

## CHAPTER 6 DISCUSSION OF RESULTS

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### 6.1 INTRODUCTION

The development of an outcome measure for occupational therapists in mental health care settings was long overdue. Measuring outcomes in mental health posed many challenges and these had to be dealt with while developing an outcome measure. The results of the three phases of the study revealed that most of the challenges were attended to while public release of a valid and reliable outcome measure constituted a valuable contribution to the discipline of occupational therapy.

In this chapter the results of the three phases are interpreted to indicate the actualisation of the aims and objectives of the study. The implications of the results are also discussed.

### 6.2 DISCUSSION OF RESULTS OF PHASE 1 OF THE STUDY

The aims of Phase 1 were to establish domains for an outcome measure that represented the service delivered by clinicians as well as the needs and expectations of the mental health care users with regard to rendering of occupational therapy service. It was important that the outcome measure was applicable to the South African context. It had to cover the type of domains that are typically addressed in interventions programmes delivered by occupational therapists in government as well as private psychiatric settings. The participation of and inputs by clinicians and mental health care users were essential for ensuring successful outcome of this study. Their participation is discussed below.

#### 6.2.1 PARTICIPATION OF CLINICIANS TO ESTABLISH DOMAINS

Clinicians who participated in the focus groups were extremely positive and volunteered enormous amounts of information. During focus group discussions it became evident that clinicians did not have misconceptions or lack understanding of outcomes since all agreed that measurement of

change was the focus of any outcome measurement. A similar trend was reported by Bowman and Llewellyn (2002) who had conducted structured interviews with occupational therapists with regard to measuring outcomes. Their sample also showed agreement about outcomes and explained it as the tangible and measurable result of intervention.

Participating clinicians' solid understanding of outcomes laid the groundwork for further fruitful discussions about related themes e.g. characteristics of an outcome measure and what exactly to measure in mental health care users.

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#### 6.2.1.1 CHARACTERISTICS OF AN OUTCOME MEASURE

Viewed from the clinicians' perspective, the characteristics of an outcome measure were practical in nature but did not include any principles of measurement or psychometric properties like reliability or validity. They considered feasibility a priority as they wished to have an outcome measure that was realistic, tangible, and explained in clear semantics that reflected the unique contribution of occupational therapy. The feasibility of an outcome measure is as important as the mechanism's psychometric properties and must not be underestimated. Clinicians are the ones who will use the instrument and it, therefore, had to be user-friendly and relevant for their particular settings. Jette (1995) as well as Jette and Haley (2005) referred to the tension in functional outcome assessment between the need for a comprehensive and sensitive outcome instrument and clinicians' demand for a feasible instrument that can be used in busy clinical settings. Clinicians experienced increasing pressure to justify their services but would not be easily convinced to fill out lengthy outcome measures that took up valuable intervention time.

Client-centeredness was another characteristic that came up during focus groups involving clinicians. The clients' needs were important to clinicians as these assisted them in keeping services relevant. Their needs, at all times, reminded clinicians of the clients' circumstances and context. Currently, the client-centred approach is globally accepted as one of the core caring aspects of any occupational therapy service. Measurement in occupational therapy reflects the individual nature of people engaging in occupations. These measurements focus on a client's subjective experience of an occupation, on the one hand, but, on the other hand, on the observable qualities of occupational performance as seen through the eyes of the clinician. Client-centeredness is thus an important facet of occupational therapy and the researcher assumed that clinicians would include it in their discussions of outcome measurement.

Clinicians strongly felt that an appropriate outcome measure had to reflect the unique contributions of occupational therapy. They mentioned that domains had to focus on function and occupational performance of the client. Domains descriptions had to clarify consumers and practitioners of other health care professions' perceptions of the core business of occupational therapy. The domains that were eventually selected acknowledged the discipline's unique contribution.

During the focus groups and informal discussion, it became evident that clinicians had developed their own terminology to describe the unique contribution of occupational therapy in the health care team. Their terminology often was outdated and not in line with usages in the latest literature, for example the Occupational Therapy Practice Framework of the American Occupational Therapy Association (2008). This framework contains powerful terminology that explains the contribution of occupational therapy towards any condition or situation. When the researcher introduced clinicians to this terminology, they were remarkably receptive and agreed that it would be relevant for their practice settings. The clinicians in the end were satisfied with the inclusion of domains like Role performance and Balanced lifestyle in the APOM as they felt that these would assist them in their quest to make their unique contribution towards mental disorders public.

The lack of staying in touch with latest terminology could be a consequence of clinicians' attempts at coping with large numbers of patients and as a result, effectively reducing time allocated for professional development. It became obvious that an outcome measure had to be quick and easy to complete, without adding to already overloaded work expectations.

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#### 6.2.1.2 DOMAINS FOR AN OUTCOME MEASURE IN MENTAL HEALTH CARE SETTINGS

There was an excess of domains that could be included in an outcome measure but the process of incorporation had to be guided by the aims of intervention programmes and the needs of the people seeking the service in the South African context. The probability of finding a ready-made or appropriate outcome measure with domains that would represent the aims of a service as well as the clients' needs within a specific setting was limited.

The domains that emerged from Phase 1 of the study could be seen as generic domains for clients other than mental health care users. It is only physical components that were not appear. This finding could reveal what many educators in occupational therapy attempt to teach their students: occupational therapists do not have a narrow view of the type of diagnosis but rather focus on the impact of the signs and symptoms of an illness on the participation in everyday activities. It is the

infrastructure of health care that forces us to think in terms of a mental health care user or a patient with a neurological disease. The fact that a diagnosis is not important to occupational therapists are further supported by those clinicians who practice in settings outside the traditional hospital structure often have clients without a diagnosis as environmental factors also impact on participation in daily activities. If these domains of the APOM turn out to be generic for any occupational therapy population, the application and clinical utility of the APOM could have far reaching benefits for the entire profession. To claim validity and reliability of the APOM for generic populations, further studies need to be conducted by those clinicians in settings other than mental health.

Domains selected by clinicians for the Activity Participation Outcome Measure (APOM) in this study were compared with the domains or items of four other measures used by occupational therapists: the MEDYN Questionnaire, the AusTOMs, the MOHOST and the AMPS.

The MEDYN Questionnaire evaluates the change in functional ability in psychiatric inpatients that receive occupational therapy (Odes et al 2006). Domains in this questionnaire cover general/social behaviour, cognition and task behaviour. Three items of the domain general/social behaviour in the MEDYN were included in the APOM as Communication/interaction skills. The cognition domain of the MEDYN was fully covered by the Process and Lifeskills domains of the APOM. The task behavior domain of the MEDYN correlated well with the task concept item under the Process skills domain of the APOM. The APOM had a total of 52 items while the MEDYN contained 13 items and would thus require less time for administration.

Similarities were also found with the AusTOMs that measures impairment, activity limitation, participation restriction and well-being (Perry et al 2004). The AusTOMs was developed for use across a variety of health care disciplines, such as speech-, physio- and occupational therapists. In total, 12 items applied to occupational therapy, including three items aimed at physical dysfunctions. A therapist can select items that are relevant for his or her client and will not necessarily have to assess all the items. Several items of the AusTOMs corresponded with items of the APOM but were labeled differently. These items were learning and applying knowledge, self-care, carrying out daily tasks and routines, domestic life (inside house), interpersonal interactions and relationships, as well as work and using transport.

The AMPS is a widely used standardised assessment that is often used as an outcome measure by occupational therapists in mental health (Creek & Lougher 2008; Fisher 2001). This assessment consists of two domains namely Motor skills and Process skills. The domain of motor skills is not necessarily relevant for mental health care users while the Process skills are particularly appropriate.

Six of the items in the Process skills of the AMPS correlated with the items of the Process Skills in the APOM. These items are attention, pace, skills, knowledge, organisation of space and objects, as well as adaptation.

