

CHAPTER 5 RESULTS

5.1 INTRODUCTION

The previous chapter described the implementation of the research study in three phases. This chapter reports on the results and will be presented according to the same three phases. Phase 1 involved the focus groups with occupational therapy clinicians and mental health care users with the intent to determine domains for the outcome measure. The development of the outcome measure was part of phase 2. This phase covered operationalisation of the domains by identifying items that delimited them. A rating scale, based on the Model of Creative Ability, was then designed for each item. Phase 3 consisted of a pilot assessment of the outcome measure at three mental health care settings in Gauteng in order to investigate certain psychometric properties of the instrument.

5.2 PHASE 1: FOCUS GROUPS WITH OCCUPATIONAL THERAPY CLINICIANS AND MENTAL HEALTH CARE USERS

The aim of phase 1 was to draw on occupational therapy clinicians to identify domains for the outcome measure by means of focus groups and the nominal group technique. The domains identified by the clinicians were compared with the needs of the mental health care users. This comparison aimed to confirm that the domains indeed reflected the needs of the people who receive the occupational therapy service.

5.2.1 THE SAMPLE

5.2.1.1 OCCUPATIONAL THERAPY CLINICIANS

Occupational therapy clinicians in mental health care settings in Gauteng, specifically the Pretoria region, were invited to take part in Phase 1 of the study. At the time of the study four of the six

identified settings were able to send participants who were able to provide rich information during discussions on measuring outcomes. One hospital had only a newly appointed community service therapist that did not meet the participation criteria. The remaining hospital recently rotated staff, and as a consequence, the inexperienced clinician who moved to the psychiatric unit also did not meet the inclusion criteria. Table 5.1 presents selected biographical details of the clinicians who participated in two focus groups and one workshop.

Table 5.1 The occupational therapy clinicians sample.

Setting	No of therapists	Age range	Years of experience (range)
Weskoppies Hospital	11	22 – 40 yrs	1 – 18 yrs
1 Military Hospital's Psychiatric Unit	1	25 yrs	3 yrs
Denmar Psychiatric Clinic	2	26 – 30 yrs	6 – 10 yrs
Vista Psychiatric Clinic	2	33 – 42 yrs	11 – 20 yrs

5.2.2 ANALYSIS OF THE DATA FROM THE FOCUS GROUPS WITH CLINICIANS

Five themes emerged from the thematic content analysis of the qualitative data:

- understanding the concept of outcomes,
- outcome domains,
- barriers to measurement of outcomes,
- characteristics of an outcome measure, and
- benefits accrued by using an outcome measure.

Each theme was subdivided into clusters. A cluster is a collection of related concepts that converge in a theme. Each theme yielded several clusters that were coded to improve understanding of the the cluster. Codes were statements or phrases that the participants used during the focus groups.

Figure 5.1 presents a summary of themes in the dark green blocks, clusters in light green blocks and codes in the grey blocks.

