on the client are then increased as their capacity improves (18). Repetition and drilling exercises utilize the plasticity of the brain to help restore functions (74, 106). Important within the remedial approach is the assumption that the abilities and functions trained for are generalised, or transferred, to all activities where that function is needed (104). For example, improvement in working memory using a computer-based program will be generalised into all activities of daily life where working memory is needed. Research on the effects of remedial therapy is somewhat contradictory (107-109). Even though there is some evidence supporting its effectiveness e.g. attention training in later phases of the
rehabilitation (107, 109), the main issue regarding remedial therapy is the transfer effect. There is insufficient evidence of a transfer effect for isolated exercises without the support and guidance from a professional, and remedial therapy therefore, is not recommended as a standard practice (107, 109).

The adaptive approach focuses on occupational performance despite cognitive impairment (27). In this approach to therapy, the client’s cognitive strengths are utilised to compensate for their limitations. Internal or external strategies are used such as visual imagery, checklists, and assistive devices (27, 74). Adaptations of the environment, changes of roles within the family, and social support are also used within this approach. Important for this approach is the assumption that generalization to other activities or tasks is not always possible. This approach to therapy, therefore, is often task-specific. Ideally the therapies take place in the client’s natural environment to avoid the need for generalization, and research evidence supports the effectiveness of this approach. The use of external and internal strategies regarding neglect, apraxia, attention, and memory impairment are recommended as practice standards. The recommended strategies focus on structured functional activities using error-less learning as in a pedagogical approach (107, 109). Error-less learning requires that the client only experiences the correct way of performing a task or activity, and the OTs’ pedagogical role is to provide instructions, prompts, or cues so that no mistakes are made (18).

A study of Australian OTs showed that the adaptive approach was used to a higher extent than the remedial approach both in inpatient and outpatient occupational therapy services (24). Swedish OTs use both remedial and compensatory directed therapy (110-112), but there is limited knowledge as to what extent they are used and with what content. Further it has not been investigated if there are differences in the use of the two approaches between different levels of care.

In addition to remedial- and adaptive therapy, OTs also use therapy to enhance their clients’ self-awareness, and studies have shown that performance of familiar tasks can be used to help the client to detect their own shortcomings (83, 113). The performance is combined with strategies used by the OT to enhance this detection such as structured feedback after the session, client’s self-prediction before and after performance, video-taping, keeping an activity diary, and role changes (13, 83, 84). It can be assumed that Swedish OTs use some of these strategies to enhance self-awareness, especially as some of the research in this area is performed in a Swedish context. However, to my knowledge there is a lack of studies on how, and even if Swedish OTs work with structured awareness-training. It should
also be noted that none of the studies surveying OTs who practiced with clients with CIABI included therapies that directed self-awareness (24, 86, 114).

Evaluation of therapy outcome
Evaluation of outcome is critical and is a natural part of all research. Evaluation in clinical practice is also emphasized in the literature on occupational therapy for clients with CIABI, and evidence for the validity and reliability of different outcome measures has been described (27, 47). In relation to evaluating outcome for occupational therapy in general, Law and colleagues (115) highlight some of the challenges that practicing OTs may experience. These include the time involved in performing occupational-directed assessments, the ease of use standard functional assessments (e.g. balance and memory), the expectation from the therapy for the OT to evaluate functions and present numbers, and the fact that assessments often fail to reflect the changes that the OT sees in their day-to-day interaction with their clients. Earlier surveys on occupational therapy for clients with CIABI have not included evaluation of outcome (24, 86, 114), but similar challenges were described by Douglas and colleagues (103) in a study of Canadian OTs making cognitive assessments of older adults.

Interaction between client and occupational therapist
During therapy, the OT and client interact with each other. When the OT uses his or her personal characteristics in a desired way in therapy, this is described as ‘therapeutic use of self’ (116-118). This has been found to be a crucial factor in achieving successful therapeutic outcomes (119, 120) and as necessary to create a professional relationship with the client (119). An often cited definition of the therapeutic use of self is “a therapist’s planned use of his or her personality and perceptions as a part of the therapeutic process” (117).

The therapeutic use of self has been emphasized as one of the most important intervention tools for OTs working with clients with ABI (121, 122). To implement strategies in an effective way, the OT’s therapeutic use of self in her or his interaction with the client serves as a facilitating device (79), and helps to create a close bond between the OT and the client (13). The message in treatment needs to be positive, particularly in regards to awareness training, and the OT needs to create a non-threatening atmosphere (13). Examples of therapeutic use of self mentioned in relation to clients with CIABI are gentle humour, expressive touch, body-language, encouragement, active listening, and giving the power of choice (79, 121, 122).
**Practice patterns**

Three surveys have been found that describe OTs’ practice patterns in relation to clients with CIABI, one from Australia (24) and two from Canada (86, 114). The studies are different in design and in the practice areas that they cover, but there are some comparable results.

Two of the above surveys reported on the use of assessments (24, 86). Both Australian (24) and Canadian (86) OTs reported that the MMSE and Cognistat were the most frequently used tests to assess cognitive function. In regards to occupational-directed instruments, about half of the Australian OTs did not report the use of any instruments to assess I-ADL and about one quarter reported the use of informal I-ADL-instruments (24). In Canada, the AMPS was used by a small number of OTs (86). For assessing P-ADL, the Functional Independence Measure (FIM) (123) was used by nearly 60% of the OTs in Australia (24).

The common results from the studies above are the extensive use of basic and instrumental ADL training. Korner-Bitensky and colleagues (86) found that the ADL training was general rather than targeting specific limitations due to cognitive impairment and without specification of the particular cognitive approaches used. On the other hand, Blundon and Smits (114) found that the ADL training took a primarily remedial approach and focused on graded activities. Compensatory techniques such as memory aids were used by a majority of the OTs in both the Koh (24) and Blundon and Smits studies (114). None of these surveys addressed practices related to therapy directed to clients’ awareness of their disabilities, the evaluation of therapy outcome, or collaboration, and many questions in relation to OT practice patterns for clients with CIABI remain to be explored further.

A few studies have described OTs’ perceptions of stroke rehabilitation specifically (18-21). However, none of these studies focused on limitations in occupational performance due to cognitive impairment: either they were all-embracing or focused only on physical limitations. Further, studies investigating the general content of occupational therapy for clients with ABI give little information about the content regarding interventions directed to the clients’ cognitive impairments because these studies focus primarily on physical impairments (26, 124-126).

Eriksson and Dahlin-Ivanoff (110) found that from the perspective of persons with CIABI, an individual dialogue with the OT during performance of an activity was an important part of the therapy. This facilitating process occurring between the client, the activity, and the OT was found to be indispensable when helping the client discover their own capabilities. This helped create knowledge over time and led to possible strategies to
overcome cognitive limitations. These results can be related to the OT’s therapeutic use of self as a part of the intervention, and indicates that therapeutic use of self is an important part of intervention for clients with CIABI. However, empirical data is sparse and further studies are needed.

**Rationale for the thesis**

The consequences of CIABI affect all areas of the clients’ daily lives and they require support to manage their occupational performance as has been previously described (60, 68). A review of the literature shows that occupational therapy improves the performance of ADL-activities for clients with CIABI (2) and this can make a positive change in their daily lives. The review also underscores that the interaction between the OT and the client while he or she is engaged in an activity is important for the outcome of occupational therapy (13, 79, 110).

To explain the outcome of occupational therapy, the content of the interventions needs to be clearly described (2). However, there is a scarcity of research into OTs’ descriptions and perceptions of how occupational therapy addresses cognitive impairments following ABI, which is also confirmed in a Cochrane review by Legg and colleagues (2). The few available surveys were performed in Australia (24) and Canada (86, 114) and described practice patterns in relation to assessment (24, 86), approaches to therapy (24, 114), and theoretical approaches to intervention (24).

In regard to the OT’s interaction with the client, the literature on therapeutic use self within occupational therapy consists mostly of theoretical descriptions. Few empirical studies have focused on the concept itself, and it exists, instead, as just one element in studies of other related aspects resulting in a fragmentary empirical picture (122, 127, 128). No study has been carried out that has focused on therapeutic use of self in relation to clients with CIABI.

The scarcity of research into OT practice patterns has resulted in a lack of knowledge about the exact nature of the interventions used with clients with CIABI. Many aspects of OTs’ practice patterns for clients with CIABI remain to be explored further. For example areas of practice not covered in earlier research are therapy directed to clients’ awareness of their disabilities, evaluation of therapy outcome, and collaborative practice patterns. In addition, those areas that have been described, such as assessments and therapies used, are in need of further elucidation. The studies in the literature have been performed in a variety of cultural contexts, but there are no empirical studies describing Swedish OT practices in relation to clients with CIABI. Increased knowledge and insights regarding the OTs’ perspectives of their work with clients with CIABI would contribute to a better
understanding of occupational therapy practice within this field. Such knowledge would contribute to the further development and improvement of occupational therapy practices for clients with CIABI.
Aims
The overall aim of this thesis was to describe occupational therapy practice for clients with cognitive impairment following acquired brain injury (CIABI) from the perspective of practicing occupational therapists.

Specific aims

• To investigate how Swedish occupational therapists’ describe their work with clients with CIABI (Study I)

• To develop and test a empirically grounded questionnaire with the purpose of describing occupational therapists’ practice patterns in relation to clients with CIABI (Study II)

• To describe/survey Swedish occupational therapists’ practice patterns in relation to clients with CIABI (Study III)

• To empirically define what aspects that occupational therapists working with clients with CIABI find are consistent with the concept of therapeutic use of self (Study IV)
Methods

Design
In this thesis empirical descriptions from OTs with experience in working with clients with CIABI were used to gain understanding and generate knowledge on occupational therapy practices (129). A mixed-method design was used with both qualitative and quantitative methods. An overview of the four studies in the thesis regarding design, participants, methods of data collection, and data analysis is shown in Table 1. The questionnaire developed and tested in Study II was based mainly on the results of study I. In Study III, this questionnaire was used as a survey instrument, and the reactive Delphi technique was used in study VI.

Table 1. Overview of the four studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Participants</th>
<th>Methods of data collection</th>
<th>Methods of data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Qualitative Explorative/Descriptive</td>
<td>12 OTs working with cognitive rehabilitation within county council or municipality rehabilitation services</td>
<td>Interviews using an interview guide</td>
<td>Qualitative content analysis</td>
</tr>
<tr>
<td>II</td>
<td>Questionnaire development and testing</td>
<td>Expert group of 6 OT researchers (content validity)</td>
<td>Questionnaires developed from the content of the results in Study I.</td>
<td>Non parametric statistics</td>
</tr>
<tr>
<td></td>
<td>Content validity</td>
<td>51 OTs working in county council or municipality rehabilitation services (test-retest)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Quantitative</td>
<td>405 OTs working in county council or municipality rehabilitation services</td>
<td>Questionnaire survey</td>
<td>Non parametric statistics</td>
</tr>
<tr>
<td>IV</td>
<td>Cross-sectional Explorative/Descriptive</td>
<td>13 OTs working in county council or municipality rehabilitation services</td>
<td>Reactive Delphi technique</td>
<td>Non parametric statistics</td>
</tr>
</tbody>
</table>

Participants
The participants in all four studies were OTs experienced in occupational therapy for clients with CIABI. In all studies, except the content validity part of Study II, the OTs were currently working with clients with CIABI. Demographics of the participants are shown in Table 2. For evaluation of the content validity in Study II, an expert group of six OT researchers was
used. They all had a background as practicing OTs with clients with CIA-BI, and five had PhD degree and one was a doctoral student.

<table>
<thead>
<tr>
<th>Table 2. Participants</th>
<th>n</th>
<th>Years of general working experience as OT (Md)</th>
<th>Years of working experience with clients with CIABI (Md)</th>
<th>Further education within occupational therapy and cognition (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study I</td>
<td>12</td>
<td>18</td>
<td>18</td>
<td>67</td>
</tr>
<tr>
<td>Study II*</td>
<td>51</td>
<td>16</td>
<td>6-10</td>
<td>71</td>
</tr>
<tr>
<td>Study III</td>
<td>405</td>
<td>15</td>
<td>6-10</td>
<td>79</td>
</tr>
<tr>
<td>Study IV</td>
<td>13</td>
<td>20</td>
<td>15</td>
<td>85</td>
</tr>
</tbody>
</table>

* test-retest reliability only. For the content validity, 6 OT researchers participated.

To investigate how the OTs described their work, 12 participants were recruited by the sampling method described by Down-Wamboldt (130) to participate in Study I. Her suggestions on sampling in content analysis was used to enhance the study’s credibility because of the large number of potential participants that fulfilled the inclusion criteria (131). Two OTs from each of the following fields were recruited: medical rehabilitation, geriatric rehabilitation, adult habilitation, municipal in-client rehabilitation, municipal day care occupational therapy, and municipal occupational therapy in ordinary housing. In this thesis, municipal care is used synonymously community-based care and refers to care run by local authorities. The inclusion criteria for this study were working within one of the six listed fields, working with CIABI clients several times a week, and having at least three years of work experience as an OT. The participants were recruited from a register of 214 occupational therapists prescribing assistive devices in a county council in central Sweden. One hundred sixty-eight OTs met the inclusion criteria regarding working field. Every 14th OT out of the 168 was asked about the two other inclusion criteria, and if they fulfilled them they were asked to participate. When two OTs within a given rehabilitation field had agreed to participate, no more OTs within that field were asked to participate.