Hitch (2007) criticised the use of the AMPS for mental health care clients due to its reductionist nature and for only measuring a single component. AMPS findings do not provide a complete picture of the client's performance problems. In this study, discussions in the focus groups of clinicians on what were to be measured in mental health care users, made it clear that problems related to activity participation in mental health are complex and comprehensive. The aggregate of domains that the clinicians eventually selected pointed to the complexity. Hitch (2007) reiterated this complexity when she explained that it is normal practice to assess many aspects in a mental health client, and that the AMPS did not cover these aspects comprehensively. The constructor of the APOM acknowledges the relevance of domains in the AMPS and therefore included it in her outcome measure but fully agrees with Hitch's view that it could not be applied as the only outcome measure in mental health care settings. The AMPS was not developed for specific settings but instead was intended for generic assessment (Fisher 2001). It is well known for its sound psychometric properties and much can be learned from the development and implementation of the AMPS (Hitch 2007). Although training is extremely expensive and access is limited, the AMPS remains a popular assessment in occupational therapy.

The MOHOST is an occupation-focused assessment that determines the extent to which client factors and environmental factors (physical and social) facilitate or restrict an individual's participation in daily life (Kramer et al. 2009). It is used as an outcome measure and consists of six sections which are represented by 24 items. The six sections are motivation for occupation (or volition), pattern of occupation (or habituation), communication and interaction skills, process skills, motor skills, and the environment. The APOM's domains correlated well with the first four sections of the MOHOST.

In comparing the domains of the APOM with other outcome measures, it was clear that the APOM contained many more items. Items that were included in the APOM but were not part of previously mentioned outcome measures were: Role performance, Balanced lifestyle, Affect, Motivation and Self-esteem. These are aspects that are essential to address in an occupational therapy intervention programme with mental health care users in South African settings. Clinicians who use some of the other outcome measures that were mentioned would not cover the aforementioned five items since these aspects will not be measured and will thus make a comprehensive picture of the service that is delivered, impossible.

The APOM contains far more items than the outcome measures that were earlier mentioned and clinicians could reason that it is too cumbersome to complete a measure with 52 items. As mentioned previously, this is a concern but it must be reaffirmed that mental disorders are complex in nature and any reduction of items for the sake of gaining time, would jeopardise understanding and effective reporting of client recovery. Signs and symptoms of mental illness present differently in different persons and if an outcome measure has limited items, the complexity of the effect of the illness on activity participation could be viewed superficially.

Lakeman (2004) stated that routine outcome measurement ought to provide a lens through which one can witness a client's recovery from mental illness. He raised concern about the fact that current outcome measures are not capturing "the richness of people's recovery journeys" and that psychiatric symptoms alone are poor indicators of this journey to recovery. Hitch (2007) also expressed this concern when she criticised the use of an outcome measure like the AMPS with its reductionist approach that does not have the ability to capture the multiperspective approach used in mental health care settings. Lakeman (2004) suggested concepts such as coping, hope, connectedness, sense of self-efficacy, empowerment and self-esteem as indicators of recovery but acknowledged the fact that these types of concepts are difficult to quantify for the purposes of measuring outcomes. Domains that emerged in the APOM study deal with some of the concepts mentioned by Lakeman (2004) and, despite difficulties in quantification, they were operationalised into measurable units. Lifeskills, one of the domains in the APOM, focused on the important concept of coping. In order to cope, a mental health care user needs to apply skills such as personal management, domestic skills, budgeting, using transport, vocational skills and the like. These skills had been described at different levels of coping in the APOM. Self-esteem and sense of self-efficacy also had been incorporated in the APOM and were quantified successfully. Although these items would still not capture the recovery process in the way that Lakeman (2004) had suggested, they could provide some evidence of improved coping, self-efficacy and empowerment.

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### 6.2.1.3 BARRIERS AND CHALLENGES TO EFFECTIVE OUTCOME MEASUREMENT

The focus groups, not surprisingly, acknowledged the nature of mental illnesses and the complexities that hinder the mental health care user as one of the barriers to measuring outcomes. Clinicians agreed that most of the problems in mental illnesses are latent in nature and difficult to observe. Poor motivation is a common problem among mental health care users and was mentioned as a

debilitating symptom that slows down recovery. It is difficult to observe motivation, but in the APOM this difficult construct had been operationalised into five observable items. By measuring motivation with the APOM, a clinician receives concrete evidence of how poor the motivation was at the beginning of the intervention and on whatever improvement or deterioration in this domain was observed during the course of the intervention programme.

The availability of a detailed breakdown of the problem can guide the clinician in designing a specific intervention plan for the client's problem. It could also be a case of the clinician might subjectively feel that motivation is the problem while the APOM results point to another domain as actual problem, for example, Lifeskills. Any attempt to deal with so many latent variables and explain the dynamic interaction between these variables becomes difficult and often entices clinicians to reason subjectively. The APOM would provide clarification and some supportive evidence on manifestation of these latent constructs.

If domains are routinely measured, latent trends in the nature of the activity participation might emerge and would thus permit clinicians to make informed decisions regarding their patients' progress and possible future interventions. The nature of the mental illness would thus be better understood and ought not to remain a barrier to measure outcomes.

Challenges mentioned by the clinicians were similar to findings of a study by Bowman (2006). This study explored the process and challenges to measure outcomes during occupational therapists' efforts at stroke rehabilitation. Bowman (2006) reported that participants in focus group discussions centered exclusively on challenges and barriers to measuring outcomes. These challenges and barriers were categorised into three themes: focusing on occupation, deconstructing occupation, and lacking knowledge, skills and assistance. Views similar to those that Bowman's had reported emerged in the APOM study, for example, occupational therapists wanted to include daily occupation in an outcome measure as this was their unique contribution towards rehabilitation, but short lengths-of-stay limit the possibility of focusing on occupation-based problems. Related views include the importance of measuring outcomes to promote professional credibility, difficulty in deconstructing (or, measuring the "units" of) a complex outcome like occupational performance, and lacking knowledge and skills to measure outcomes. Participants in the stroke rehabilitation study also mentioned the necessity of further training in outcome measurement, as the clinicians did in this study. Although Bowman's study focused on stroke rehabilitation, it was interesting to note that clinicians in mental health care had similar concerns about measuring outcomes (Bowman 2006).

A serious concern, raised by many clinicians during focus groups, was inadequate communication about the role of occupational therapists in a multidisciplinary team of professionals. The roles of the different health care workers were vaguely defined and, although there could be a subjective feeling that a patient has improved, it was not evident which health care worker contributed to improvement, or how this professional has achieved it. Domains included in the APOM represented a range of occupational performance concerns typically found in mental health care users, matters that are usually attended to in an occupational therapy intervention programme. The definitions and item descriptors for the domains clearly explained the occupational therapy perspective and indirectly communicated the role of the occupational therapist in mental health care settings. By using the domains of the APOM, which was based on the aims of the occupational therapy intervention programmes to measure the outcome in a client, the clinician would obtain substantive evidence on the contribution of occupational therapy toward the recovery of the client.

The clinician, however, would not have robust APOM-generated evidence in support of the 'claim' that the occupational therapy intervention has caused the improvement. Some domains, such as self-esteem, affect and motivation, are influenced by other professionals in the team, although in different ways that can have an effect on symptoms like depression, lack of drive, depleted energy and poor attention. Occupational therapy could thus not single-handedly lay claim to the evolved causal relationship between its intervention and the outcome. The measurement of outcomes is no substitute for convincing evidence gained from rigorous experiments, like randomised control trials. However, if measuring outcomes had been firmly established and a sensitive measure is available to measure change, randomised control trial may be the next step in producing evidence of effect of services. Routine outcome measurement in addition to randomised control trials is an interesting debate and is discussed in more depth at the end of this chapter.

### 6.2.2 PARTICIPATION OF MENTAL HEALTH CARE USERS

The participation of mental health care users to generate information that determined the domains for the outcome measure accentuated the value of a client-centred approach. Working in partnership with clients and respect for their needs ought to be embedded in occupational therapy interventions in order to improve their occupational performance. Law, Baum and Dunn (2005) as well as Law, Baptiste and Mills (1995) stated that measurement techniques have to include the

client's say in evaluating outcomes of their intervention. This aspect of client-centred practice was implemented in this study.

Another aspect of client-centred practice that was firmly integrated in this study was the notion that measurement had to focus on both subjective experience and observable qualities of occupational performance (Fossey & Harvey 2001; Krupa, Fossey, Anthony, Brown & Pitts 2009; Lakeman 2004; Law & Baum 2001). Clients' responses reflected their subjective experiences. They were granted an opportunity to express their need for and expectation of occupational therapy service. At the same time, domains selected by the clinicians were indicative of the observable qualities of occupational performance. Responses from mental health care users corresponded well with the domains that clinicians wish to see change in. This indicated that clinicians in the APOM study were in touch with their clients' needs.