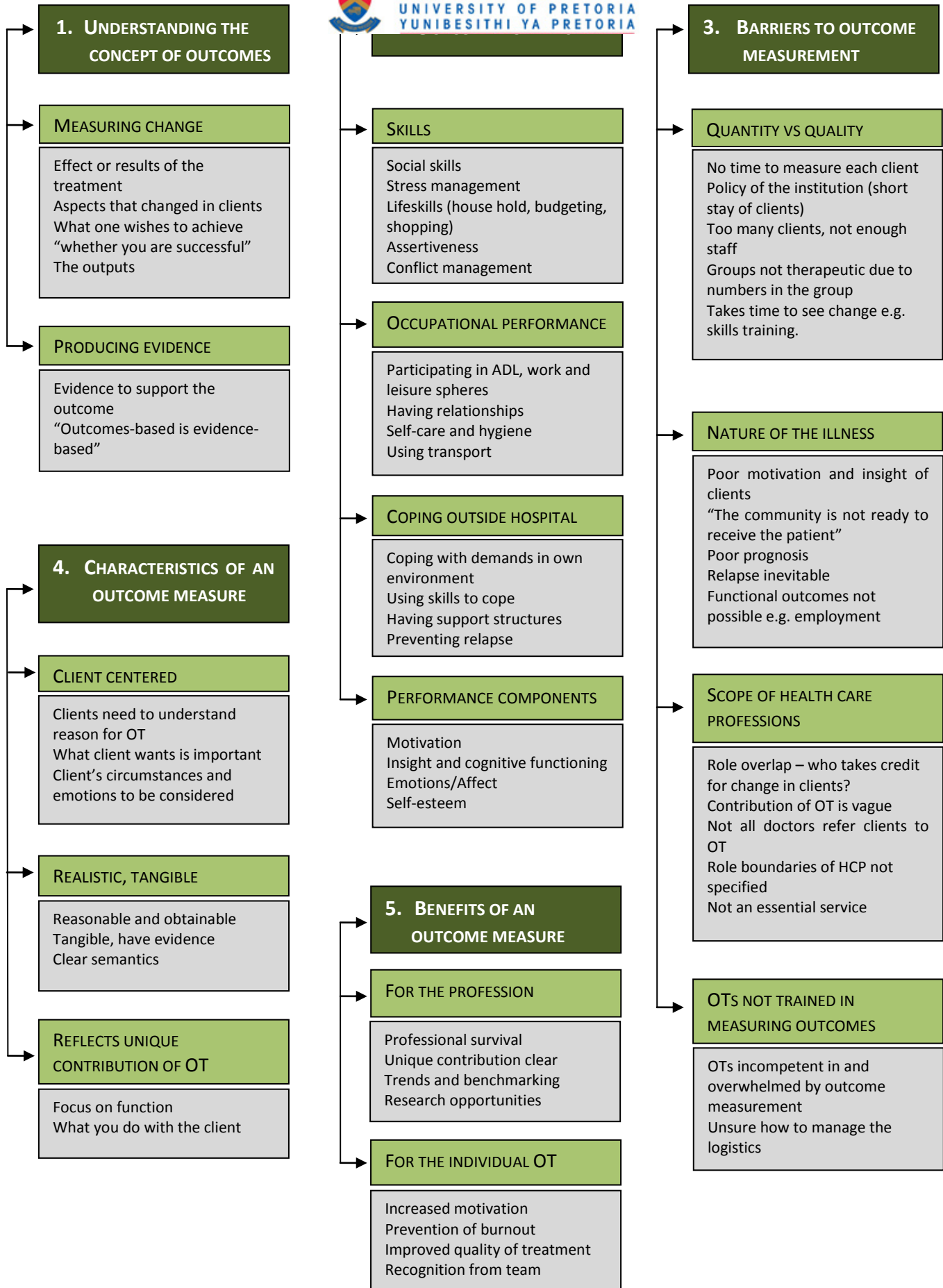


Figure 5.1 A summary of themes, clusters and codes.



5.2.2.1 THEME 1: UNDERSTANDING THE CONCEPT OF OUTCOMES

It was evident from the responses that clinicians had definite views and understanding of the concept of outcomes. Most of the clinicians understood outcomes as measures of the change that happened in their clients and whether they were successful with their treatment. “n Mens moet kan sê wat het verander” (“One must be able to say what has changed”). One participant explained that “... outcomes is what you achieve, the functioning of the patients, the how is not so important, it is what you measure”. Another response supported this understanding: “... outcomes are something that comes after the process e.g. baking a cake, the outcomes is the cake, the process is following the recipe”.

One participant from another group was concerned about providing evidence. Her response was: “En ag ja, ons kan lang stories praat van hoe goed ons is en pasiënte wat terugvoer gee dat dit OT was wat hulle verbeter het, maar ons het niks op papier nie” (“And yes, we could tell long stories about how good we are and our patients giving feedback that it was OT that improved them, but we have nothing on paper”).