Six OT researchers were recruited to participate in the evaluation of content validity in Study II. Eleven researchers were initially identified through a national network for research on occupational therapy and stroke and asked to participate via e-mail. Inclusion criteria were that the experts had published scientific work in the field and that they had a doctoral degree or were studying for such a degree. Three researchers declined, and two did not answer the inquiry. The remaining six researchers agreed
to participate and this is considered a sufficient level of control for chance agreement (132, 133).

To evaluate the reliability of the questionnaire developed in Study II, 60 registered OTs attending two lectures at a Swedish university were asked to participate. Fifty-five OTs agreed to take part and were present at both lectures. Four of them only completed the demographic questions, thus answers from 51 OTs were included in the test-retest analysis.

In Study III, OTs from four working areas representing different levels in the rehabilitation chain were recruited to answer the questionnaire concerning their practice patterns in relation to clients with CIABI. The areas were selected from the member register of the Swedish Association of Occupational Therapists (FSA), and were: regional care, county care, municipal care, and primary care. A stratified random sample was identified through the register which covers over 90% of Sweden’s occupational therapists (134), and in the autumn of 2011, had 2897 members registered within the four working areas. To allow for accurate estimates of the sample as a whole with a confidence level of 95%, and a 5% margin of error of the estimates, a sample size of 340 participants was needed (135). This sample size was also considered enough to compare the working areas provided that the participants were evenly distributed between the areas (136). A response rate of 40-50% was estimated based on response rates in other surveys (137), and the proportion of OTs estimated to work with clients with CIABI within the working areas (138). In consideration of these assumptions two-hundred-fifty OTs from each working area (n=1000) were asked to participate. Four-hundred and five OTs answered the whole questionnaire.

Study IV was designed to define aspects consistent with the concept of therapeutic use of self among OTs working with clients with CIABI. An expert group was recruited with an expert being defined as a practicing OT working with clients with CIABI with at least five years of clinical experience with this client group. Furthermore, the occupational therapist should be recognized as skilled in the therapeutic use of himself or herself. To identify experts, a written inquiry was sent to 31 first-line managers of occupational therapy services within hospital based- or community-based rehabilitation units. They were informed of the study design, the concept of therapeutic use of self, and the expert criteria. They were then asked to recommend an OT based on the expert criteria. Sixteen managers recommended an OT for potential inclusion. Reasons for declining to recommend an OT were either that they did not want any OT take the time to participate due to high workload among the OTs, or that they did not have any OT fitting the inclusion criteria. An invitation letter was sent to
these 16 OTs, of which 14 gave written consent to participate. Thirteen participants completed the study.

Methods of data collection
To collect data an interview guide was used in Study I, and questionnaires were used in Studies II, III, and IV. The questionnaire that was developed and tested in Study II was revised according to the results of the psychometric testing and then used in Study III. The questionnaire for the first round in Study IV was developed from the literature on therapeutic use of self.

To investigate how OTs describe their work with clients with CIABI, an interview guide (139) was developed for use in Study I. The interview guide began with demographic questions after which it had one main question where the OTs were asked to describe their work with the client from first contact to discharge. The interview guide also included follow–up questions representing areas of interest to be clarified if the OTs did not spontaneously describe them in their first response. These areas were intervention methods (including assessment, therapy used, and evaluation of therapy outcome), assumptions underlying the OTs’ work and/or decisions, and their outlook on the role of other team members and relatives. The interview guide was piloted before use with an OT with significant experience in working with occupational therapy for persons with CIABI. This resulted in addition of a demographic question on teamwork. All interviews took place in a separate room at the OT’s work place. During the interview, probing questions were used to encourage the OTs to develop and clarify their descriptions. The interviews lasted between 30 to 50 minutes and were audio tape-recorded and transcribed verbatim.

To develop and test a questionnaire aiming to capture OTs practice patterns in relation to clients with CIABI, a questionnaire based on the content of the categories in the results of Study I was developed for Study II. From these categories, the following areas of practice were identified: content of intervention (including assessment, therapy used, and evaluation of therapy outcome), environment of intervention, collaboration with clients, relatives, team members and other professionals, professional knowledge, further education, theoretical framework, therapeutic use of self, and prioritizations. Of these the areas, collaboration with clients, relatives, and other professionals together with prioritizations were areas that have not been previously described in research on occupational therapy practice patterns. The content from each practice area was operationalised into items, and all items were compared with the categories and practice areas in Study I to ensure that no important aspect was missed and that items not covered by
the categories were included (140). This back and forth process resulted in a total of 88 occupational therapy practice items. Eighty-three items consisted of statements to be answered with one of the following alternatives: Yes, most of the time”, “Yes, sometimes”, No, seldom”, “No, never”. Five items employed multiple responses for which the participants were asked to mark one or more alternative, for instance concerning assistive devices used in intervention. Finally, nine demographic items were formulated covering year of graduation, area of work, work experience with clients with CIABI, most common diagnoses, regularity of work with clients with CIABI, further education within the field of cognition, and team collaboration.

The items were tested for understandability and relevance (140) by a convenience sample of five OTs with experience in geriatric rehabilitation at stroke units, medical rehabilitation, and municipality based rehabilitation. All of the OTs regularly worked with clients with CIABI and were, therefore, similar to the intended future respondents of the questionnaire (140). The questionnaire was evaluated for both content validity and test-retest validity. The content validity was evaluated using the process outlined by Waltz and Bausell (141) and further developed by Lynn (132). The procedure for evaluation of content validity is described here. The participants in the expert group chose whether they wanted to participate through e-mail or postal mail. Thereafter, they received written information about the questionnaire’s basis in a qualitative study and instructions on how to perform the assessment together with an evaluation version of the questionnaire. Each expert rated each statement on a four-point scale (1- “not relevant”, 2- “in need of revision to be able to fully judge relevance”, 3- “relevant, but in need of minor revision”, 4- “very relevant and concise”) (141, 142). For the eight items with multiple responses, each expert was asked to comment on the item’s relevance in writing. At the beginning of the questionnaire there was an introduction about the purpose of the study together with definitions of the terms ‘acquired brain injury’, ‘cognitive impairment’, ‘instrument for assessment’, and ‘structured test’. Each expert was also asked to comment on the relevance and content of the introduction to the questionnaire. To evaluate the reliability of the items, a test-retest design was used (136, 143) in which each participant filled out the questionnaire twice. The time interval between each data collection was one week (140). The questionnaire took between 15 and 30 minutes to complete.

To describe OT practice patterns in relation to clients with CIABI in Study III a revised version of the questionnaire from Study II was used. The revised version included the items found to be both valid and reliable in the
evaluation from Study II. Two definitions were also added to the initial version of the questionnaire in regards to compensatory versus remedial intervention. The questionnaire consisted of 44 occupational therapy practice items and 9 demographic items, and the items were formulated as statements with closed response alternatives. To guide the participants, the following terms were defined in the questionnaire: 'acquired brain injury', 'cognitive impairment', 'instrument for assessment', 'structured test', and 'compensatory versus remedial intervention'. At the end of the questionnaire, the participants had the opportunity to write comments in running text. The questionnaire took about 15 minutes to complete. An e-mail letter with information about the study and a personal link to a web-based version of the questionnaire, locked to others, was sent out to the participants. Two reminders, one after one week and another after two weeks, were sent out to participants that had not responded.

The aim of Study IV was to empirically define the concept of therapeutic use of self in a questionnaire based on a review of the literature. The literature review yielded 29 aspects of therapeutic use of self that were operationalized into one statement each. The statements represented the following areas: 1) Broad characteristics of therapeutic use of self (3 statements), 2) Demands on the OT when using oneself therapeutically (2 statements), 3) The context in which therapeutic use of self is employed (3 statements), 4) Intentions when using therapeutic use of self (11 statements), and 5) Use of personal characteristics and modes (10 statements). The questionnaire was tested for relevance and intelligibility by three OT each with more than twenty years of clinical experience in working with clients with CIA-BI. Three rounds of the reactive Delphi technique were used to collect data. This was intended to transform the opinions of the experts into group consensus by using an iterative, multi-stage process with a questionnaire in Round 1 that had been generated from the literature (144-146). Rounds 2 and 3 built on the results of the previous round in the form of structured questionnaires that included feedback to the participants. In Round 1 the participants were asked to agree or disagree with each statement in the questionnaire, and to comment on each statement as well as on the questionnaire as a whole. About a month after the responses from Round 1, the second questionnaire was sent out. An information letter covered the number of participants and feedback from Round 1 and included the per cent agreement, number of comments, and new and rephrased statements. The feedback was formulated in simple text and percentage formats (147). The second questionnaire was to be answered on a four-point rating scale (‘I fully agree’, ‘I partly agree’, ‘I partly disagree’, and ‘I fully disagree’) with an ‘I don’t know’ option. New or rephrased statements from Round 1 were
Methods of data analysis

Content analysis
The analysis of the interviews in Study I followed Granheim and Lundman’s (139) procedure for qualitative content analysis. Initially, all data was included as the unit of analysis. The texts were read and re-read and divided into meaning units, i.e. parts of the text relating to the same central meaning to facilitate an initial abstraction. The meaning units were thereafter condensed with the help of two questions: “What is this about?” and “What does it mean?” Each condensed meaning unit was labelled with a code, compared for differences and similarities, and sorted into tentative categories. The tentative categorisation was further scrutinized by going back and forth between tentative categories, codes, and meaning units until a final categorisation was made. During this process, meaning units that were irrelevant to the aim of the study were excluded. Finally, the categories were analysed for underlying threads of meaning between the categories. This process resulted in three major themes.

Comments in running text in the questionnaires from Study II and Round 1 of Study IV were compared for similarities and differences in their content (130). Consensus within the statements was used to judge the relevance and need for revisions, additions, or exclusions of statements and items, response alternatives, or introductory text.

Descriptive statistics
To evaluate the content validity of the questionnaire aiming to investigate OTs’ practice patterns in Study II, the analysis of the experts’ ratings was performed in two steps (132). First the content validity index (CVI) was calculated for each statement, which is the proportion of statements given a rating of 3 or 4 by all experts (141). A CVI of 0.83- 1.0 was considered having evidence of content validity (132). For statements with a CVI between 0.67 and 0.83, a second step was performed where all statements were scrutinised taking the expert group’s comments into account as well.
as the level of CVI. This process was undertaken to avoid the exclusion of relevant statements (141).

The responses to the questionnaire describing the OTs’ practice patterns in Study III were analysed using a descriptive statistical analysis where frequency distribution was the primary analytical tool to interpret the findings.

To analyse the data regarding OTs’ definitions of the concept therapeutic use of self in Study IV, the distribution of answers for each statement was calculated in Rounds 2 and 3. The level of consensus was set to 75%, meaning that at least 10 participants had rated a statement as “I fully agree” (147). Consensus was calculated for both Rounds 2 and 3 and a median (Md) score of four and an inter quartile range (q₁ - q₃) of zero constituted consensus. Statements with 100% consensus were also identified. Furthermore, the results from Rounds 2 and 3 were compared to identify the number of changes for each statement from one round to the next.

Non parametric statistics
In studies II and III, the item responses of the questionnaires consisted of nominal and ordered categorical data. Therefore non-parametric statistical methods were used for analysis (136, 143).

To evaluate the reliability of the questionnaire aimed to investigate OT practice patterns in Study II, the statistical method developed by Svensson was used for statements with ordered categorical data (148). This method makes it possible to identify systematic disagreement in response categories of the group by calculating relative position (RP) and relative concentration (RC). The RP and the RC can have values ranging from -1 to 1, and values of RP and RC close to zero indicate negligible disagreement (148, 149). A significant systematic disagreement between the test occasions is present when the RP and/or RC are above or below zero and the 95% confidence interval (CI) does not cover zero. In addition to a systematic disagreement, there is often individual occasional disagreement called relative rank variance (RV). The RV can have values ranging from 0 to 0.53 when there are four categories in use (150). An RV above zero with a 95% CI that does not cover zero is a sign of individual variation that cannot be explained by systematic disagreement. This analysis was performed on item levels in the following three steps:

1. Contingency tables were constructed and percentage agreement (PA) was calculated for each statement.
2. RP, RC, and RV values along with their CI were calculated for each statement. Statements showing a significant disagreement were further
scrutinised. If the instability of the statement could be explained, and judged as possible to overcome, the statement was kept. For each kept statement, a motivation and, if appropriate, a plan for how to change the statement to overcome the instability was formulated.

3. For the eight items with multiple responses, PAs were calculated for each response alternative. For response alternatives with a PA of less than 80%, differences between the test occasions were calculated using the McNemar test for paired proportions (136, 143) with the significance level was set to 0.05. Response alternatives showing significant disagreement were further scrutinised to analyse the reason for the disagreement and to decide whether the response alternative should be kept, with any necessary revisions, or excluded.

To analyse differences between working areas regarding OT practice patterns in relation to clients with CIABI in Study III, cross-tabulations on working areas and items regarding assessment, approach to therapy, evaluation of therapy outcome, and theoretical foundations were analysed. If differences between working areas were present, a chi-squared test was used to compare working areas in a pair-wise manner (136). The significance level was set to 0.05.