Responses from the mental health care users in the APOM study compared well with a study done by Lim, Morris and Craik (2007). The three researchers gathered data by way of a self-report semi-structured questionnaire to examine acute mental health inpatients' perspectives on occupational therapy. Three-quarters of the patients reported the importance of occupational therapy's capability to provide them with daily structure, breaks with the ward environment, acquisition of new skills and creation of space for creative expression to improve confidence. Participants further reported the need to have occupational therapy available during both evenings and over weekends when lack of available therapeutic activity and boredom are common. This need was also expressed by the mental health care users in the APOM study. Findings in a study where patients had to identify therapeutic factors (Eklund 1997) too revealed that the attitude and behaviour of the occupational therapist contributed to the recovery process. The participants in Eklund's study also reported the value of being occupied and motivated through participation in activities, as well as being given the opportunity to be creative (Eklund 1997).

Much debate has taken place on whether clients with psychiatric diagnosis were able to give useful and rich information with regard to outcomes that ought to be measured. Irrespective of the debate, mental health care users were included in the APOM study since, according to the researcher's experience, they have valuable information to share and are "experts" in how the illness affects their activity participation. It was also clear from the findings of this study that they knew what they expected from the occupational therapy service. A study done by Eklund, Erlandsson and Person (2003) indicated that the occupational value of people with mental illness hardly differed from that of people without mental illness. These findings imply that mental health care users are able to

intelligently convey their needs and occupational values and must, therefore, be included in studies about their health and well-being.

The timing of gathered information from a mental health care user is crucial. There are stages in the course of mental illness where the person will be unable to provide comprehensive and sensible information e.g. during psychotic or severely depressed phases. Both psychotic phases and severe depression usually clear up after medication and once the appropriate treatment takes effect, the person's mental state stabilises and he or she is able to give useful information. Clients with limited cognitive abilities, e.g. mental retardation, are unlikely to give valuable information but in their case, their care givers or family members could act on their behalf.

In this study, two mental health care users had to withdraw because they were unable to give relevant information. Both users suffered from cognitive decline due to general medical conditions. The content of their thought processes were focused on their immediate problems and questions from the researcher elicited tangential thinking.

Lim et al (2007) reported that despite a commitment to client-centred practice, involving clients in their own intervention had made slow progress, especially among clients suffering from psychiatric conditions. This might be due to a narrow view that mental health care users might be unfit to make decisions on what they need or what will be beneficial to them. Goulet, Rousseau and Fortier (2007) reported that this approach was not interpreted as a priority by both service providers and clients in psychiatry. Little agreement between clients and service providers regarding intervention needs had been reported. Unfulfilled clients' needs included interpersonal relationships, independent lifeskills, productive activities and, coping with illness and health care (Goulet et al 2007). Greenhalgh and Meadows (1999), in a literature review of 13 studies, reported that there was little evidence that patient-based measures improved the management of patients or the patient outcomes.

Reluctance to use a client-centred approach, as reported in the literature, was not evident in the APOM study. During dedicated individual interviews and focus group, several mental health care users mentioned the caring attitude of occupational therapists. A study by Bambling and King (2001) found that up to 30% of the recovery of a mental health care user could be accounted for by the therapeutic relationship, due to the fact that the person felt he/she has been listened to, understood, respected and helped by the health care professional. Johansson and Eklund (2003) reported similar findings from a study that emphasised the importance and quality of therapeutic relationship with mental health care users. This seemed to be a noteworthy issue that has not been included in any outcome measure, in spite of studies that had been done on the importance of the relationship.



### 6.2.3 ACTUALISATION OF AIMS OF PHASE 1 OF THE STUDY

At the end of Phase 1, domains for the outcome measure were established for use by occupational therapy clinicians in South African mental health care settings. Clinicians were satisfied that the domains represented the service that they deliver to their clients. The needs and expectations of mental health care users with regard to occupational therapy service compared well with domains selected by the clinicians. The aims of Phase 1 were thus met.

## 6.3 DISCUSSION OF RESULTS OF PHASE 2 OF THE STUDY

The development and design of the outcome measure during Phase 2 in essence was a theoretical endeavour where the researcher made extensive use of both epistemology that underpinned the Model of Creative Ability and related literature. Codes derived from focus groups with clinicians and individual interviews with mental health care users were helpful in search of relevant descriptions for each level of all the items.

### 6.3.1 THE NEED FOR OBSERVABLE BEHAVIOURS AND ACTIONS

In order to measure all latent traits in the domains in the APOM, the items had to be described as observable actions during activity participation. Although a tedious task, it was not difficult to find observable actions for all items. The nature of human occupation, in essence, is about engagement in tasks that is observable in some way or other. Engagement in occupations is adequately covered in literature on occupational therapy, hence it was relatively easy to find descriptions for all the items. Literature on psychology was most helpful in the domains of self-esteem and affect.

Lifeskills was a common domain among many mental health care professionals, for instance nursing, occupational therapy, social work and psychology. It was necessary to select skills typically included in an occupational therapy programme. Construction of the Lifeskills domain required the largest number of items, pointing not only to its importance but also to variety that had to be accounted for. Lifeskills such as friendships, nutrition, banking, coping with death, divorce and separation,

were not covered in this outcome measure since it was felt that other professionals attended to these skills. Divorce and separation as well as dealing with financial issues were raised in focus group discussions with clinicians but were not selected during the nominal group technique. Mental health care users also did not mention these lifeskills as a need.

Balanced lifestyle (also called activities health) and Role performance domains are typical of and exclusive to occupational therapy's scope of practice. There is general agreement in literature on occupational therapy on what should be included under Balanced lifestyle and Role performance.

Quality of life is an important domain that often is included in rehabilitation outcome measures. During the focus groups, quality of life was considered an important outcome for occupational therapy but clinicians agreed that the concept was vague and difficult to measure. The domain Balanced lifestyle in the APOM, represented some aspects of quality of life. This domain focused on time-use, habits and a balance of occupations. When these behaviours and actions are balanced and healthy, the result is a feeling of well-being and experiencing of quality of life. Many quality of life and well-being scales are described in literature, usually from a client perspective, but were not rateable as observable actions like in the APOM. In the APOM Balanced lifestyle, together with Role performance, were designed to capture aspects of well-being and quality of life in mental health care users.

### 6.3.2 CREATIVE ABILITY AS THE RATING SCALE

The use of the Model of Creative Ability as grounding theory for the rating scale in this study turned out to be extremely successful. Several issues regarding outcome measurement that were raised by concerned authors could be addressed by using this model.

The first issue, raised by Lakeman (2004), was that concepts in the treatment of mental health do not lend themselves to quantification. This is true and although difficult to execute, it was achieved in this study. The theory underpinning the Model of Creative Ability assumes that observable actions in a person indicate the level or amount of activity participation at that stage. By performing several of these observations, one can infer a level. Each level has several criteria with which to assess expected behaviour at that particular level. Characteristic behaviours associated with the different items of each domain in the APOM were observed, described and tested during the study.

The Model of Creative Ability describes the levels of activity participation (Du Toit 2004). The criteria for behaviours expected at each level are advantageous in the development of an outcome measure. No other known theories or models described activity participation at different performance levels. A level indicates an 'amount' of performance and lends itself perfectly to a rating scale. Each level is further divided into phases namely therapist- or patient-directed or transitional. The phases were useful in tracing small amounts of progress that often are observable in mental health care users, as indicators of successful recovery. The rating scale is thus sensitive to small changes. Outcome measures are often criticised for their inability to detect small changes but this problem was overcome by employing the Model of Creative Ability in the rating scale.

Another advantage was that many occupational therapists currently working in the field of mental health care had been trained in the Model of Creative Ability and it was thus both easy and quick to apply the model in measuring outcomes in mental health care users. The disadvantage was that occupational therapists not trained in this Model first needed training before they could apply the rating scale to their clients. Some therapists were not interested in mastering a new model as they were satisfied with their current practice, while others were keen to learn a new practice in mental health care settings.

### 6.3.3 FORMAT OF THE INSTRUMENT, GUIDELINES FOR USE AND TRAINING OF CLINICIANS

The format of the outcome measure was influenced by discussions in the focus groups. High patient loads, unfamiliarity with measuring outcomes and routine applications of outcome measurement necessitated a quick and easy format. The electronic format was developed to address these and other concerns. This format had the added benefits of report generation, capturing of statistics and database building without any additional efforts from a clinician. One action could produce many outcomes e.g. while completing the outcome measure, a report and spider graph were generated in the background. Some of the occupational therapists participating in the research reported that they found the reports effective and time-saving while the spider graphs were useful in report back at multidisciplinary team discussions as well as discussion with their patients about aims of treatment and progress.

In spite of the positive feedback, only a few clinicians used the electronic format. Most preferred to use the hard-copy where they could decide on the description and tick it off on the document. This

might have been due to them not yet being familiar with the descriptions or that browsing through a hard-copy was easier than paging up and down on an electronic spread sheet.

It appeared as if the guidelines for use described in the manual were clear and comprehensive. No adjustments were made to the training manual.

Problems were encountered in the implementation of the outcome measure where clinicians felt unsure about the specific rating of a client. One-on-one discussions with some clinicians clarified uncertainties and fruitful discussions followed upon observations of what they experienced in their day-to-day interventions with the clients. This assisted the researcher to adjust the descriptions for certain items in order to enhance understanding and clarity.

Later training at two other hospitals included a hands-on rating of a client known to all clinicians. This proved to be a better way of training and reduced the uncertainty of some clinicians.

#### 6.3.4 ACTUALISATION OF AIMS OF PHASE 2 OF THE STUDY

The outcome measure, in the format of a rating scale based on the Model of Creative Ability, was specifically developed for clinicians in mental health care settings. The domains were operationalised by including several appropriate items under each domain. All items were described in terms of levels of creative ability as observable actions in activity participation. A training manual was compiled and used in the training of clinicians. The training procedure needed refinement and a hands-on session was included during training. The aims for Phase 2 were thus met.

#### 6.4 DISCUSSION OF RESULTS OF PHASE 3 OF THE STUDY

The aims of Phase 3 were to pilot the instrument with the intent to identify clinical utility problems, investigate the aspects of validity and reliability and optimise the outcome measure. Some of the clinical utility problems became noticeable during the training of the clinicians in Phase 2 and these had to be attended to before the pilot study could commence in Phase 3.



#### 6.4.1 CONTENT VALIDITY

Items formulated according to the levels of activity participation in the APOM had to be validated by experts. Six experts agreed to participate. There was agreement on the domains and their items all yielded high validity indices. Only one item, Motives and drives, (part of the domain of Motivation) yielded a lower index than the recommended 0.66. Polit and Beck (2006) suggested that items with validity indices lower than 0.78 be removed from the measuring instrument, but cautioned that clinical relevance ought to be considered before deciding on item removal. In this regard, clinicians found the item Motives and drives clinically relevant and subsequently were not removed from the outcome measure. The principle component analysis in the construct validity investigation yielded a factor loading of 0.648 for this item, thus well above the cut-off value of 0.35. However, the sample size was not large enough to yield completely significant results and therefore the factor loading of Motives and drives was not taken into consideration in the decision to remove or retain the item.

Initially three experts were used in the content validity investigation but the small sample size skewed results. If one expert rated an item below the numeric value three, the agreement could turn out as low as 33%. It was decided to reduce the participation criteria for experts from 30 years of experience and having taught in the Model of Creative Ability, to 10 years of experience in the clinical field. Three additional experts agreed to rate items in terms of their relevance to the overall construct. The increased sample size yielded positive results with a higher overall agreement. Lynn (1986) proposed a minimum of three experts for content validity and mentioned that 10 were probably unnecessary. In this study three experts were not enough and although disagreement only occurred in a single instance (the domain Lifeskills), the chance factor was ever present. By increasing the number of experts to six the probability of chance agreement was reduced.

Polit and Beck (2006) urged researchers to report the results of both the average and ultimate agreement methods of calculating scale-level content validity indices. In this study the scale-level index average was 0.93 and that of the ultimate agreement 0.61. The reported ultimate agreement index could create the impression that agreement was average to poor but in actual fact only one item (Motives and drives) was scored as not relevant by only two out of six raters. Four raters agreed that it was relevant. The current researcher would suggest that the scale-level index be considered as mean for both the average and ultimate agreement methods. In this study the scale-level index would then be 0.77  $[(0.93+0.61)/2]$  which better reflects the overall agreement on all the items.

Content validity is often referred to as a non-statistical type of validity as it relies on the professional judgment of experts and not so much on statistical analysis. Although the content validity index was calculated in this study, it basically is a descriptive analysis technique and thus is not as powerful as inferential statistics. The judgment of the experts was positive and they were satisfied that the items covered the domain of activity participation. No items were removed or added after this investigation.

#### 6.4.2 CONSTRUCT VALIDITY

The results of the factor analysis that was performed to determine construct validity warranted caution as the sample size was only 41, while a more representative sample of 80 was preferred. It was interesting to note that the oblique rotation converged the 51 items into five factors, compared to the researcher's classification of the 51 items into eight domains (factors). The first factor extracted from the oblique rotation, included all items from three domains, namely Self-esteem, Motivation and Affect. Two items from the Communication/interaction skills domain as well as all three items from Balanced lifestyle also fitted in with Factor 1. Self-esteem, Motivation and Affect are considered by occupational therapists as client factors (sometimes referred to as performance components). The interaction between client factors, occupational performance and well-being had been explained in the Nomologic network (Figure 5.3). It was interesting to note that the factor loadings of the three client factors, from a statistical perspective, formed one factor.

Process skills with its eight items clustered in Factor 2. It would be worthwhile to see if all of the Process skills items would still form a single cluster as Factor 2 in a data set derived from a representative but larger sample. The exploratory results, to a very limited extent confirm the assumption that the items associated with Process skills are not only clinically relevant, but it might also be statistically significant in the long-term. The current high loadings of Process skills and Communication/Interaction undoubtedly would influence the factor structure of Factor 1 in a large datafile.

Lifeskills with its 11 items were scattered across three factors. The Lifeskills items cover a variety of skills that are diverse in nature. Personal care, Personal safety, Prevocational skills and Vocational skills formed part of Factor 2 while Use of transport, Domestic skills, Money and budgeting skills, Assertiveness skills and conflict management aggregated in Factor 3. Five of the six items in Factor 3 came from Lifeskills. Stress management and Problem solving skills fell in Factor 5. From a

theoretical perspective, skills like Assertiveness, Stress and Conflict management, and Problem solving would be a rational combination as these skills assist people to cope with demands of everyday life. However, the factor structure did not support this rational combination.

Discussion of the factor loadings was all explorative and speculative in nature because of the inadequate sample size. Once more data has been collected the principal component analysis with oblique rotation would be repeated in an attempt to extract a plausible factor structure. In the unlikely event of the second set of results being similar, there, nonetheless, is a possibility that the three latent client factors (Self-esteem, Motivation and Affect) could become part of a domain of psychosocial components. This will fit in with theoretical and practical frameworks where client factors are often assessed first in an attempt to explain the cause of problems encountered in the occupational performance areas.

Regardless of the preliminary results that indicate that all 51 items contributed to the overall construct of activity participation, there was still a concern that selected items for the APOM might have been over inclusive and would take too much time to measure. Clinicians complained about already overloaded patient-staff ratios, so that completion of lengthy outcome measures might not be feasible in the long-term. However, in considering the psychometric properties of an outcome measure, the items should fully represent the construct. Clark and Watson (1995) insisted that over-inclusion of items is necessary during the developmental stage of measuring instruments since metric analysis techniques can identify weak or duplicated items but can never detect items that should have been included.

#### 6.4.3 INTER- AND INTRARATER RELIABILITY

Raters exhibited scoring variations in the domains of Process skills, Communication/Interaction skills, Lifeskills, Role performance and Self-esteem. These variations in rater scores might have arisen from the scoring of a client and his/her level of creative ability as these variations occurred throughout one level of creative ability. As such, this might have had implications for accurate scoring of mental health care users. Hypothetically, one clinician could have rated a user at the level of passive participation (level 7-9) while another rated this same person at the level of self-presentation (level 4-6) for a specific domain, with the user ended up in an inappropriate intervention programme, as a direct consequence. The raters, however, in general did not differ significantly in terms of overall rating (all eight domains combined). It seems as if the variations between the domains cancelled out

each other with the result that the final score for a specific mental health care user would converge on a single level of creative ability.