Data were analysed using Statistical Package for Social Sciences (SPSS) in studies II and III and Svensson’s Method, version 1.18-2009 in Study II (151).

Ethical considerations

According to Swedish law on ethical approval for research on humans (152), none of the studies in this thesis required approval from an ethics committee. In line with good research ethics, the ethical principles based on the Declaration of Helsinki (153) and the Swedish Rules and Guidelines for Research (CODEX) (154) were followed.

The participants in all studies were informed about the study orally and/or in writing. The information given to the participants in all studies informed them of the aim of the study, the form for presentation of the findings, the procedure for participation including timeframes, confidentiality and voluntariness, and contact information of the researchers.

Participants in Study I signed a written consent. The expert groups in Study II and IV agreed to participate by responding to a written invitation through e-mail. Participants in the reliability test agreed to participate by volunteer to fill out the questionnaire on both occasions.

In study I, II (evaluation of content validity), III and IV participants were guaranteed confidentiality.
Results
Although all four studies concerned OTs’ practices in relation to clients with CIABI the methodology and level of the descriptions range from in-depth descriptions (Study I) and consensus descriptions (Study IV) to cross-sectional survey descriptions (Study III). Study II was somewhat different as it concerned development of the questionnaire used in Study III. The results will be presented in relation to the specific aims of the thesis.

Occupational therapists’ descriptions of their work with clients with CIABI (Study I)
The OTs’ descriptions of their work with clients with CIABI resulted in three main themes each having underlying categories. The two themes ‘To make the invisible visible’ and ‘To collaborate- a prerequisite for success’ were related to the OTs’ perceptions and the content of their work with the clients. The third theme, ‘Dilemmas to handle’, concerned different aspects related to the rehabilitation process that the OTs described as affecting their work with the client. The themes and underlying categories are shown in Table 3.

Table 3. Themes and underlying categories

<table>
<thead>
<tr>
<th>Theme</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>To make the invisible visible</td>
<td>The interdependence of assessment and intervention (therapy)</td>
</tr>
<tr>
<td></td>
<td>The role of the environment</td>
</tr>
<tr>
<td></td>
<td>The role of the OT’s attitude towards the client</td>
</tr>
<tr>
<td>Collaboration an prerequisite for success</td>
<td>The team- both support and struggles</td>
</tr>
<tr>
<td></td>
<td>Guide and supervisor to the ones closest to the client</td>
</tr>
<tr>
<td>Dilemmas to handle</td>
<td>To be straightforward or not</td>
</tr>
<tr>
<td></td>
<td>Divergence in attitudes</td>
</tr>
<tr>
<td></td>
<td>Prioritisations</td>
</tr>
<tr>
<td></td>
<td>Own professional knowledge</td>
</tr>
</tbody>
</table>

The theme ‘To make the invisible visible’ included the OTs work to make the impairments of the client as well as their consequences for occupational performance visible both to the client and to the OT. The *interdependence between assessment and intervention (therapy)* was described. The assessment dimension was always present, even during therapy, because the limitations causing the most problems in occupational performance were seldom obvious at the beginning of therapy, but emerged gradually. To make the client’s limitations visible, conversations, observations, and standardised assessments were used either separately or in combination to plan therapy and to evaluate therapy outcome. The OTs pre-
ferred to use familiar daily activities such as self-care or cooking for assessment through observation. A reluctance to use standardised assessments was expressed and these were used to a lesser extent. The OTs mainly perceived their observations and conversations as unstructured, but they expressed what could be described as an inner structure that showed that the focus of the observation, or conversation, was not random. The salient therapies were directed to limitations due to memory impairments, planning problems, problems with organisation and structure, and decreased self-awareness. In general, the OTs preferred an adaptive approach and worked with the overall structure of the clients’ daily lives. Compensatory strategies such as assistive devices and internal strategies were commonly described. Constant feedback after sessions and occasional confrontation techniques were used to facilitate client self-awareness. Different cognitive impairments affected each other, which made the limitations in occupational performance complex and extending into all daily activities. This complexity was described as a difficulty when the OT tried to make each limitation visible and to figure out what was dependent on what when deciding on the content of intervention. The evaluation of outcome was described by the OTs as important, but it was perceived as difficult to make the outcome visible to both the client and the OT.

The environments for intervention could, according to the OTs’ descriptions, act as both a facilitator and a hindrance to making the invisible visible. Most interventions were carried out in an institutional environment, which was described as having both advantages and disadvantages. An advantage was that the institutional environment provided a safe setting for the client to discover his or her limitations in occupational performance. A disadvantage was that the institutional routines had fixed daily schedules regarding time frames and environmental cues. This environment was less demanding than the home environment and could make limitations that had been obvious at home become invisible. It made it more difficult to both discover and to work with such things as remembering to eat or initiating an activity. Many clients also had difficulties in transferring knowledge from the institution to their home.

The OTs highlighted the important role of the OTs attitude towards the client including the therapeutic use of self. A common attitude was described in which the OT strived for collaboration in goal setting and discussions on assessment and outcome. The OTs described using themselves therapeutically and having continuous feedback discussions to evaluate each session as tools to visualise both the client’s strengths and weaknesses and to facilitate self-awareness, motivation, and a good therapeutic relationship. An important intervention tool was to have a structured and con-
consciousness-raising attitude towards the client during all activities. The OTs described their attitude as straightforward and honest, but emphasized that their attitude to the client was also humane, offering the client options to work on their limitations together with the OT. In this context, the OTs used words such as supportive, advisory, reflective, and step-by-step guidance to describe their attitude during therapy. Visualising their clients’ strengths and weaknesses helped the OTs to balance the demands on the clients.

The theme ‘To collaborate - a prerequisite for success’ covered the OTs’ collaborations with others besides the client including the team, those closest to the client such as caring personnel on the wards, the home-help service, personal assistants, and relatives. The OTs expressed that they had a mediating and guiding role for those who worked close to the client an the OTs perceived of themselves as being supervisors with regard to the client’s occupational performance in daily life. The OTs also reported that they tended to regard the collaboration with relatives as being particularly invaluable.

The OTs reported that their unique knowledge related to the consequences of cognitive difficulties in daily life made them feel important as a part of the team, but they also felt alone. They felt that they also had to struggle with a hidden hierarchy in which the medical perspective was regarded as superior to the activity perspective. On the other hand, the OTs also described teams in which members freely discuss and support each other as being very valuable.

Within the theme ‘Dilemmas to handle’ the OTs recounted the dilemmas that they had to deal with in their work with CIABI. They reported a constant need to deliberate on what was best for the client, what was possible, and what was ethical. These dilemmas concerned not only interactions with the client, relatives, and caring personnel, but also with prioritisations and their perceptions of their own professional knowledge.

Dilemmas described in relation to the client were the balancing act between being clear and honest in communicating the client’s limitations versus the need to retain his or her motivation, in other words, whether to be straightforward or not. The OTs described self-awareness as a prerequisite for motivation, but self-awareness could also decrease motivation if the client perceived the limitations as insurmountable. Another dilemma related to the client was how to facilitate generalisation of strategies efficiently in the therapy process when their possibilities to work in the clients’ home were limited.

The dilemmas described in relation to relatives and caring personnel concerned divergences in attitudes. The collaboration with relatives was
highly valued, but created a dilemma regarding how to communicate and handle overprotective relatives or relatives speaking over the client’s head. The OTs often felt torn between a perceived responsibility to support the relatives, the relatives’ sometimes questionable attitude, and the OTs’ need for the relatives’ support. Divergences in attitudes were also a dilemma in relation to caring personnel. In the OTs’ experiences, the overall attitude of seeing all daily activities as possible arenas for intervention was often not shared by the caring personnel. The OTs perceived that the caring personnel often viewed rehabilitation as something apart from everyday life that they were not a part of.

The OTs often experienced a lack of time with each client such that prioritisation became necessary, and the lack of time was a hindrance to work with long-term therapies. The OTs focused on ‘here and now’ therapies, such as self-care and establishing compensatory strategies in the institutional environment. Often little or no priority was given to long-term therapies. The lack of time also required many of the OTs to rely more on caring personnel, such as assistant nurses or home help, than was desirable. The OTs also reported giving clients with severe cognitive impairments, or those living at home, less time and priority, and younger clients were often given more time than older clients.

The OTs reported that they often experienced feelings of doubt regarding their own professional knowledge related to CIABI. A feeling of lack of important knowledge was expressed as well as a keen desire for further knowledge and additional coursework. Learning by experience in daily work was described as one way to handle this dilemma. The OTs felt that they acquired some new knowledge from every client, and this learning process was facilitated by the perception of CIABI clients as challenging, interesting and rewarding to work with. The OTs also expressed an overall view of having an insufficient theoretical foundation, and the ability to distinguish between a model or theory and an instrument for assessment varied. The theoretical frameworks described were mainly the three elements of Model of Human Occupation (MoHO) (31) and/or the three functional units of the brain described in Luria’s model of brain functioning (32). The perceived lack of knowledge was given different meanings. Theory was either looked upon as something the OTs missed, leading to a lack of important knowledge in relation to their work, or as something they did not need because their empirical experience was sufficient.

In conclusion the results from Study I showed a complex scenario in which practice was characterized by making the invisible visible to remediate cognitive function, or to compensate for the limitations in occupational performance that they caused. Practice was also characterized by requiring...
collaboration to be successful, and was not solely guided by the clients’ needs. Dilemmas often arose related to the clients, relatives, personnel, organisation, and time and how they affected successful occupational therapy outcomes.

**Occupational Therapy Practice Pattern Questionnaire – cog (study II)**

In Study II the evaluation of the content validity of the questionnaire designed with the purpose of capturing the OTs’ practice patterns in relation to clients with CIABI resulted in 37 practice items out of 88 being excluded. Another five statements were excluded due to failing the reliability process. Consequently, a total of 46 items (38 statements and 8 items with multiple responses) were kept after the validation and reliability processes. The items excluded were primarily concerned with the theme ‘dilemmas to handle’ that was described in Study I.

After evaluation of the content validity and reliability, six of the statements (items 12, 15, 16, 21, 24, 30) (Table 4) were revised according to the explanations and suggestions from the expert group. Additionally, the expert group’s suggestions regarding the items with multiple responses were followed; three items had minor adjustments in the response alternatives (items 28, 52, and 53) (Table 5) and three items were merged into one but with all response alternatives kept (item 19) (Table 5). The final questionnaire used in Study III, therefore, included 44 OT practice items and 9 demographic items. The Swedish version of the final questionnaire, named the Occupational Therapy Practice Pattern Questionnaire-cog (OTPPQ-Cog), is presented in appendix A. A summary of the items in the final questionnaire is presented in Table 4 and Table 5. The numbering is revised compared to the initial version published in Study II.
Table 4. OTPPQ-cog questionnaire, part I. Statements with four response alternatives (Yes most of the time, Yes sometimes, No seldom, No never). Each item is abbreviated.

<table>
<thead>
<tr>
<th>No</th>
<th>Item (each item is abbreviated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-9</td>
<td>Demographic questions</td>
</tr>
<tr>
<td>10</td>
<td>I assess activity limitations by observing daily activities</td>
</tr>
<tr>
<td>11</td>
<td>I assess cognitive dysfunction by observing daily activities</td>
</tr>
<tr>
<td>12</td>
<td>I use instruments or checklists to structure my observations</td>
</tr>
<tr>
<td>13</td>
<td>I assess activity limitations through interviews with the client</td>
</tr>
<tr>
<td>14</td>
<td>I assess activity limitations through interviews with relatives/staff</td>
</tr>
<tr>
<td>15</td>
<td>I assess cognitive dysfunction through interviews with the client</td>
</tr>
<tr>
<td>16</td>
<td>My interviews are structured</td>
</tr>
<tr>
<td>17</td>
<td>I assess cognitive dysfunction with structured tests</td>
</tr>
<tr>
<td>18</td>
<td>I find it difficult to separate causes of activity limitations</td>
</tr>
<tr>
<td>20</td>
<td>I prefer daily activities as therapy</td>
</tr>
<tr>
<td>21</td>
<td>My therapies are compensatory directed</td>
</tr>
<tr>
<td>22</td>
<td>I assist clients in acquiring mental strategies</td>
</tr>
<tr>
<td>23</td>
<td>My intention is to remediate clients' cognitive functions</td>
</tr>
<tr>
<td>24</td>
<td>I use graded activities to remediate cognitive functions</td>
</tr>
<tr>
<td>25</td>
<td>I use computer programs for remedial therapy</td>
</tr>
<tr>
<td>29</td>
<td>I evaluate the results of my therapy</td>
</tr>
<tr>
<td>30</td>
<td>I use the same methods for assessment and evaluation of therapy</td>
</tr>
<tr>
<td>31</td>
<td>I find it difficult to evaluate the results of my therapy</td>
</tr>
<tr>
<td>32</td>
<td>I implement my interventions in an institutional environment</td>
</tr>
<tr>
<td>33</td>
<td>I implement interventions in clients' home environment</td>
</tr>
<tr>
<td>34</td>
<td>Collaboration with client, relatives, team and other professionals</td>
</tr>
<tr>
<td>35</td>
<td>I set goals in collaboration with the client</td>
</tr>
<tr>
<td>36</td>
<td>I give the client feedback after each session</td>
</tr>
<tr>
<td>37</td>
<td>I use my personal traits when interacting during a session</td>
</tr>
<tr>
<td>38</td>
<td>I have a purpose with my attitude towards the client</td>
</tr>
<tr>
<td>39</td>
<td>The client’s motivation is crucial for a successful outcome</td>
</tr>
<tr>
<td>40</td>
<td>I deliberately work to increase the client’s motivation</td>
</tr>
<tr>
<td>41</td>
<td>I prioritise activity limitations over cognitive dysfunction</td>
</tr>
<tr>
<td>41</td>
<td>I give information to relatives</td>
</tr>
<tr>
<td>42</td>
<td>I discuss with relatives how to best support the client</td>
</tr>
<tr>
<td>43</td>
<td>I depend on relatives for a successful outcome</td>
</tr>
<tr>
<td>44</td>
<td>It is hard to know how much I can demand from relatives</td>
</tr>
<tr>
<td>45</td>
<td>I work deliberately to engage relatives in the client’s rehabilitation</td>
</tr>
<tr>
<td>46</td>
<td>The team is a support in the work with the client</td>
</tr>
<tr>
<td>47</td>
<td>I ask other staff to perform regular therapies</td>
</tr>
<tr>
<td>48</td>
<td>I see further need of occupational therapy when the client is discharged</td>
</tr>
<tr>
<td>49</td>
<td>Professional knowledge and theoretical foundation</td>
</tr>
<tr>
<td>50</td>
<td>I feel a need for further education in occupational therapy and cognitive rehabilitation</td>
</tr>
<tr>
<td>51</td>
<td>It is important to me to have a theoretical foundation in my work</td>
</tr>
<tr>
<td>51</td>
<td>I have sufficient theoretical knowledge</td>
</tr>
</tbody>
</table>
Table 5. OTPPQ-cog questionnaire, part II. Items with multiple-choice responses.