Another positive aspect that was found in the interrater reliability investigation was that all raters assessed the mental health care user on a lower level during a second rating 5 months later. This might indicate that the mental health care user had experienced a relapse in activity participation and that all raters noticed this. It might also mean that the raters were more experienced in the use of the scoring system after repeated exposure to the outcome measure, resulting in assessing the client at a more realistic level of activity participation. During a discussion about the functioning of the particular mental health care user, clinicians agreed that the person's activity participation seemed lower.

Intrarater reliability was confirmed in four of the five raters; two raters showed good correlations between the first and second ratings (0.70 and 0.79) with slightly less satisfactory correlations (0.65 and 0.66) for another two raters. One rater showed a poor correlation of 0.02. Among the clinicians, this rater was the least experienced when she began to participate in the study, perhaps pointing to a need for training in and assistance with rating mental health care users.

Problems in inter- and intrarater reliability has to be solved by training raters to improve their scoring of mental health care users. Any reasonable claim for the reliability of the APOM ought to be substantiated by consistent ratings by raters who are capable of rating mental health care users' performance accurately. Recommendations to address this issue are presented in the next chapter.

#### 6.4.4 INTERNAL CONSISTENCY

The interpretation of Cronbach's alphas ought to be done with caution. Spiliotopoulou (2009) proposed the following criteria for interpretation of Cronbach's alpha values; number of items, width of the scale, nature of the data, sample size and distribution of the sample characteristics.

The alpha scores for all the domains in this study were all above 0.80, except for Process skills which was slightly lower at 0.786. According to Spiliotopoulou (2009), a large number of items would increase the value of alpha and thus the validity of the instrument. The number of items under each domain in the APOM varied, with Lifeskills containing the most items (11) and Balanced lifestyle and Affect only containing three items. All these domains had alpha indices that exceeded 0.80. At first

glance it seemed as if larger or smaller number of items in a domain was not responsible for the high alpha scores.

Another factor to consider in analysing high alpha scores was the width of variation of the scale. Wider scales could increase the value of alpha. The width of the scale in the APOM ranged from 1 to 18, which was a lengthy scale. Thus, the width of the APOM scale might have been the reason for the high alpha scores. Lifeskills had an extremely high coefficient of 0.998. Perhaps the length of the scale in combination with the large number of items in this domain could have resulted in this extreme score. A deduction one might arrived at is that this domain correlates extremely high with the other domains and thus might be considered redundant. Since the data set for internal consistency consisted of only 41 subjects, the better option would be to repeat the test for internal consistency on a representative sample.

The nature of the data is another factor to consider as nominal data are not suitable for Cronbach's alpha calculations. In this study the level of measurement was on an ordinal scale and Cronbach's alpha index was an appropriate choice of statistic. Small samples could yield large Cronbach's alpha coefficients. The sample size for the internal consistency was only 41 and this could be the reason for the high Cronbach's alpha values in this study. The presence of heterogeneity of variance in any measure of a population would also influence the size of reliability coefficients.

In the absence of a normal distribution and linearity of the scale, Cronbach's alpha scores might have underestimated the internal consistency of a test. Although the sample in the APOM study was small, a normal distribution was present and the APOM scale was a linear scale. Therefore this factor did not influence the interpretation of the Cronbach's alpha scores.

Taking into account all the concerns raised by Spiliotopoulou (2009), the results from the Cronbach's alpha calculations indicate good internal consistency for the APOM at this early stage.

#### 6.4.5 SENSITIVITY

Effect size was calculated to determine whether the APOM was sensitive to detecting change. The sample of 31 had a normal distribution and it was possible to perform the t-test to determine significance of change. The results were highly significant from a statistical point of view, but had to be viewed from a clinically significant perspective as well.

Mental illnesses have different prognoses for different individuals and, although in many cases no change in the condition may occur, this could still be a positive outcome. For instance, a mental health care user suffering from schizophrenia might have reached the optimal level of functioning and the prevention of another relapse would then be seen as a positive outcome. In such instances no change would occur in the activity participation. If there is no decline, this will still be seen as a successful intervention. When viewing the results of some of the subjects in the sample of 31, their APOM scores remained unchanged in some domains but showed slight improvement in other items.

After calculating the effect size, it was satisfying to see that small changes were detected. It could have been ascribed to the relevance of the phases in the levels of creative ability, namely the therapist-directed phase, the patient-directed phase and the transitional phase. These phases allowed for the measurement of small amounts of progress which become very important to note in mental health clients. Although this unique contribution of the phases was envisaged by the researcher from the start, it was satisfying to see that it actually happened in the clinical setting.

It should also be noted that calculation of the effect size in this study has to be interpreted in terms of the search for indications of sensitivity and not to claim that the intervention caused the change. The sample was not randomised and independent variables like number of treatment sessions, type of intervention, case-mix group and the like were not controlled as this was not a randomised control trial. Once the outcome measure has shown that it is able to detect change, it could be used to measure the dependent variable and control the independent variables by randomisation into control and experimental groups. Larger effect sizes usually confirm the fact that rigorous methods were successfully applied in the set of statistical calculations from which the estimates of effect sizes were derived.

#### 6.4.6 ACTUALISATION OF AIMS OF PHASE 3 OF THE STUDY

The APOM was piloted at three mental health care settings in Gauteng. One issue of concern was raised during a training session: uncertainty about scoring of clients on specific domains. The problem was attended to where after no further clinical utility problems were reported. Technically, the APOM was ready to be implemented in clinical settings.

Results from the psychometric investigation confirmed profession-based agreement on items that merited inclusion in the APOM and, beyond reasonable, were considered essential components of the construct activity participation. Analysis of the factor structure of the APOM should be repeated

with a larger sample. Assessments of inter- and intrarater reliability were not optimal, thus requiring further training of clinicians in accurate scoring. Internal consistency was good and supported the construct validity of the APOM. Significant statistical calculations based on difference scores that were derived from the base-line and final assessments, furthermore, confirmed the APOM's sensitivity to detect change,

## 6.5 CLINICAL REALITIES AND THE MEASUREMENT OF OUTCOMES

Lakeman (2004) insisted that routine outcome measurement, alongside randomised control trials, deserved more consideration in research. Evidence of the effectiveness of treatment was best achieved through randomised control trials, but their experimental nature was recently criticised. A further criticism was that replication of experiments was unrealistic in the clinical reality of everyday practice. Randomised control trials were also expensive since free treatment was often offered to subjects in the control and experimental groups. Lakeman (2004) called for more attention to routine outcome measurement, which can be done in clinical realities. Professionals in institutions or care settings that use the same outcome measurements can compile comprehensive databases for research purposes. Results from outcome measurements could become powerful mechanisms in improving service rendering but Gilbody et al (2002a) were sceptical about excessive claims on the benefits of routine outcome measurement.

Personally, the researcher is convinced of the benefits of routine outcome measurement, even though occupational therapy in mental health in South Africa faces several challenges in its attempts to implement routine outcome measurement. The researcher's current investigation and her experiences of previous research supported the assumption that occupational therapists are not ready to change their way of practice and are unlikely to accept a new approach that they probably would perceive as yet another workload burden that required filling in more forms. Occupational therapy clinicians have expressed the need for further training in outcome measurement but they, at the same time, face other expectations from their employers. Government hospitals, for example, have implemented the ICF as outcome measure. The ICF, unfortunately, is an inadequate outcome measure as this rating scale is insensitive to detecting small changes in the recovery process (Jette, Norweg & Haley 2008). Okochi, Utsunomiya and Takahashi (2005) found the ordinal scale's low test-retest reliability seriously influenced the detection of change over time. The qualifiers in the ICF are numerical codes that indicate the extent or magnitude of functioning, thus meeting the main

requirement of an ordinal scale. The qualifiers range from no impairment (= 1), mild impairment (=2), moderate impairment (=3), severe impairment (=4) to total impairment (=5). There are no criteria that guide assignment of ratings or on coping with two discriminating ratings, a practical issue that results in poor test-retest reliability. It would, indeed, be unfortunate if clinicians continued using such an unreliable measure to assess outcomes.