<table>
<thead>
<tr>
<th>Item</th>
<th>Response alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content of intervention</strong></td>
<td></td>
</tr>
</tbody>
</table>
| 19. I use the following instruments to assess the client | ADL-taxonomy  
Sunnaas ADL-index  
Functional Independent Measure (FIM)  
Assessment of Motor and Process Skills (AMPS)  
Canadian Occupational Performance Measure (COPM)  
The Occupational Self Assessment (OSA, version 1.0)  
Rivermead Behavioural Memory Test (RBMT)  
Mini Mental State Examination (MMSE)  
Occupational therapy assessment of deep, posterior and frontal cognitive functions (in Swedish DBF)  
Intellectual Function Assessment (IFA)  
Baking Tray Task (BTT)  
Behavioural Inattention Test (BIT)  
Cognitstat  
Others________ |
| 26. These are examples of cognitive functions that can be impaired. Mark those that you direct interventions towards and to what extent | Long-term memory (including both procedural, declarative and prospective)  
Working memory  
Orientation  
Structuring/organizing  
Planning  
Attention/concentration  
Initiative  
Abstract thinking/problem solving,  
Impulse control  
Behaviour change  
Control of basic instincts  
Others________ |
| 27. Mark those of the following assistive devices that you prescribe, or recommend, to your clients | Wall chart  
Pocket chart  
Day planner  
Diary  
Checklist  
Personal Digital Assistant (PDA)  
Computer software/computer  
Cell phone  
Wristwatch with alarm function  
Others________ |
| 28. Mark those of the following approaches that you use when working with clients’ reduced self-awareness | I give the client feedback directly after our session  
I use video as feedback after a session  
I work with role changes letting the client assess my performance as a starting point for discussion  
Before each session the client predicts his/her own performance, the result is then compared to the prediction  
I let the client work with familiar activities to help recognise his/her own difficulties  
Others________ |

I do not prescribe and/or recommend any assistive devices  
I do not work with clients’ reduced self-awareness
Table 5. continued.

<table>
<thead>
<tr>
<th>Professional knowledge and theoretical foundation</th>
</tr>
</thead>
<tbody>
<tr>
<td>52. I mainly use the following theory/theories</td>
</tr>
<tr>
<td>to support information on clients’ cognitive</td>
</tr>
<tr>
<td>dysfunctions</td>
</tr>
<tr>
<td>Model of Human Occupation (MoHO)</td>
</tr>
<tr>
<td>Luria’s model of brain functioning</td>
</tr>
<tr>
<td>Others___________I do not use any theory for</td>
</tr>
<tr>
<td>this purpose</td>
</tr>
<tr>
<td>53. I mainly use the following theory/theories</td>
</tr>
<tr>
<td>as support when identifying my clients’ strengths</td>
</tr>
<tr>
<td>and weaknesses</td>
</tr>
<tr>
<td>Model of Human Occupation (MoHO)</td>
</tr>
<tr>
<td>Luria’s model of brain functioning</td>
</tr>
<tr>
<td>Others___________I do not use any theory for</td>
</tr>
<tr>
<td>this purpose</td>
</tr>
</tbody>
</table>

Occupational therapists’ practice patterns in relation to clients with CIABI (Study III)

Four-hundred five OTs responded to the whole OTPPQ-cog questionnaire (a response rate of 41%). The participants were evenly distributed between the four working areas and among the participants’ clients the two most common diagnoses were stroke (75%) and traumatic brain injury (TBI) (20%).

The results are presented with the practice pattern areas in the questionnaire as subheadings.

Content of intervention

Assessment

A vast majority of the OTs used observations in daily activities most of the time or sometimes to assess both activity limitations (94%) and cognitive impairments (94%). Almost all participants also used interviews. Assessment instruments were used by 88% of the participants, and 62% used tests of impairment level. The ADL-taxonomy (155, 156), a general ADL instrument, was the most frequently used instrument (62%) while the Mini Mental State Examination (MMSE) (99) was the test focusing on cognitive function that was most frequently used (40%) and the Montreal Cognitive Assessment (MoCA) was used by 7% of the OTs. Instruments focusing on specific cognitive functions were used to a lesser extent than screening tools (Table 6).
Table 6. Content of intervention regarding assessment and therapy used. Frequencies in percent (n=405)

<table>
<thead>
<tr>
<th>Items (Each item is abbreviated)</th>
<th>Yes, most of the time</th>
<th>Yes, sometimes</th>
<th>No, seldom</th>
<th>No, never</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I assess cognitive impairment through interviews with the client</td>
<td>78</td>
<td>19</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>I assess activity limitations through interviews with the client</td>
<td>69</td>
<td>28</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>I assess activity limitations through interviews with relatives/staff</td>
<td>28</td>
<td>54</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>My interviews are structured</td>
<td>30</td>
<td>29</td>
<td>25</td>
<td>16</td>
</tr>
<tr>
<td>I assess cognitive impairment by observing daily activities</td>
<td>66</td>
<td>28</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>I assess activity limitations by observing daily activities</td>
<td>73</td>
<td>23</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>My observations are structured</td>
<td>41</td>
<td>36</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>I assess cognitive impairment with structured tests</td>
<td>30</td>
<td>31</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>I find it difficult to separate causes of activity limitations</td>
<td>13</td>
<td>74</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td><strong>Therapy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I prefer daily activities as therapy</td>
<td>74</td>
<td>22</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>My therapies are compensatory directed</td>
<td>40</td>
<td>50</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>I assist clients in acquiring mental strategies</td>
<td>47</td>
<td>41</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>My intention is to remediate the clients' cognitive functions</td>
<td>38</td>
<td>43</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>I use graded activities to remediate cognitive functions</td>
<td>24</td>
<td>44</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>I use computer programs for remedial therapy</td>
<td>2</td>
<td>18</td>
<td>24</td>
<td>56</td>
</tr>
</tbody>
</table>

There were statistically significant differences between OTs in the different working areas regarding the patterns of instrument use. OTs working within county health care (p=0.016) and regional care (p=0.001) reported use of observational instruments most of the time to a higher degree than OTs within municipality care. In regards to the use of interview instruments, OTs within primary care reported use most of the time or sometimes to a higher degree than county health care (p< 0.001), regional care (p=0.026), and municipal care (p<0.001). In addition OTs within regional care reported higher use of interview instruments than OTs within municipality care (p=0.038). Regarding use of tests to assess cognitive function, OTs within municipal care reported use most of the time or sometimes to a lower degree than OTs within the other working areas (county health care p<0.001; regional care p<0.001; primary care p=0.006). In turn, OTs in primary care used tests to a lower degree than OTs within county health care (p<0.001) and regional care (p=0.023).
Therapy
The OTs’ therapies covered a wide range of cognitive impairments and a large percentage of these were related to abilities important to organization and executing occupational performance. Almost all participants preferred to perform their therapies in different activities of daily living. Ninety-six per cent prioritized therapies toward clients’ activity limitations before remediating impairment. There were no significant differences between the working areas. The participants used both remedial (81%) and compensatory (90%) therapies, and 82% recommended or prescribed assistive devices (AD). For specifications of content within the remedial and compensatory approaches, see Table 6. OTs within municipal care reported compensation as a purpose most of the time to a higher degree than OTs within county care (p=0.041).

Fifty-five per cent of the participants performed their therapies in an institutional setting most of the time while 29% did this seldom or never.

Evaluation of therapy outcome
Fifty-six per cent of the participants evaluated the outcome of their therapies most of the time. Just over half of them used the same methods to evaluate outcome as for initial assessment most of the time. There were no statistically significant differences between the working areas regarding evaluation of therapeutic outcomes.

Collaboration with client, relatives, team and other professionals
The participants reported a high use of collaborative goal-setting and feedback discussions after each session with the clients. Their choice of attitude in the interaction with the client had a therapeutic purpose and included the use of their personal traits during intervention. Eighty-four per cent felt to some degree dependent on relatives to reach a successful outcome, and most of them worked deliberately to involve relatives in the rehabilitation.

Seventy per cent of the participants stated that the team was supportive most of the time in their work with the client group, while 9% seldom or never felt any support from the team. Thirty-nine per cent asked other staff (assistant nurses, home-help) for assistance with regular therapies most of the time, and another 41% did this sometimes. OTs within municipal care did this to a significantly higher degree compared to regional (p=0.007) and primary care (p<0.001). About half of the OTs within municipal care asked other staff to assist with regular therapies most of the time.
**Professional knowledge and theoretical foundations**

Sixty-five per cent of the participants found theoretical foundations important in practice most of the time. However, 36% judged their theoretical knowledge as insufficient compared to 13% that found it predominantly sufficient. A vast majority (95%) of the participants felt a need of further education within occupational therapy and cognitive rehabilitation.

Eighty per cent of the participants used one or more theories to support their assessment of their clients’ strengths and weaknesses. General occupational therapy models dominated (MoHO 61%, CMOP 33%), and models focusing on cognitive rehabilitation were used to a lesser extent (Luria 33%, Toglia 4%). OTs within county care (p=0.028) and regional care (p=0.005) used theory to a significantly higher extent than OTs within municipal care.

Seventy-five per cent of the participants also used theories to support communication with relatives and other professionals. The patterns of theory and models used were almost analogous to the ones described for assessing clients.

**The concept of therapeutic use of self in relation to clients with CIABI (Study IV)**

In the study defining aspects that OTs found consistent with the concept therapeutic use of self 13 out of 14 participants (93%) responded to all statements in all rounds. The fourteenth participant did not respond to any round.

In Round 1 the questionnaire consisted of 29 items, and the respondents made 81 comments of which 77 were related to specific statements on the questionnaire and four were of a general nature. The analysis of the comments led to linguistic changes in the formulation of 13 statements and to four new statements. Two of the new statements concerned using oneself as an advocate for the client and the other two concerned using oneself to enhance the client’s self-awareness and to facilitate realistic goal setting. No statements were excluded so the questionnaire for Round 2 consisted of 33 statements.

Seventeen statements reached a consensus level of 75% in Round 2. The six comments made by the participants did not lead to any changes in formulation of the statements for the next round.

In Round 3, 20 statements out of 33 reached the consensus level of 75%. There was consensus among the participants that the content of the following definition described the concept of therapeutic use of self in relation to clients with CIABI:
“Therapeutic use of self is a conscious act whereby the OT uses his or her personal characteristics in a professional way. Both verbal- and non-verbal communication is used. To be able to use himself or herself therapeutically, the OT needs to be aware of his/her own strengths and limitations in interaction with others and to be able to adjust to the client in a way that is helpful in a given situation. The OT’s intentions when using him or herself therapeutically are to help the client to reach his/her goals and to participate in and take control of his/her own rehabilitation. The intention is also to establish and create trust and a therapeutic relationship. Further intentions are to help the client reach self-awareness about his/her strengths and limitations and to be able to set realistic goals. Intentions related to specific situations are to guide a client through an activity, to handle frustrating situations that may occur during intervention, and to alleviate the client’s fear and anxiety. When the OT uses himself or herself therapeutically, the following personal characteristics are intentionally used: empathy, tone of voice, encouragement, mindfulness, and engagement.”

The 13 statements that did not reach consensus concerned OTs’ motives for therapeutic use of self, when therapeutic use of self is used, and personal characteristics and modes used. The OTs did not reach consensus regarding whether they found therapeutic use of self consistent with motives related to the need to succeed with a specific intervention or to get to know the client, or that the overall goal with therapeutic use of self was that the client should manage occupational performance. There was no consensus regarding whether therapeutic use of self was always used in direct interaction with the client regardless of if it was within our outside a therapeutic context. In relation to personal characteristics and modes used, there was no consensus regarding humour, touch, instructing mode, problem solving mode, or advocating mode.
Discussion

The aim of this thesis was to describe occupational therapy practice for clients with CIABI from the perspective of practicing OTs. The results of our studies showed that the OTs’ practice targeted a wide range of cognitive impairments and their consequences in daily life and occupational performance. They used a combined approach to both assessment and therapy and focused on the clients’ occupational performance over function. An overall collaborative approach dominated therapeutic practice and the interaction with the client was perceived as an important intervention tool in which the therapeutic use of self played a central role. Working with clients with CIABI was found to be complex and dependent on a number of different circumstances. The different practice pattern areas, as well as the term itself, will be discussed based on the results from the four studies. After the discussion of the results will be a section with methodological considerations.

To describe practice for a client group as heterogeneous as persons with CIABI is a challenge. It might even be easy to dismiss such a description as impossible because of the unique nature of every client’s case. Much of the previous research in the literature has focused on a specific cognitive impairment and the therapy directed to just that impairment (57, 83, 157). Practice is much more complicated when several impairments affect the client’s occupational performance at the same time. This makes it difficult to focus one impairment at a time, and also to decide on what to prioritise in therapy. This complexity was described in Study I where the OTs described an interwoven process of assessment and therapy where the impairments causing most limitations in occupational performance emerged gradually. Practice for clients with CIABI as described by the OTs in Study coincidence with many of the areas included in the term ‘practice pattern’ as it has been used in earlier occupational therapy research (22-25). However there were also areas not previously described in practice pattern literature that emerged from the results of Study I and that were included in the initial questionnaire in Study II. These were mainly derived from the themes “Collaborations a prerequisite for success” and “Dilemmas to handle”.

Although most of the items within the traditional practice pattern areas were considered valid by the expert group in Study II many items referring to the indirect circumstances within “Dilemmas to handle” were judged as invalid. This can be understood as if the experts considered activities only connected to the direct interaction with the client, relatives, or team as practice, while the other circumstances did not fall within the definitions of practice, or were not considered relevant when describing practice. The
expert group’s perception of practice was consistent with, and might be influenced by, the areas used in earlier research on practice patterns. However, the expert group found items regarding collaboration with client and relatives important, practice areas that were not the focus of earlier research on occupational therapy practice. The OTPPQ-cog questionnaire used in Study III was, therefore, more comprehensive than questionnaires used in earlier studies. The empirical approach used in this thesis made it possible to detect areas of practice not earlier described in relation to practice patterns.

**Content of intervention**

A clear practice pattern was the combined approach to assessment (48) in which observations and interviews with clients and relatives were used together with standardized tests of cognitive function (Study I and III). This approach is in line with the occupational therapy perspective of occupational performance being influenced not only by the person’s capacity but also of the occupation and environment in question (7, 13, 16). The OTs in Study I found their assessments to be mainly unstructured and felt a reluctance to use standardized tests. This is partly confirmed in Study III where the use of standardized tests was lower compared to other assessment methods. These results are in line with a Canadian study of the cognitive assessments used by OTs to assess older adults (103). In addition, Douglas et al. (103) found that assessments based on interviews and observations of daily activities were perceived by Canadian OTs as more useful and served a greater range of purposes than did standardized tests. The findings in Study III can be interpreted in a similar way. The vast majority of the OTs preferred to assess both activity limitations and cognitive function through the use of daily activities, and the use of standardized tests were used to a lower extent. The OTs descriptions of the interdependence of assessment and therapy, and the difficulties of isolating which impairment affected occupational performance the most (Study I), may contribute to the belief that observing occupational performance gives more guidance than a tabletop administered test. The standardized test might give valuable information about a specific impairment, but gives limited information about how it affects occupational performance when other impairments are also involved. The OTs in Study I described the clients’ limitations as being interwoven in the occupational performance, which often led to difficulties in assessing limitations separately. This was also reported by Bootes and Chapparo (158) and raises the question of the usefulness of the occupational directed instruments developed within the field of occupational therapy. One explanation may be that many instruments are initially developed
for research purposes, and may, as such, not be primarily focused on utility in practice. As a result practitioners may find that the assessments have limited ability to meet their needs (159, 160).

The most frequently used assessment in Study III was the ADL-taxonomy, a general instrument assessing occupational performance primarily within personal and to some extent, instrumental ADL (155). However its usefulness in relation to clients with CIABI is uncertain. A limitation with general ADL-instruments is that the focus is not on cognition, and this requires the OT to rely on clinical reasoning skills to interpret how the cognitive impairment affects occupational performance. These skills have shown to vary significantly depending on the OT’s experience (161, 162), and this can influence the assessment results. Within the field of occupational therapy for clients with CIABI, the importance of using standardised tests on impairment level has been stressed as a complement to gain understanding of the underlying causes behind the limitations in occupational performance (18). The results in this thesis showed that this might not be a widespread practice pattern and this might negatively impact the quality of the therapy for these clients. The Assessment of Motor and Process Skills (AMPS) is an observation-based instrument that partly focus on cognitive skills and functions in occupational performance (91). In Study III the AMPS was found to be used by 25% of the OTs, but in Canada the corresponding number was only 4 -9% depending on the working area (86). This type of instrument has been found to be useful by OTs in assessing clients with cognitive impairments, but barriers to its widespread use are the requirement for training in its use and the high cost of the mandatory course. Thus there is need for the development of easily accessible, easily administered, and time-effective observational instruments to assess cognitive ability (103). In Study I the OTs expressed unwillingness to use standardised assessments, but at the same time considered them useful to help visualise the difficulties that their clients faced. One explanation for these contradictory viewpoints could be an uncertainty as to the proper use of these standardised assessments and difficulties to communicate the results of the assessment to the clients. This was the case in a study on manual hand function after stroke (163). Easy access together with simple administration and clearly interpretable results are important factors in how OTs choose which instrument they will use (103, 159). One such instrument that fulfils these requirement is the MMSE (99). The MMSE was found to be the most frequently used standardised test to screen for cognitive function in Study III, and was also the most commonly used instrument in studies in Australia (24) and Canada (86, 103). However, the MMSE has been shown to have a ceiling effect in relation to the stroke
population (164, 165) and the MoCA has been suggested to be a better choice (164, 165). Both the MoCA and MMSE are used with clients with TBI (166, 167), but no comparative studies have been found describing their relative effectiveness. Besides having better psychometric properties, the MoCA can detect a wider range of cognitive impairments such as executive functioning and attention (165), both of which are cognitive functions important in occupational performance. In Study III, however, the MoCA was found to be used by only 7% of the OTs compared to 40% who used the MMSE. Study III showed that the OTs’ interventions primarily addressed executive functioning in occupational performance. This implies that using assessments capturing this should be important, and therefore the MMSE is less valuable. Douglas et al (103) found that an explanation for the high prevalence of the MMSE was that it was often required by others such as physicians. A similar pattern might be present in Sweden where the MMSE is also regularly required in referrals to occupational therapy. However, like the MMSE, the MoCA is easy to get access to and to administer and thus the MoCA should be the primary choice in clinical practice and research.

The results in Study III showed that the OTs preferred to use daily activities as a mean in therapy. Similar results have been found in Australia (24) and Canada (86) where the OTs also used ADL activities to a high extent, and this is in line with the focus on occupational performance within occupational therapy (7, 16). Study III further showed that cognitive impairments related to executive functioning were the most targeted impairments in therapy. This is not surprising as executive functioning is crucial for successful occupational performance (13, 18, 45). However, the OTs also strived for remediation of specific cognitive functions in their therapies, which has also been described in earlier studies (24, 86, 114). To focus on remediation of a specific cognitive function is a challenge when using daily activities as a mean and places heavy demands on the OT’s ability to analyse activities and to be able to grade the activity to target a specific function. In Study I, the OTs described their struggle to make the invisible visible and this might be an expression of how they worked to manage these challenges. Traditional remedial therapies such as table-top tasks or computerized training were found to be used to a lesser extent by the OTs in Study III. These types of therapies have been shown to have limited effects and are, therefore, not recommended as practice standards within cognitive rehabilitation (107-109). An important point to be noted, however, is that it is the use of these types of exercises without support from an OT that is not suggested. Remedial therapies have, from clients’ perspectives, been described as valuable when accompanied by the guidance and feedback of
an OT (110) as the OT helped the client to understand and generalize the
knowledge gained to other life situations.

The OTs in Studies I and III also worked deliberately to facilitate clients’
self-awareness of their impairments. The performance of familiar daily
activities has been shown to be effective in combination with structured
feedback to facilitate self-awareness (45, 83) and thus daily activities play
an important role as therapeutic intervention. The combination of daily
activities and structured feedback was used by the OTs in Study III and
indicated that they worked according to best available evidence to enhance
self-awareness. In addition to these therapeutic strategies, the relationship
between the client and OT, goal-setting, and the choice of meaningful oc-
cupations in therapy have been highlighted as means to improve self-
awareness (84). These issues were also emphasized by the OTs in Study I.
Study III further showed a high level of collaboration with the client re-
garding goal-setting. Meaningful occupations are associated with motiva-
tion (168) and to work with client’s motivation was described as being
important by the OTs in Studies I and III.

In Study III, differences between the working areas were investigated.
Some differences regarding instrument use, use of other staff to perform
therapy, and the use of theory were found. OTs within municipal rehabil-
itation used instruments less, used other staff more, and used less theory.
However, overall few differences were observed among the different work-
ing areas. One explanation for this might be that the pronounced focus on
occupational performance and use of daily activities as a means of inter-
vention obscures any differences that may exist, or perhaps the items in the
questionnaire used in this study were not specific enough to detect any
differences. Another explanation might be that OTs are generalists before
specialists. The use of general instruments as well as general practice mod-
els, and the eagerness for further education indicate that this might be the
case. If OTs rely heavily on general occupational therapy knowledge with-
out specific knowledge on occupational therapy for clients with CIABI,
clients are at risk of not receiving the best practice possible.

Evaluation of the therapy in a structured manner is important and often
stressed in the literature (5, 115, 169) and occupational therapy education,
but it does not seem to have the same high priority in practice. In Study I,
the OTs described different ways to evaluate the outcome of therapy for
their clients, most of them unstructured and relying on the subjective opin-
ion from the OT, client, or persons close to the client. Items in the ques-
tionnaire from Study II reflecting those unstructured forms of evaluation
were judged to be invalid by the expert group, and the items kept in the
questionnaire reflected a structured approach to evaluation. Evaluating
clients in a structured manner is extremely important in research, which may explain the standpoint of the expert group as they were all researchers. From the perspective of clients and relatives, their subjective experience of the effect of the therapy is perhaps even more important. However, from the OTs perspective there could be a disadvantage as it makes it difficult to visualise the effect of the therapy. Study III showed that 56% of the OTs evaluated the outcome of their therapies most of the time, regardless of the form of evaluation, and 53% of them used the same methods for evaluation as for initial assessments. Taking into consideration the importance of evaluation of outcome for all involved, these are low numbers and OTs themselves, as well as managers and occupational therapy education programs need to emphasise the importance of evaluating therapy outcomes.

**Environment of intervention**

The environment in which the OTs performed their interventions was largely dependent on the organization within which they worked. In Study I, the OTs described that they were able to work in the clients’ home but that they worked primarily in an institutional setting if that was were they were placed. This observation was also made in Study III. The institutional environment often caused difficulties regarding clients’ abilities to transfer knowledge, and the OTs felt that this was problematic but did not have a solution for it (Study I). Similar problems were described by Daniëls and colleagues in relation to inpatient stroke rehabilitation (121). However strategies to work deliberately with transfer of knowledge have been described. Eriksson and Dahlin-Ivanoff (110) found that clients described that their discussions with their OT on how to make use of what they had trained into different contexts were very valuable for their ability to transfer what was learned. In the dynamic interactional approach to cognitive rehabilitation (13), transfer of knowledge is central and different strategies that the OT can use to facilitate transfer of learning, including a four-step therapy, have been presented (13, 170). Several existing practice models can provide valuable guidance to the OTs in interventions, but the use of specific models to support practice was shown to be low in Study III. The dynamic interactional approach was used by only 4% of Swedish OTs (Study III) compared to 31% of Australian OTs (24).
Collaboration and interaction with the client, relatives, team members, and other professionals

In Study I the OTs emphasized that the interaction with the client was decisive for successful therapeutic outcome. They used themselves therapeutically to enhance their clients’ motivation and self-awareness, and a reflective attitude was used as a pedagogical tool in the interaction. The OTs often described a balancing act between enhancing and decreasing their clients’ motivation. The results of Study III confirmed that this area of practice is important as most of the OTs worked to a large extent with collaborative goal setting. The OTs also found their clients’ motivation to be a crucial factor for successful therapeutic outcome and worked deliberately to enhance their clients’ motivation. The importance of collaborative goal setting together with the client and of adjusting every intervention to each client’s unique situation has been emphasized in earlier studies on stroke rehabilitation (17, 171). However, cognitive impairments have been shown to be a barrier to a client-centred approach with collaborative goal setting, particularly regarding clients with impaired self-awareness (172). Studies have shown that the use of a client-centred instrument, such as the Canadian Occupational performance Measure (COPM), when setting goals together with the client increases goal attainment in therapy for clients with ABI. Collaborative goal setting in such a structured manner improved the clients’ ability to recall the goals and to take an active part in their own rehabilitation (17, 173). Thirty per cent of the OTs in Study III used an interview instrument most of the time, primarily the COPM. Even though this is in line with current evidence, the proportion of the OTs that used an instrument most of the time was still quite low. The successful outcome of rehabilitation has been shown to be connected to motivation, and motivation in turn is associated with the relation between goals set in rehabilitation and the client’s life goals (168). Based on earlier studies (17, 168, 171, 173) the OTs emphasis in Studies I, II and IV on collaboration despite barriers due to the clients’ cognitive impairments seems to be in line with current evidence.