There is some indication of efforts to produce evidence of outcomes in private health care, but more likely in the case in physical settings and less likely in mental health care settings. It seems as if the need to produce evidence of outcomes is not a pressing issue in South Africa. Brook et al (2000) reported a related concern over a lack of policies in the USA on measuring quality of care. Hayward (2007) complained that systems and guidelines that are in place in Michigan, USA with the intent to guide quality improvement are inefficient and at times counterproductive in measuring clinical outcomes. The current need to produce evidence of outcomes in government settings is not forthcoming from the employer's side. The Policy on Quality of Health Care in South Africa was revised in April 2007 and identified the need for investigations that generated research evidence on the effectiveness of treatment (Department of Health 2007). This issue has not yet received attention.

Given the lack of support from government and without management systems in place, it would be difficult to convince occupational therapists to include routine outcome measurement in their daily practice. The APOM study has also not yet generated enough data to demonstrate the advantages of using the APOM as a routine outcome measure.

Comparison of the domains of the APOM with four other occupational therapy outcome measures (MEDYN, AusTOM, MOHOST and AMPS) affirmed the notion that occupational therapists included different combinations of outcomes in their service delivery. This inclination to fit selection of appropriate outcomes to the activity profile of a specific client strongly supported a client-centred approach, but circumvented the ideal of comprehensive outcome measurement. It was clear from the literature, despite appeals for comparing results and benchmarking services by way of uniform outcome measures generated from compatible data, that health care professionals proceeded to develop new outcome measures. The researcher that constructed the APOM acknowledged this trend but was unable to trace an outcome measure that represented the theoretical framework that is used in mental health care settings, nor the aims of intervention, and needs of the specific client population included in this study.

The literature further reiterated that when new outcome measures are developed, they ought to be comprehensive and sensitive to change, and must also be subjected to rigorous psychometric

evaluation. A balance must be maintained between sensitive outcome measures and the clinical utility or feasibility thereof. The researcher decided to include clinicians and mental health care users to enforce clinical utility. Phase 3 consisted of a preliminary investigation of and reporting on the psychometric properties and implications of the results for mental care users and clinicians in health care settings.

To overcome the challenge of benchmarking, the researcher intends to distribute and market the APOM in all local health care settings and anticipates that many settings will at least consider this novel way of measuring outcomes.

The APOM has a unique feature that no other outcome measure currently has: generation of reports and spider graphs without any extra effort from the clinician's side. The intention of adding these benefits to the outcome measure was to reduce tedious administration tasks, improve the capacity to do routine outcome measurement, and to save precious time.

Meehan et al (2006) implemented an outcome measure for mental health care across disciplines in Queensland and found that implementing an outcome measure could take up to five years. Eight months after the commencement of measuring outcomes, Meehan's team was forced to gather information on the lack of progress in the project. Focus groups were done with the health care professionals that included nurses, psychiatrists and doctors, as well as allied health professionals. Some of the reactions from the staff in this study were similar to the findings of the focus groups in the APOM study. The time factor was raised. Clinicians complained about existing high patient loads. Acceptance of new methodology would imply adding of yet another task, such as being burdened by further measuring of outcomes. In Meehan's study the staff raised the fear of outcomes. They were concerned that measuring outcomes might not show progress and that such data would lead to reduction in funding or lead to interpretations that promote ineffective treatment (Meehan et al. 2006). Although the occupational therapy clinicians in the APOM study never raised concerns that funding cuts might follow upon poor outcomes, they raised a similar concern that it took time for a mental health care user to show recovery signs and that this lengthy process might be seen as poor treatment. If the APOM is used routinely, trends in average time required for recovery in different case-mixes will be revealed. This evidence can be beneficial in justifying rates of progress in specific intervention programmes.

Sudsawad (2005) used Roger's theory of Diffusion of Innovations to explain factors that influence the communication (diffusion) of new ideas (innovation). Some factors mentioned by Sudsawad (2005) could be the result of poor implementation of the APOM in the clinical setting. The first factor is relative advantage. This concept refers to the degree to which an innovation is perceived to be

better than the current way of practice. If clinicians are going to perceive the ICF as a better and easier way of measuring outcomes, they will not change their methods, or implement new ones.

The second factor is compatibility. If clinicians feel that the APOM is not compatible with their existing frame of reference, they will not change. The Model of Creative Ability was used as the frame of reference for the rating scale and fits the theoretical approach of these clinicians. There are a number of clinicians who indicated that they will use the APOM, but there are also clinicians who withdrew from the research because they prefer not to use the Model of Creative Ability. The researcher respected these preferences and will encourage the “Creative Ability group” to continue to use the APOM.

The third factor that influences the use of new ideas is their complexity. Use of the APOM is easy while training is also available. None of the participating clinicians complained about the level of difficulty of the use of the APOM and this was therefore not a reason for not implementing it.

The fourth factor that Sudsawad (2005) mentioned was whether the new idea is “triable” or executable. The APOM was in its pilot phase and clinicians were encouraged to experiment with the APOM and try it out. After a focus group discussion of the problems to try out the APOM, some issues were resolved and some clinicians then made use of the opportunity while others did not.

The last factor is visibility, which refers to the degree that the results of the innovation are visible to others. The results from the APOM are only partially observable at this stage. The report and spider graph that were generated reflected immediate results and these have been reported by clinicians as being very helpful in ward-round discussions with multidisciplinary team members. Long-term results will only be available when trends and benchmarks can be drawn from the data. These results could be valuable in convincing clinicians to start using the APOM. It is foreseen that the visibility of the APOM will be high as reports and spider graphs of each mental health care user will be made available to all team members.

In spite of the clinical realities that at the moment act as hindrance factors, the researcher has specific recommendations to overcome these and implement the APOM. These recommendations will be discussed in the next chapter.



## 6.6 CONCLUDING REMARKS

South African clinicians and expert occupational therapists who participated in Phases 1 and 3 of this study made groundbreaking contributions to this research project. Their contributions led to the construction and psychometric evaluation of a valuable outcome measurement that trendsetting occupational therapists can apply in clinical settings to generate vital information on the behaviour, expectations, problems, diagnosis, progression toward recovery, and even regression observable in mental health care users. The electronic version of the outcome measurement has the capacity to generate a professional report and scientific data on mental health care users as the assessment procedure progresses.

Construction of any measuring instrument seldom is a routine undertaking. A researcher who decides to do so faces four challenges: What needs to be done to construct it, determine its metric properties, implement it, and get fellow-professionals to accept it. The current researcher acknowledged the challenges and accordingly resolved to optimise the utility of the outcome measure by involving both mental health care users and experienced fellow-practitioners of occupational therapy to assist her in designing, constructing and validating the instrument. The first group of participants' contributions in establishing and verifying domains for the measure embedded the forthcoming instrument in a client-centred approach. The occupational therapists' praiseworthy contributions and constructive criticisms, in the near-future, would improve these professionals' occupational proficiency by way of access to an appropriate, advanced, practical effective, time-saving and user-friendly instrument with which to assess the degree of activity participation of mental health care users. Results generated by the outcome measures can be used to make important decisions about clients with regard to the type of intervention required, optimising of therapeutic treatment, their progress toward recovery, signs of digression, and readiness for discharge.

The outcome measure is a reality: it has been publically announced and launched, released and is ready for professional consumption. Practitioners of occupational therapy, in order to function optimally, use two criteria to judge the utility of an outcome measure: its ability to generate practical scientific information of excellence and embedding convincing research-based evidence of its psychometric properties. At present, existing research data on the psychometric properties of the APOM, is not yet convincing. This shortcoming, attributed to a unique and limited population in a

complex and demanding clinical setting, is acknowledged. The researcher's resolve is continued data collection to ensure that the APOM develops into a practical outcome measure that is reliable and valid.

## CHAPTER 7 EVALUATION AND RECOMMENDATIONS

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### 7.1 INTRODUCTION

The purpose of this research project was to develop a comprehensive outcome measure for occupational therapists in mental health settings. Many lessons were learnt after being involved in this project for five years. A critical evaluation of the study and recommendations for continuation of the research are presented. The effect of the completed research on occupational therapy practice in mental health is discussed. The final conclusion terminates the study.