To overcome the barriers for client-centred therapy due to the clients’ cognitive impairments, Study I and IV found that the OTs often used themselves therapeutically. This is in line with the results of Guidetti and Tham (122) that found that the OT adapted to the client, like a chameleon, in therapy sessions to facilitate occupational performance in self-care activities. In Study I the OTs highlighted their therapeutic use of self as their most important interventions tool. In Study III the OTs used their personal characteristics and had taken an intentional approach to the therapeutic
use of self most of the time during intervention, and this has been described as a part of therapeutic use of self (128, 174-176).

Therapeutic use of self has been suggested to have different meanings depending on the client group (118), and this assumption is supported by the results of Study IV. Two new intentions, not earlier described, were added to the concept. The first was to apply therapeutic use of self to enhance clients’ self-awareness and the second was to apply it to facilitating collaborative goal setting. Both of these intentions appear to be very important to clients with CIABI. Collaborative goal-setting and therapies to enhance self-awareness were emphasized by the OTs in Study I, in addition they represented high numbers in Study III. All the therapies used by the OTs in study III to facilitate awareness demand an intentional way to interact with the client. The most common intervention was structured feedback after therapy sessions (used by 75%), the success of which depend to a large part on the OT’s ability to use her or himself therapeutically.

It is notable that two personal characteristics often described in the literature on therapeutic use of self, the use of touch and humour, did not reach consensus in Study IV (79, 116, 122, 177). This can be understood in several ways and further research is needed to confirm and understand the participants’ opinions regarding touch and humor. The OT’s doubtfulness might be an expression of therapeutic use of self being defined differently by different OTs depending on the client group they work with (118).

Taylor (118) presents six therapeutic modes describing OTs’ different approaches in their interactions with the client. All these modes are not exclusive to Taylor, and coincide partly with descriptions of others (116, 128, 175). In Study IV, statements aimed at reflecting these modes were included. The statements that reflected the collaborating, empathizing, and encouraging modes reached consensus, but the statements aimed at reflecting the problem solving, instructive, and advocating modes did not. The advocating mode generated comments in Rounds 1 and 2, and as a result of the comments, the initial statement in Round 1 was divided into three statements reflecting different aspects of the mode. Despite this, the participants’ standpoints did not change and these statements had the lowest level of consensus of all. The results suggest that an advocating mode is not preferred by OTs working with clients with CIABI, but this requires further research. In all 13 statements based on the literature did not reach consensus, indicating that the definition of therapeutic use of self among OTs working with clients with CIABI seems to be narrower than the descriptions in the literature. An explanation for this might be that descriptions trying to cover all client groups have to be broad, and this further
supports the importance of defining the concept of therapeutic use of self in relation to different client groups.

The OTs found collaboration with relatives important, and this was described in the results of Studies I, II and III. The results of Study III showed that the OTs worked to a large degree to provide information and support to relatives. This is in line with current evidence showing that involving the relatives in the rehabilitation process by giving information, practical guidance, and training related to the client’s impairments decreases the relatives’ burden and increases their emotional well-being and quality of life. Involvement of relatives in the rehabilitation process has been shown to have a positive effect on the client’s well-being as well (178, 179). Being a part of the ADL training and cognitive rehabilitation have shown to increase the relatives feeling of competence and security (179). A good relationship to the professionals in the team has also shown to have a positive effect (180). These effects are particularly important as research has shown that relatives of persons with CIABI experience deteriorated well-being and life satisfaction (70, 181), as well as elevated levels of anxiety and depression (182). The OTs in Study I also highlighted some difficulties related to collaboration with relatives and they had to balance between the need and importance of involving a relative with that particular relative’s perceived burden. The OTs rationale for involving relatives given in Study I seemed foremost to be to enable occupation for the client rather than increasing the relative’s well being. The OTs did not work actively to involve relatives that did not show interest spontaneously. Knowledge of the positive effects for both clients and relatives when the relatives are involved in the rehabilitation process, however, might change the OTs’ current attitude of not working with those relatives that do not show interest in participating. In this way, involving relatives could be seen as a direct therapy toward the client instead of an indirect one. However, the OTs’ overall practice pattern was to involve relatives, and this is in line with current best evidence even though there is room for improvement.

The results in Study I and III showed that most OTs worked in a team-based environment. Despite some issues, there was an overall agreement among the OTs that the team provided support for their work. What was more troublesome, however, was the divergence in attitude between the OTs and caring personnel that was described in Study I. Taking into account the large extent to which the OTs in Study III delegated interventions to other personnel, who in the Swedish system are mostly assistant nurses and home help services, this divergence in attitudes may impact negatively on the clients’ rehabilitation. Many clients with CIABI are dependent on strategies and routines in daily life, and implementation of these strategies
and routines is an important part of therapy (27, 47). Solving this problem with education is not easy because the theoretical foundations in occupational therapy and nursing have different perspectives. One way to create common attitudes toward rehabilitation therapy would be to have teams of home help service personnel and OTs working together throughout the day. This has been tried in Sweden, but is to my knowledge not yet evaluated and documented in research.

**Prioritisations**

Prioritisation within health care is an important issue in relation to practice patterns as it indirectly affects the content of the OT’s practice. However, most items related to prioritisations were judged as not valid by the expert group in Study II. One explanation for this might be that prioritisation can be seen as a circumstance rather than practice. In Study I the issue of prioritisations was not an area covered in the interview guide, but was something the OTs described much of spontaneously. Interventions for clients with CIABI are time consuming and often continue over a long period of time and this might explain the OTs’ concerns. In Study III the results showed that about 40% of the OTs responded most of the time when asked if they have asked other personnel, primarily assistant nurses or home help, to perform regular OT therapies in their place. In the municipality work area this proportion was about 50%. With regard to the complexity connected to occupational therapy for clients with CIABI, it might be expected that this affects the outcome negatively, but research is needed to investigate how delegation of therapy performance affects the quality and outcome of therapy.

**Professional knowledge and theoretical foundations**

The OTs own professional knowledge was something that the OTs reflected on in Study I. They often found their knowledge inadequate, and described a lack of confidence that they perceived as negatively affecting the quality of their interventions. Therefore, most items in this regard in the initial version of the OTPPQ-cog were about soft values reflecting the OTs’ perceptions about their knowledge. This was not something the expert group found valid in relation to the OTs practice. All items but two regarding the need for further education were abandoned and were consequently not included in Study III. Self-perceptions on knowledge may not be directly related to practice patterns, but it is important in understanding decisions made in practice. The OTs felt an urgent need for further education
specific to clients with CIABI (Study III), and this is in line with earlier studies within occupational therapy for clients with CIABI (114, 183, 184).

Professional knowledge can be related to theoretical foundations for practice, and the OTs found it important that their practice was rooted in theory. However, a small number of the OTs in Study III found their theoretical knowledge to be adequate and more OTs found theory to be important than were actually using theory in practice. A similar pattern has been found in earlier studies on the use of theory in occupational therapy practice (185-187). In Study III the most used occupational therapy model was the Model of Human Occupation (60%) followed by the Canadian Model of Occupational Performance (33%). Both of these models are general in the sense that they describe people in general irrespective of client group. Practice models focusing on cognitive impairment were rarely used, and this might explain the OTs’ perceptions of insufficient knowledge described in Study I and III.

Given the complexity of therapeutic practice more than one practice model or theoretical foundation must be used to cover all of the different aspects of the consequences of the clients’ cognitive impairments (16). Lack of support from theory might cause the lack of confidence and feeling of insecurity described by the OTs in Study I. Studies have shown that the extent to which an OT uses a theory in practice is associated with their own knowledge on that theory (185, 187). Knowledge gained during undergraduate studies in occupational therapy educational programs have been shown to have a great influence on the utilization of theory in practice. Whether a specific theory is used in the students’ field work site has also been shown to have a great influence (185). In Swedish occupational therapy education, the MoHO has been taught for many years. Practice models specifically directed to certain client groups are also taught, but the depth and extent differ. Thus it might be assumed among Swedish OTs that the knowledge of the MoHO is much more established than knowledge of specific practice models. In addition, supervisors at the fieldwork sites are important as role models for the use of theory in occupational therapy practice. As with development of assessments, theories are often developed by scholars and Kielhofner (159) argues that another explanation for the low use of practice models might be that they don’t fit practitioners everyday experiences. This is supported by earlier studies that have reported that practitioners value theory and research, but they have difficulties in integrating them into their own practice (188, 189). To develop an occupation -focused, theory-driven, and evidence-based practice, collaboration in the participatory action research format between scholars,
supervisors in the field, and practitioners has been suggested (43, 159, 190).

**Methodological considerations**

This thesis took its point of departure to be empirical descriptions of practice that provided opportunities to capture aspects of occupational therapy practice that are not found in theory or research. This decision was made based on the knowledge that OTs primarily do not rely on research results when making clinical decisions and judgments (24, 114, 183, 184). Choosing an empirical approach and interviewing the target group of the thesis was also a way to ensure that areas important to practicing OTs were captured when developing the OTPPQ-cog questionnaire (140). It has also been argued that developing best practice within this field must start with describing the current state of the practice (2-4).

Most areas of practice derived from the qualitative study coincided with practice pattern areas within occupational therapy research in general (22, 23, 124), and this strengthens the relevance of these areas. A disadvantage with using an empirical approach might be the risk of missing aspects of practice within each area not described by the OTs in Study I. To prevent omitting any important aspects, the OTs’ descriptions were compared to scientific knowledge within the field. No new aspects or areas were identified, but to avoid the risk of excluding important answers the response alternative “Others” was provided. Throughout the questionnaire, the OTs were also occasionally asked to comment or add information in their own words. The research perspective was also ensured by using occupational therapy researchers as the expert group in Study II. The choice of CVI as the method for evaluation of content validity (132, 133, 141) made it possible for the expert group to suggest changes and additions that were taken into account when developing the final version of OTPPQ-cog.

The Delphi technique used in Study IV had some methodological advantages that strengthen the study’s validity and reliability. To strengthen its validity, the questionnaire in Round I was based on the literature and piloted before use (144, 147), the inclusion criteria of the experts were carefully considered (147), and the participants had the opportunity to suggest additional statements, to comment on their ratings, and to change position in Round 3. The Delphi technique has been criticized for its weaknesses regarding reliability (191) and chance agreement (133). To enhance reliability, a consensus level of at least 75% (147, 192) together with the use of confidence intervals have been suggested (147). For control of chance agreement, a CVI of at least 0.75 on each item had been suggest-
ed (133). In Study IV the consensus level was set to 75%, median and inter quartile ranges were presented, and a CVI level of 0.83 was chosen.

All participants in the studies described were OTs either currently working as practitioners with clients with CIABI (studies I, II, II and IV), or occupational therapy researchers with background as practicing OTs (Study II). They represented both urban and rural areas. Important in this thesis was the ability to reflect practice from different perspectives, or levels, in the rehabilitation chain. The sampling procedures used were chosen to achieve diverse descriptions across a variety of settings and conditions where persons with CIABI receive occupational therapy (130). Taking the Swedish conditions into consideration, where much of the rehabilitation takes place outside the specialists’ centres, the spread of participants with regard to working areas was seen as an advantage enhancing the generalization of the results. A possible disadvantage with this approach is that potential specialist knowledge within one working field may be insufficiently illuminated. To investigate possible differences in practice, the working areas were compared in Study III, and although some differences were present the overall conclusion is that the differences are quite few.

The interviews in Study I were performed using an interview guide that allowed the OTs to describe their work in depth. The interviewer had extensive clinical experience with clients with CIABI, and this was an advantage as she had the knowledge to ask probing and deepening questions that encouraged the OTs to be more descriptive. On the other hand, this clinical experience might also have had the disadvantage that the interviewer might know what the OTs meant without asking for more descriptions. This might lead to missing information, but the descriptions in the interviews were rich and gave a variety of descriptions covering the OTs’ work.

In Study II the data collections for evaluating content validity and test-retest reliability were carried out at the same period of time. Consequently, data was collected on all items regarding both content validity and test-retest reliability. The comments from the expert panel were used to revise items regarding content validity aspects and to interpret reasons for significant disagreements in the reliability test. This was a methodological advantage as it made it possible to get a researcher’s perspective on the empirical data derived from Study I.

In Study III a member register was used as the sampling frame and this had both advantages and limitations. One advantage was the accessibility to a wide field of participants, but at the same time the lack of classification regarding client groups was a limitation. It was likely, therefore, that a relatively large number of OTs not working with clients with CIABI were
asked to participate. The invitation letter informed the OTs about the circumstances of the research and if they did not work with the client group they were asked to answer the demographic items only. Sixty-seven OTs responded to these items only. One OT questioned the selection process in the comments field. The lack of control over drop outs is a limitation of Study III. On the other hand, the response rate of 41% is 7% higher than the mean response rate for web surveys in general (137).

To strengthen the credibility of the analysis process in study I, parts of the analysis were performed independently by two of the authors. The independent categorisations were then compared and discussed (139). There was overall agreement on the categorisations, though a few meaning units were transferred to different categories as a result of the discussion.

Descriptive statistics were used for analysis in Studies II, III and IV. In Study II one aspect of validity, the content validity, was analysed using CVI (141). The strength of this method is that it is a practical way of quantifying content validity when used as outlined by the developers. The method also has its weaknesses as the CVI can be inflated by chance if the number of experts is too low. Also, the CVI value is affected by the number of rating categories and a small number of categories increases the chances of a high CVI (141). To minimise the negative aspects of the method, we used a statistically sufficient number of experts and four response categories (132). The result was also, as suggested by Lynn (132), interpreted with care and the items scrutinised in relation to comments from the expert group, their ratings, and the results from Study I. Regarding the evaluation of reliability in Study II, efforts were made to minimize bias due to a reflection process through careful planning of the timing for data collection. However, the participants own reflections cannot be fully controlled. The contributions of the expert group were decisive, not only for the validity process, but also for analysing disagreements between the test and the re-test. Their comments were valuable especially when deciding on whether disagreement of a valid statement was possible to overcome or not.

Sample sizes in many earlier Delphi studies within occupational therapy have been between 10 and 25 participants (192, 193). Study IV had a quite small sample size (n=13), although this was not exceptionally small. Choosing a relatively high consensus level (75%) was, besides other psychometric advantages described earlier, a way to compensate for the small sample size. Stability between the rounds was high for all consensus statements, and this could indicate that the participants’ views of the concept are quite stable and not as responsive to the opinions of others. This could support the ability to make generalisations from the results, but it must be
noted that no Delphi study alone can claim to apply to all situations (145). Future studies are needed to support and refine the results of Study IV.

Ordinal categorical data only indicate a rank order and not a mathematical value. Svensson’s method (143, 148) takes this into account and was, therefore, chosen to evaluate the reliability of the items with four response categories in Study II. The use of Svensson’s measure of systematic and occasional disagreement gives a comprehensive evaluation of reliability (143). This was an advantage when analysing items with a significant disagreement. The different measures RP, RC, and RV gave guidance when analysing the reason for the disagreements and judging if the items should be kept or not. The instability between the test occasions was assigned to two factors, both common in test-retest studies, namely the reflection process among participants and unclear formulation of the item (140). The seminar that the study participants were attending during the first testing occasion may have started a reflection process among the OTs and raised awareness of how they actually work that contributed to unstable answers between the occasions. This was judged to be the case for three items with systematic disagreement and one with occasional disagreement. All of these items were kept due to their relevance for the OTPPQ-cog. For three items with an occasional disagreement, their disagreements were explained by unclear formulation or understanding of the items. Interpretation of the meaning of the specific concepts ‘grading’ and ‘compensatory’ might differ and cause uncertainty leading to unstable answers between the test occasions. These concepts were not discussed during the first seminar so a reflection process is not probable. These concepts were explained in the final version of the OTPPQ-cog. When analysing the cause for disagreements, it was an advantage that all items were tested for both reliability and content validity. In this case the expert group’s comment on the concept of ‘compensatory’ was helpful in analysing reliability problems with two of the items.
Conclusions

The results of the studies presented in this thesis showed that the predominant practice pattern was the use of ADL activities for assessment and therapy regardless of whether limitations in occupational performance or cognitive function were assessed, or whether the approach to therapy was remedial or compensatory. For assessment, general ADL instruments were used more than instruments on impairment level, and instruments were used to a lesser extent within municipality care compared to regional, county, and primary care. Interventions focused on a wide range of cognitive impairments, and abilities related to executive functioning represented the highest percentages. Another prominent practice pattern was the collaborative approach toward clients, relatives, and other staff. Theories used to support practice were to a large extent general and did not focus specifically on cognitive functioning. The results also showed that occupational therapy practice for clients with CIABI is complex and the practice patterns are affected of circumstances such as the ‘hidden’ nature of the cognitive impairments, but also by organisational issues and collaboration with other personnel. The OTs perceived a lack of specific knowledge in relation to the client group and expressed a strong need for further education. Therapeutic use of self was regarded as an important intervention tool, and our results support the notion that the meaning of this concept is dependent on the client group with which the OTs work. For clients with CIABI, the results indicated that the OTs’ perceptions of the concept are, on the one hand, wider than the descriptions in the literature because two intentions with therapeutic use of self, specific to the client group, were added. On the other hand, their perceptions were narrower as 13 statements did not reach consensus.
**Implications for practice and research**

The focus of this thesis has been the OT’s perspective. However, it is important to emphasize that the contribution of knowledge and implications for practice and research that can be made from the results of this thesis aim to further develop and improve practice for clients with CIABI. To be able to offer high-quality occupational therapy to the clients, practice needs to be described and explained.

This thesis has contributed to making the content of occupational therapy visible, and can be used as a foundation for further research on practice patterns or the specific therapies used. Further, it can be used in occupational therapy education to describe practice, including therapeutic use of self, to students and to facilitate discussions on strengths and weaknesses with current practice, the need for development, and research utilization.

Compared to earlier studies on practice patterns within occupational therapy in general and for clients with CIABI, the empirical approach used in this thesis contributes additional practice areas not included earlier. These were collaboration with the client, including therapeutic use of self, collaboration with relatives, and collaboration with caring personnel outside the team. These practice areas were considered important for the OTs participating in the studies as well as the OT researchers evaluating the content validity of the OTPPQ-cog questionnaire. In future research, as well as in development of best practice in workplaces, these aspects of collaboration need to be elaborated.

The practice pattern of collaboration with, and involvement of, relatives is in line with current best evidence and has a positive impact on both relatives and clients. An implication for practice might be to inform the relatives of the positive impact an involvement has not only for them but for the clients as well.

The results of our studies showed that remedial therapies were used by a majority of the OTs despite evidence for low effect in the long run due to clients’ difficulties in transferring the skills they have learned. Consequently, an implication for practice is that before implementing remedial therapies the OT needs to have a strategy for how to help the client to transfer knowledge learned into his or her occupational performance. This strategy can be supported by occupational therapy practice models such as Toglia’s dynamic interactional approach.

The focus on adaptive/functional-directed therapies with the use of compensatory strategies is supported by best evidence. The OTs in this thesis did not specify any particular pedagogical approach when introducing strategies. Practice guidelines suggest error-less learning as a pedagogi-
cal approach. Error-less learning is to my knowledge not a widespread approach in Sweden and a clinical and educational implication might be to incorporate error-less learning in occupational therapy education and in further education of practitioners.

The focus on activity limitations is central to occupational therapy and the results showed that this is strongly rooted in Swedish practice. The results also showed that the models and assessments most frequently used were general. In practice for clients with CIABI, these need to be complemented by specific knowledge relevant to clients with CIABI. Existing models and occupational-directed, as well as impairment-directed, assessments that target cognition need to be used more often in practice to ensure best possible practice for the clients. Further education for practicing OTs is needed. Occupational therapy students need to learn specific practice models, including assessments, during undergraduate studies and have the opportunity to practice them in fieldwork placements. The challenge of providing both width and depth in occupational therapy education needs to be accepted.

The empirical descriptions of therapeutic use of self can serve as support for OTs working with clients with CIABI to put into words, both for themselves and others, the intentions behind how they use themselves therapeutically in the rehabilitation process. In occupational therapy education, these results could be used as a focused and easy accessible definition exemplifying to the students how the concept may be understood in practice. This could facilitate discussions on therapeutic use of self in relation to clients with CIABI and other client groups, as well as in relation to overlapping concepts such as clinical reasoning, the therapeutic alliance, and client-centeredness. It could also be used to raise the students’ awareness of the concept and the need to develop their own skills in therapeutic use of self.

The complexity of occupational therapy practice described in the results of this thesis needs to be taken into account when continuing the work towards evidence-based practice. To develop occupational based interventions relevant for practice, the collaboration between practitioners and researchers needs to be close. One way is to use action research where practitioners and researchers work together throughout the entire research process.
Svensk sammanfattning (Swedish summary)

Bakgrund


Tidigare forskning har visat att arbetsterapi för personer med kognitiva svårigheter efter förvärvad hjärnskada har positiv effekt på klientens förmåga att utföra dagliga aktiviteter. Forskningen specificerar däremot inte vilket innehåll denna arbetsterapi har. Praxis, d.v.s. vad arbetsterapeuterna faktiskt gör tillsammans med klienterna behöver därför tydliggöras. Sådana beskrivningar gör det möjligt att identifiera och undersöka vad det är i arbetsterapin som har effekt. Det blir också möjligt att bedöma i vilken
utsträckning arbetsterapeuterna arbetar utifrån bästa tillgängliga evidens (bevis för effekt) och inom vilka områden praxis behöver utvecklas.

**Övergripande syfte**

Det överbripande syftet med denna avhandling var att beskriva arbetsterapipraxis för klienter med kognitiva svårigheter efter förvärvad hjärnskada (CIABI) ur kliniskt verksamma arbetsterapeuters perspektiv.

**Metod och Resultat**


Avsikten med studie II var att utveckla ett frågeformulär som var grundat i empiri och som syftade till att kartlägga arbetsterapeuters praxis för klienter med CIABI. Resultatet från studie I användes för att utveckla frågeformuläret. Det utvärderades avseende innehållsvaliditet av en expertgrupp på sex forskare i arbetsterapi med erfarenhet av klienter med CIABI. Reliabiliteten utvärderades med en test-retest-design i en grupp av 51 arbetsterapeuter. Inledningsvis bestod formuläret av 90 frågor rörande arbetsterapi-praxis samt nio bakgrundsfrågor. Efter utvärderingen bestod frågeformuläret av 44 frågor om praxis samt nio bakgrundsfrågor. Några frågor reviderades språkligt utifrån expertgruppens förslag. Det reviderade frågeformuläret användes sedan i studie III vars syfte var att kartlägga svenska arbetsterapeuters praxis för klienter med CIABI. Arbetsterapeuter inom fyra verksamhetsområden (regionsjukvård, länssjukvård, primärvård och kommunal äldreomsorg) deltog i studien, 405 arbetsterapeuter besvarade frågeformuläret. Huvudresultatet visade att det mest framträdande praxismönstret var användandet av ADL-aktiviteter som

I studie IV studerades det terapeutiska användandet av sig själv som terapeutiskt medel i arbetsterapeutisk praxis. Syftet var att empiriskt definiera de aspekter som arbetsterapeuter som arbetar med klienter med CIABI anser ingår i begreppet ”terapeutiskt användande av sig själv”. Tretton arbetsterapeuter som definierats som experter i att använda sig själv terapeutiskt deltog. Reaktiv Delphiteknik i tre ronder användes där varje rund byggde på resultatet av föregående rund. Till rund 1 utvecklades ett frågeformulär med påståenden baserade på teoretisk och empirisk arbetsterapi-literatur om terapeutiskt användande av sig själv. Efter tre ronder visade resultatet att 20 av 33 påståenden uppnådde en nivå av konsensus mellan arbetsterapeuterna på 75 % eller mer. Dessa påståenden speglade terapeutiskt användande av sig själv som en medveten handling med uttalade syften, krav på arbetsterapeutens insikt om egna styrkor och svagheter i interaktionen med klienten och användandet av egna personliga egenskaper som verktyg. Vidare handlade påståendena om specifika syften kopplade till klienter med CIABI, t.ex. att förbättra klientens självinsikt.

**Slutsatser**

Resultaten visade att ett framträdande praxismönster var användandet av vardagliga aktiviteter både för bedömning och åtgärd. Detta oavsett om klientens begränsningar på aktivitetsnivå eller hans eller hennes nedsättningar i kognitiv funktion skulle bedömas. Detta gällde oavsett om åtgärderna var återtränande eller kompensatoriskt inriktade. Vid bedömning användes generella ADL-instrument mer än instrument som används för att bedöma kognitiv funktion. Åtgärderna riktades mot en rad olika kognitiva nedsättningar där förmågor kopplade till exekutiva funktioner angavs av störst andel arbetsterapeuter. Användandet av sig själv som terapeutiskt
medel var ett viktigt verktyg. Resultaten stödjer att innebörd av terapeutiskt användande av sig själv varierar beroende på den klientgrupp arbetsterapeuten arbetar med. Ett annat framträdande praxismönster var det utbredda samarbetet med såväl klienter och närstående, som annan personal. De teorier som användes som stöd i praxis var till stor del generella utan fokus på kognitiva svårigheter. Resultaten visade vidare att arbetsterapipraxis för denna klientgrupp är komplex och påverkas av faktorer såsom att kognitiva svårigheter ofta är dolda, men också av organisatoriska faktorer och samarbete med annan personal. Arbetsterapeuterna upplevde en brist på specifik kunskap avseende klientgruppen och ansåg att behovet av fortbildning var stort.
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My friends, you know who you are. For enduring with me when I’ve been real bad about keeping in touch, and for so much fun and deep friendship when we meet.