### 7.2 EVALUATION OF THE METHODOLOGY

Application of mixed methodology, combined with participatory research, was the preferred method to address a real, practical problem in the clinical field. Taylor et al (2006) reported that participatory research is often used in occupational therapy to close the scientific gap between research theory and practice and to give clients co-ownership in identifying relevant aims and determining the content of occupational therapy services that they receive. The chosen design involved all stakeholders in the effort to enhance understanding of the problem. Application of the participatory design permitted the researcher to understand the problem from a clinician's point of view but also from the perspective of a mental health care user. The dual participation ensured the development of an outcome measure that is relevant for the clinical setting and addresses the needs of its consumers. A number of clinicians continued to use the APOM after the data collection for this study ended. This is an indication that they were committed to contribute towards the lack of evidence in occupational therapy and felt that they were making a difference in their clinical situations.

This information gathering approach required flexibility on the researcher's part. During the focus groups with clinicians (Phase 1), the need for more information with regard to the measurement of outcomes arose. The researcher had to be flexible and thus arranged workshops that addressed this need of the clinicians. Besides flexibility, the study required of the researcher to acknowledge the

capacity of the clinicians and mental health care users who best knew their situation. They, thus, were expected to dictate which domains to include or which services were needed.

If the participatory approach was not followed, the practical problems of poor implementation of the outcome measure would also not have been understood by the researcher. This approach has been used with success in other occupational therapy studies where it was also combined with other designs (Alant, Emmet & Samuels 2007; Graham 2007; Lorenzo 2008; Taylor et al. 2004).

Focus groups have been advocated as an appropriate method with which to explore the unknown early in the research process (De Vos et al. 2005; Krueger & Casey 2000). The use of focus groups was successful in this study and the information volunteered by the participants was extremely useful and relevant. The researcher received assistance from an experienced facilitator of focus groups and this increased the researcher's skill and confidence to conduct focus groups. Questions for the focus groups were auditioned with the experienced facilitator and this aided the researcher to modify them toward improved relevancy and validity.

Planning of focus groups for the research project was meticulous, which eliminated three common mistakes in applying focus groups as scientific intervention, as mentioned by Greenbaum (1998) namely methodological, procedural and analytical mistakes. Methodological mistakes were prevented in this research by choosing appropriate aims that the focus groups had to achieve, such as exploring the clinicians' perceptions of outcomes and the needs of mental health care users for occupational therapy services. Procedural mistakes were avoided by ensuring that appropriate questions were put and by prudent selection of key informants for participation in the focus groups. Analytical mistakes were minimised by resorting to member-checking with clinicians after the results of the focus groups were analysed.

The nominal group technique as quantitative tool was an effective way to facilitate the switch from qualitative to quantitative data analysis. It consolidated the data into specific workable domains for the outcome measure. It also allowed participants to select domains without being influenced by fellow-participants (Tague 2005). It was an easy-to-administer technique and the participants in this study effortlessly comprehended the process.

Creswell (2009) explained that the mixed exploratory design is often used to develop measuring instruments and this design provided the rigorous and systematic procedure for this specific research problem. It was a practical and clear design that guided the researcher throughout all of the phases of the research. The idea of explaining the phases, methods, the products and the steps

in one diagram (see Figure 4.2) clarified the entire research process and thus made it plain for outsiders to understand the research project.

### 7.3 REFLECTING ON THE STUDY

Many lessons have been learnt through and throughout this research. One of the lessons was that researchers are “romantic fools” but research is “magical” (Osborne 2008). Researchers, according to Osborne (2008), are “the intrepid explorers and adventurers and trail-blazers of the 21<sup>st</sup> century”. The researcher of this study had strongly identified with this expression and could now sit back and reflect about the “magic” of research.

The study, in its initial phase, started off with an enthusiastic researcher and eager participants. Occupational therapy clinicians acknowledged the problem of lack of an outcome measurement and participated energetically in the focus groups. The problems areas were identified and agreed upon while domains were selected without being hindered by opposing views.

Phase 2 of the study was a complex stage as the researcher had to develop and design item descriptors for the domains. Information from both the focus groups and available literature was consulted in selecting the items for each domain. The phrasing of descriptors for the various levels of activity participation was exclusively based on limited material that Vona du Toit and her students had produced. The researcher relied on her own experience and understanding of the Model of Creative Ability as well as psychosocial constructs to design a draft version of items for all of the levels. This phase was an academic and theoretical exercise which at times became quite challenging; one can from time to time easily begin to doubt one’s own competence. When the content validity supported the various descriptions of levels, it generated excitement and motivated the researcher to continue with the project.

The valuable input of the six expert occupational therapists who participated in the content validity was a positive initiation of Phase 3 of the study. In spite of this constructive start, Phase 3 was the most difficult stage to implement. Once the outcome measure had been developed, the researcher was more eager than the clinicians to implement it. Several unforeseen problems occurred: for example, a competing project was running concurrently, some clinicians changed their place of work, while others were not over keen to change their established way of practice which did not necessitate measuring of outcomes. Clinicians were not convinced that outcome measures were a

necessary task, even though some of them reacted enthusiastically about this possibility during the focus groups. At this stage the words of Osborne, “Researchers are romantic fools” (2008, p. ix), came to mind and coaxed the researcher to fully identify with this statement. This also led to the realisation that it was the prerogative of clinicians to decide where their passion and focus would lie. A few clinicians continued to participate passionately, while their personal involvement and outputs, as revealed by the data that they had generated, confirmed the magic of research. The Diffusion of Innovation Theory as discussed in the previous chapter helped the researcher to appreciate some of the problems encountered during the implementation phase.

Although data collection during Phase 3 was inadequate for the purposes of drawing significant conclusions about psychometric properties, both data collection and further adjustment of the APOM will continue as the researcher is convinced that the message about the importance of measuring outcomes has already reached some clinicians and is beginning to spread. Research results generated by a refined APOM will also prompt clinicians’ decisions to accept and begin to practice outcome measurement.

Vona du Toit’s Model of Creative Ability seemed to be an excellent theoretical framework of choice for this outcome measure. Presently, many occupational therapists in the field of mental health care are reliant upon the levels of creative ability in assessing mental health care users and the designing of intervention programmes. Several clinicians have an innate belief that this model is guiding them very well, in spite of a shortage of research evidence. This could be indicative of a tried and tested model that has relevance and meaning for clinicians who are not research-inclined. What research suggests might not always be well accepted by clinicians who deal with the challenges of everyday practice. Vona du Toit’s Model of Creative Ability is embedded in the clinical reasoning of occupational therapy clinicians, despite the lack of supporting research for this model.

Researchers and clinicians should not reject clinical relevance and rigorous research methods, but ought to realise that they are interlinked by a common purpose. This common goal is to generate benefits for the client and improve service delivery. Research is a waste of time, money and energy if clients do not benefit significantly. The problems encountered in implementing the APOM have to be dealt with so that mental health care users can reap the benefits of this research project.

Lakeman (2004) stated that developing an outcome measure could take up to five years. Fischer developed the Assessment of Motor and Process Skills and it underwent several changes since its first publication in 1990. This is an indication that assessment instruments need refinement and continuous research to be relevant and feasible. The APOM took five years to develop and has not yet been fully implemented. The researcher, however, is committed to continue with follow-up

studies and refinement in her efforts to make the APOM a relevant and effective outcome measure for mental health settings. Several recommendations are suggested to continue with this valuable project.

## 7.4 RECOMMENDATIONS

The development of an outcome measure is not finalised after a single study and obviously several improvements are possible. The APOM is in an early stage of development and recommendations to optimise it as a relevant measure are presented here.

### 7.4.1 ECOLOGICAL VALIDITY

One aspect of validity that was not examined in the study was ecological validity. As mentioned in the literature study, ecological validity is important for outcome measurement in occupational therapy as the core focus of the profession is to enhance independence in occupational performance in real-life situations. This was an oversight during the planning of the study and should have been attended to. It will be addressed in future studies where clients' satisfaction with their performance in real-life will be investigated.

Questionnaires on client satisfaction among mental health care users were mentioned in the survey of literature, and can be combined with the Experience Sampling Method. This technique gathers data about a person's subjective experience of daily life in the setting that it occurs in real time (Fossey and Harvey 2001).