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63. Björkdahl A, Stibrant Sunnerhagen K. Process skills rather than motor skills seems to be a predictor of costs for rehabilitation after stroke in working age; a longitudinal study with a 1 year follow up post discharge. BMC Health Services Research. 2007;7(209).
IKAJSA HOLMQVIST

Occupational therapy for clients with cognitive impairment


Enkät om arbetsterapi för klienter med kognitiva funktionsnedsättningar efter förvärvad hjärnskada

Enkäten är uppdelad i två delar. Första delen består av bakgrundsfrågor och andra delen består av frågor om arbetsterapi för klienter med kognitiva funktionsnedsättningar efter förvärvad hjärnskada.

I denna enkät betyder begreppet **förvärvad hjärnskada** en skada som uppkommit efter en tidigare normal utveckling, d.v.s. skadan är inte medfödd. Orsakerna kan vara cerebral infarkt eller blödning (stroke), trauma, syrebrist, tumör eller neurologisk sjukdom. I denna enkät ingår inte demenssjukdomar som orsak till förvärvad hjärnskada. **Kognitiva funktionsnedsättningar** innefattar både kognitiva funktioner såsom t.ex. uppmärksamhet, minne, planering/organisation, och exekutiva funktioner såsom t.ex. abstraktion och problemlösning.

**Bakgrundsfrågor**

1. Vilket år tog du din arbetsterapeutexamen?__________________

2. Inom vilket område arbetar du?  
   - Kommun
   - Landsting

3. Inom vilken verksamhet arbetar du huvudsakligen?  
   - Strokeenhet
   - Medicinsk rehabilitering
   - Geriatrisk rehabilitering
   - Akutsjukvården
   - Kommunala rehabilitering
   - Annat__________________

4. Arbetar du huvudsakligen inom (ange ett eller två alternativ)  
   - Slutenvård
   - Dagvård
   - Poliklinik
   - I klientens hem
   - Särskilt boende/gruppboende
   - Dagrehabilitering/dagverksamhet
   - Annat__________________

5. Vilka av följande yrkeskategorier ingår i det team du arbetar tillsammans med?  
   - Sjuksköterska
   - Undersköterska/arbetsterapeutbiträdende
   - Sjukgymnast
   - Läkare
   - Kurator
   - Psykolog
   - Logoped
   - Annan, ange vilken__________________
   - Jag arbetar inte i team
6. Vilka orsaker till förvärvade hjärnskador har de personer som du huvudsakligen arbetar med? (arbetar du med mer än en grupp ange de två vanligast förekommande)

☐ Stroke
☐ Traumatisk hjärnskada
☐ Hjärntumör
☐ Anoxisk eller toxisk skada
☐ Neurologisk sjukdom t.ex. MS
☐ Annan, ange vilken____________

7. Hur många dagars vidareutbildning där det ingår kognitiv rehabilitering/arbetsterapi för personer med kognitiva funktionsnedsättningar har du? (hit räknas både kortare fortbildningskurser och poängkurser)

☐ 0 dagar
☐ 1-4 dagar
☐ 1-2 veckor
☐ 3-5 veckor
☐ mer än 5 veckor

8. Hur ofta arbetar du med personer med kognitiva funktionsnedsättningar?

☐ 3-5 dagar/vecka
☐ 1-2 dagar/vecka
☐ Några gånger/månad
☐ Någon gång/månad
☐ Några gånger/år
☐ Aldrig

Om du svarat aldrig, ange varför:
___________________________________________________________________________________
___________________________________________________________________________________
___________________________________________________________________________________
___________________________________________________________________________________

Om du svarat aldrig på fråga 8 behöver du inte gå vidare utan kan lämna in enkäten

9. Hur länge har du arbetat som arbetsterapeut med personer med kognitiva funktionsnedsättningar efter förvärvad hjärnskada?

☐ 2 år eller mindre
☐ 3-5 år
☐ 6-10 år
☐ 11-15 år
☐ 16 år eller mer
Följande frågor berör ditt arbete som arbetsterapeut för personer med kognitiva funktionsnedsättningar

Personer med förvärvad hjärnskada benämns fortsättningsvis i enkäten som klient.

*Med bedömningsinstrument menas i denna enkät en bedömning som resulterar i en poängsättning av förmågan, alternativt att varje, i bedömningsinstrumentet ingående, uppgift bedömts genom en skala, t.ex. kan självständigt, kan med viss hjälp, kan med hjälpmedel, kan ej.*

*Med strukturerat test menas i denna enkät ett testbatteri med syftet att bedöma specifika kognitiva funktioner såsom t.ex. minne, uppmärksamhet eller spatial förmåga.*

*Med intervention menas i enkäten behandlande åtgärder/behandling.*

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**Markera med ett X i den ruta som bäst motsvarar din uppfattning**

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<td>För att bedöma klientens aktivitetsbegränsningar observerar jag honom/henne i vardagliga aktiviteter</td>
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<td>Jag använder ett bedömningsinstrument eller checklista vid mina observationer</td>
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<td>För att bedöma klientens aktivitetsbegränsningar använder jag samtal/intervju med klientens närstående och/eller ”personal i hemmet”</td>
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<td></td>
<td>Samtal/intervju med klienten är en del i min bedömning av klientens kognitiva funktionsnedsättningar</td>
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<td>16.</td>
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<tr>
<td></td>
<td>Jag använder ett intervjuinstrument eller en checklista vid mina samtal/intervjuer</td>
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### Occupational Therapy Practice Pattern Questionnaire-cognition (OTPPQ-cog)

**Markera med ett X i den ruta som bäst motsvarar din uppfattning**

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<tr>
<th>Ja, oftast</th>
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17. För att bedöma klientens kognitiva funktioner använder jag mig av strukturerade test

18. Jag tycker det är svårt att särskilja vilka kognitiva funktionsnedsättningar klientens olika aktivitetsbegränsningar beror på

19. Använder du något bedömningsinstrument eller strukturerat test när du bedömer dina klienter?

- ☐ Ja
- ☑ Nej

Om du svarat ja, ange vilka av följande bedömningsinstrument du använder när du bedömer klienten (flera instrument kan markeras)

- ☐ ADL-taxonomin
- ☐ Sunnaas ADL-index
- ☐ Functional Independence Measure (FIM)
- ☐ Assessment of Motor and Process Skills (AMPS)
- ☐ Canadian Occupational Performance Measure (COPM)
- ☐ Min Mening
- ☐ Mini Mental Test (MMT)
- ☐ Cognistat (NKSU)
- ☐ Montreal Cognitive Assessment (MoCa)
- ☐ Perceive Recall Plan Perform (PRPP)
- ☐ Arbetsterapeutisk bedömning av Djupa Bakre och Främre funktioner (DBF)
- ☐ Intellektuell Funktions Prövning (IFP)
- ☐ Rivermead Behavioural Memory Test (RBMT)
- ☐ Baking Tray Task (BTT)
- ☐ Behavioural Inattention Test (BIT)
- ☐ Assessment of Awareness of Disability (AAD)
- ☐ Annat__________________________

---

Fortsättningsvis i enkäten används begreppen återträna och kompensation för att beskriva syftet med en intervention. En definition av vad som avses finns här nedan:

**Återträna**

Med återträna menas att syftet med interventionen är att klientens ska återfå eller förbättra den kognitiva funktion som är nedsatt. T.ex. att förbättra sitt arbetsminne, eller att få tillbaka den minneskapacitet som fanns innan klienten drabbades av hjärnskadan.

**Kompensation**

Med kompensatorisk menas att syftet med interventionen är att öka klientens aktivitetsförmåga genom att på olika sätt kompensera för klientens nedsatta kognitiva funktion. T.ex. att prova ut hjälpmedel eller att anpassa miljön.
**Markera med ett X i den ruta som bäst motsvarar din uppfattning**

<table>
<thead>
<tr>
<th>Nedsatt kognitiv funktion</th>
<th>Ja, oftast</th>
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<th>Nej, sällan</th>
<th>Nej, aldrig</th>
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<tbody>
<tr>
<td>Långtidsminne (avser både procedurellt, deklarativt, prospektivt)</td>
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<td>Korttidsminne (arbetssamman)</td>
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<td>Orienteringsförmåga</td>
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<td>Förmåga att strukturera/organisera</td>
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<td>Planeringsförmåga</td>
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<td>Initiativförmåga</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Abstrakt tänkande/problemlösning</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Impulstyrning av handling</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Betendeförändring</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Kontroll av grundläggande drifter</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Annan</td>
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<tr>
<td>Annan</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
</tr>
</tbody>
</table>
27. Jag förskriver eller rekommenderar följande kompensatoriska hjälpmedel till klienten

☐ Väggschema
☐ Schema i "fickformat"
☐ Almanacka
☐ Dagbok
☐ Checklista
☐ Handdator
☐ Dator
☐ Mobiltelefon
☐ Armbandsklocka med larmfunktion
☐ Annat
☐ Jag förskriver/rekommenderar inga kompensatoriska hjälpmedel

28. Jag använder mig av följande metoder när jag arbetar med klientens nedsatta självinsikt

☐ Jag ger muntlig feedback direkt efter att klienten utfört ett interventionstillfälle
☐ Jag ger videofeedback efter att klienten utfört ett interventionstillfälle
☐ Jag arbetar med rollbyten där klienten bedömer mitt utförande av en aktivitet
☐ Klienten får förutsäga sitt utförande av aktiviteten/uppgiften (självförutsägelse) och därefter jämföra med utfallet
☐ Klienten får arbeta i för honom/henne välkända vardagliga aktiviteter för att lättare upptäcka sina svårigheter
☐ Annat
☐ Jag arbetar inte med klientens nedsatta självinsikt

Markera med ett X i den ruta som bäst motsvarar din uppfattning

<table>
<thead>
<tr>
<th>Ja, oftast</th>
<th>Ja, ibland</th>
<th>Nej, sällan</th>
<th>Nej, aldrig</th>
</tr>
</thead>
<tbody>
<tr>
<td>29. Jag utvärderar effekten/nyttan av mina interventioner (om du aldrig utvärderar gå vidare till fråga 33)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>30. Jag använder samma metoder för både bedömning och utvärdering</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>31. Jag tycker det är svårt att utvärdera resultatet av mina interventioner</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>32. Jag genomför mina interventioner i institutionell miljö</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>33. Jag utför interventioner i klientens hem och närmiljö i den utsträckning klienten behöver det</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>34. Jag sätter behandlingsmål tillsammans med klienten.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>35. Jag ger klienten feedback på hur varje interventionstillfälle gått.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
### Markera med ett X i den ruta som bäst motsvarar din uppfattning

<table>
<thead>
<tr>
<th></th>
<th>Ja, oftast</th>
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<th>Nej, sällan</th>
<th>Nej, aldrig</th>
</tr>
</thead>
<tbody>
<tr>
<td>36.</td>
<td>Jag använder mina personliga egenskaper, t.ex. humor eller empati, när jag interagerar med klienten vid ett interventionstillfälle</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>37.</td>
<td>Jag har en avsikt med mitt förhållningssätt när jag interagerar med klienten vid ett interventionstillfälle</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>38.</td>
<td>Klientens motivation har en avgörande betydelse för resultatet av interventionen</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>39.</td>
<td>Jag arbetar medvetet med att höja klientens motivation när den är låg</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>40.</td>
<td>Jag prioriterar klientens aktivitetsbegränsningar före dennes funktionsnedsättningar</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>41.</td>
<td>Jag ger information till närstående/anhöriga</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>42.</td>
<td>Jag diskuterar med anhöriga hur de kan ge stöd och förhålla sig till klientens kognitiva funktionsnedsättningar</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>43.</td>
<td>Jag ärberoende av närstående/anhöriga för att rehabiliteringen ska bli framgångsrik.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>44.</td>
<td>Jag tycker det är svårt att veta hur mycket krav jag kan ställa på anhöriga</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>45.</td>
<td>Jag arbetar medvetet med att få anhöriga att delta i rehabiliteringen</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>46.</td>
<td>Teamet är ett stöd i mitt arbete med klienterna</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>47.</td>
<td>Jag ber annan personal hjälpa till vid den regelbundna träningen</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>48.</td>
<td>Jag bedömer att det finns ett kvarstående behov av arbetsterapi när klienten skrivs ut</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>49.</td>
<td>Jag känner behov av fortbildning inom arbetsterapi och kognitiv rehabilitering</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>50.</td>
<td>För mig är det viktigt att ha en teoretisk förankring i mitt arbete med denna klientgrupp</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>51.</td>
<td>Jag har tillräcklig teoretisk kunskap i mitt arbete med denna klientgrupp</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
52. Jag använder huvudsakligen följande teori/teorier som stöd när jag informerar om klientens kognitiva funktionsnedsättningar för andra

- Model of Human Occupation (MoHO)
- Canadian Model of Occupational Performance (CMOP)
- Lurias dynamiska lokalisationsteori ("Blockprincipen")
- Toglia’s multikontextuella modell
- Annan, ange vilken/vilka ________________________
- Jag använder ingen teori för detta

53. Jag använder huvudsakligen följande teori/teorier som stöd när jag ska identifiera klientens styrkor och svagheter

- Model of Human Occupation (MoHO)
- Canadian Model of Occupational Performance (CMOP)
- Lurias dynamiska lokalisationsteori ("Blockprincipen")
- Toglia’s multikontextuella modell
- Annan, ange vilken/vilka ________________________
- Jag använder ingen teori för detta

Egna synpunkter:

__________________________________________________________________________________________
__________________________________________________________________________________________
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__________________________________________________________________________________________
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