Other potential questionnaires that can be considered due to their relevance, are instruments such as the Satisfaction with Daily Occupations (Eklund & Gunnarsson 2007), Treatment Perception Questionnaire (Marsdon, Stewart, Gossop, Rolfe, Bachus, Griffiths et al. 2000), the Canadian Occupational Performance Measure (Law et al 1998), the Pre-discharge Assessment Tool (Rudman, Took, Eimantas, Hall & Maloney 1998), the Client Satisfaction Questionnaire (Mah, Tough, Fung, Douglas-England & Verhoef; 2006) and the Multnomah Community Ability Scale for consumers with severe mental illness (Dickerson, Origoni, Pater, Friedman & Kardonski, 2003).

Gavin and Turner (1997) said that it is important to involve clients when determining the dimensions in a client-satisfaction questionnaire. This will overcome the problem of clients not understanding aspects of a questionnaire or their feeling that they have to provide positive answers. The above mentioned questionnaires used to assess client satisfaction could be discussed with stable mental health care users to obtain their views on the relevance of the questions. Questionnaires with relevant questions could then be implemented to investigate the mental health care users' perceptions about the effect the occupational therapy service on his or her living environment.

#### 7.4.2 ANALYSIS OF DATA

Data analysis to investigate the psychometric properties of the APOM was sufficient for piloting purposes but ought to be subjected to more rigorous analysis, such as Rasch analysis. More data need to be collected as the requirement for a Rasch analysis is at least 10 observations in each category (or level in the case of the APOM). The current study should thus encourage and prompt continued application until enough data have been collected for fully-fledged statistical analysis. The objectives of the Rasch analysis can be to detect ordered thresholds between scores, determine item difficulty and point out items that do not fit the construct or domain (Tesio 2003).

#### 7.4.3 ITEM POOL

The current number of items in the APOM might be seen as excessive by clinicians at some mental health settings. The preliminary results indicated that all items probably contribute to one construct, opening up the possibility that domains and items become part of an item bank. An item pool is a collection of items that represent a range of performance areas at different levels of difficulty. Item pools have been implemented in clinical settings where clients have to be monitored across the full spectrum of care or during different stages, for example as both in- and outpatients (Calhoun, Haley, Riley, Vogel, McDonald & Mulcahey 2009; Revicki & Cella 1997; Rosa, Bjornera, Becker, Friesc & Warea 2008).

The recovery process of a mental health care user progresses in different stages: acute care, subacute, predischarge and outpatient stage. The severity of signs and symptoms changes during each of these stages. A patient, upon admittance during the acute stage, might suffer from a

psychosis that affects this person's activity performance differently as he or she progresses to the subacute stage. If there are enough items representing each stage of recovery while still measuring the overall construct of activity participation, a clinician might be able to select certain items from the APOM for a specific stage, thereby rendering it unnecessary to assess all 52 items. Revicki and Cella (1997) and others (Calhoun et al. 2009; Rosa et al. 2008) propagated the idea of minimising length of outcome measures while maximising sensitivity and precision in measurement. All items could serve as an item pool and this pool could be made available to occupational therapists who wish to select only appropriate items for their specific clients, thus addressing specific needs of individual clients. Selection of items could be negotiated between the clinician and the client, depending on the latter's stage of recovery. The item pool could even expand in future with the addition of new items and domains as the need arises.

Jette, Haley, Ni and Moed (2008) suggested that Adaptive Short Form instruments be developed, all with a common underlying metric. A comprehensive item pool should be available, thus permitting clinicians to select relevant items for a specific stage of recovery. Regarding the APOM, the rating scale is based on the levels of creative ability and thus has a constant underlying metric. If a mental health care user is in the acute phase, items like Motivation, Affect and Process skills might be considered more relevant than items such as Role performance and Balanced lifestyle. As the patient progresses, other items could be accessed and added. Optimisation of item selection would require subjecting all items to response analysis to ensure their validity for specific stage of recovery.

The possibility of developing an Adaptive Short Form and an item pool will be explored in future studies on the APOM.

#### 7.4.4 CONTINUING PROFESSIONAL DEVELOPMENT IN OUTCOME MEASUREMENT

The current study determined that not all occupational therapy clinicians were convinced about the benefits of measuring outcomes and further awareness and training are required. The demand for evidence-based practices, however, is gaining ground and this development should be linked to the need to measure outcomes. Sudsawad (2005) accentuated measuring of pre- and postintervention performance in a natural environment during daily activities as prerequisite for providing convincing evidence of effective treatment. The APOM could become an essential measuring instrument in tracking progressive or digressive changes. Workshops to increase awareness of the importance of routine outcome measurement should take place in South Africa. Training should take place to equip

clinicians to engage successfully in outcome measurement. Once clinicians are comfortable with measuring outcomes, clinical trials can be started with control and experimental groups. In this way clinicians could contribute to the body of scientific evidence in mental health care settings and simultaneously, ensure their own continued professional development.

Currently there is no other outcome measure available for use in mental health care settings, implying implementation of the APOM in all South African settings. To achieve this, assistance from the National Department of Health should be requested. One of the aims of the Policy on Quality of Health Care in South Africa (Department of Health 2007) stated that effectiveness of services must be examined. If the researcher succeeds in negotiating a viable implementation plan with the Department of Health for assistance with the implementation of the APOM, clinicians will be empowered to purposively access the measuring of outcomes. If all mental health care settings in South Africa use the same outcome measure, many advantages, such as emerging trends and benchmarks will be established. Availability of such evidence could contribute tremendously to improvements in the professional standing of occupational therapy in a comprehensive health care team. Occupational therapists ought to become trendsetting professionals in developing, applying, evaluating and adapting measuring outcomes in mental health care settings.

#### 7.4.5 CLIENT-CENTRED APPROACH

A client-centred approach is essential in occupational therapy. The client must actively participate in treatment and should have a say in expressing his/her need for intervention. Any discussion with the client or this person's family on the availability of and access to an item bank of suitable items that generate appropriate outcomes for diagnostic purposes or assessing specific stages of recovery, ought to stimulate active participation and at the same time enhance this person's therapeutic relationship with the occupational therapy clinician.

Lim et al. (2007) reported that although occupational therapists are committed to a client-centred approach, actual inclusion of clients in intervention planning has been slow. The APOM could serve as a negotiating tool during interrelationships with the client aimed at optimising the person's treatment. A spider graph is a visual representation that illustrates a client's areas of strength and weakness and could be used during discussions of this person's progress as well as with significant others involved with him or her. Goals for future intervention can then be planned with input from both the client and significant others.

Since the therapeutic relationship accounted for up to 30% of the recovery process (Bambling & King 2001) this matter should be incorporated in outcome measurement. Incorporation of the client-satisfaction questionnaires during intervention will contribute toward assessment of the therapeutic relationship, is suggested. Mental health care users should have an opportunity to rate the quality of the relationship, even if the rating is a subjective experience. These ratings could assist clinicians to effectively relate with their clients. Several appropriate questionnaires assessing satisfaction with service are available and could be investigated for their relevance to the mental health care setting in South Africa.

## 7.5 CONCLUDING THE RESEARCH

The researcher resolved to address professionals' reluctance to measure outcomes in mental health care settings in South Africa. This intention resulted in the development of an outcome measure for occupational therapists in mental health care settings, namely the Activity Participation Outcome Measure (APOM).

Phase 1 of the study involved occupational therapy clinicians and educators as well as mental health care users who determined the domains for the APOM. Phase 2 consisted of a theoretical exercise where the researcher operationalised domains that were identified during Phase 1. The pilot study in Phase 3 investigated the APOM's validity and reliability and revealed adequate content validity. The sample size was too small to obtain conclusive results during the factor analysis which was done to investigate construct validity. Although the domains and items of the outcome measure are appropriate for mental health care settings, inter- and intrarater reliability could be improved. Data collection will continue in order to yield a representative sample so as to enable more scrupulous psychometric and statistical analysis.

The journey of five years will not end here and the researcher looks forward to continuing with outcomes research and following up on the recommendations made in this study. The researcher believes that the APOM contributes meaningfully to the field of mental health care, and ultimately, could contribute to improving the health and well-being of mental health care users.