5.2.2.2 THEME 2: OUTCOME DOMAINS

Clinicians discussed examples of outcomes, for example what they indeed would assess in an outcome measure. Their responses were clustered into skills, performance components, occupational performance, and coping outside the hospital context.

Skills showed up as the outcome that most participants would measure. Many different types of skills were mentioned e.g. assertiveness, social or interactional skills, stress management, and conflict management. Lifeskills were mentioned several times and participants referred to aspects such as using transport, being able to budget, running a household, taking care of children, and being able to identify and solve problems.

Work, leisure, social sphere, functioning in the home environment, self-care and taking medication were pointed out as important occupational performance areas. Work habits, social and personal presentation were also highlighted as essential components of going back to employment.

Performance components were viewed as important outcomes which had to be measured in psychiatric clients. “Depression, mood, self-esteem, motivation, anxiety, all these have an influence on the progress of the patient”. The importance of insight into the psychiatric condition, concentration, memory, decision-making, social judgment and frustration tolerance were mentioned a few times.

Skills necessary to cope outside the hospital and the ability to “integrate into real-life” were singled out. Preventing relapses, “coping outside and stays there, not being readmitted” and “using the skills they have learnt in OT” were examples of important outcomes that ought to be measured.

5.2.2.3 THEME 3: BARRIERS TO MEASUREMENT OF OUTCOMES

The effect of the nature of the illness on overall functioning of a person dominated the discussion of barriers to effective measurement of outcomes. Participants explained that in many cases a psychiatric patient’s progress was minimal due to debilitating symptoms such as lack of drive in schizophrenia and mood disorders. “Some will in any case relapse” was another response from a participant, implying that relapses interfered with progress in clients.

The staff-patient ratio was a concern. One participant felt that there was much more in a client that an occupational therapist could treat but there were not enough staff available at the different settings. *“Ons het nie die mannekrag nie en verwys maar dan na buite”* (“We don’t have the manpower and then refer outside”) and *“Ek het nie tyd om vir elke pasiënt iets op te skryf nie”* (“I don’t have time to write up something for each patient”), *“Ek raak moedeloos oor die hoeveelheid pasiënte. Daar is omtrent 150 kroniese pasiënte en ek werk maar aan so 40 op die oomblik.”* (“I get despondent about the number of patients. There are about 150 chronic patients and I am currently working on about 40.”) *“Die frustrasie is omdat daar so baie pasiënte is, ons weet van holisme maar kom nie daarby uit nie.”* (“The frustration is because there are so many patients, we know about holism but don’t get to it”.)

Role boundaries between different health care workers in a psychiatric team were another concern. *“Mens vra jouself baie keer af: Wat was my rol in hierdie pasiënt?”* (“One asks oneself many times: What was my role in this patient?”). Role boundaries between disciplines were not clearly delimited in hospitals. Nurses wanted to engage in ward activities and were indeed doing so. “They also do groups but they cannot do it as well as we do. We need to show that we are the experts. Nurses taking over because OTs do not give evidence of where we excel” “It is time to say what OT will do and what not.”

Apart from role boundaries, role overlap was also discussed. One participant gave an example of how difficult it was to decide which professional was actually making the difference: “the guy is coming from pastoral counseling and that is why he is thinking differently and feeling better but you think he enjoyed the painting or the leatherwork. How do you prove that what he has done here (at OT), made the difference”. “There are so many variables to consider, everyone (health care professionals) takes credit when patients improve, who helped the most?”

Responses indicated that the participants felt that their role as occupational therapists was not well known, doctors did not refer patients, the doctors' knowledge about other professions was vague and they had "no appreciation of each other's contribution". The following quote added to the problem: "We are not seen as an essential service and that brings many problems. To enhance quality of life is not essential".

5.2.2.4 THEME 4: CHARACTERISTICS OF OUTCOME MEASURES

According to the frequency of codes, participants' responses indicated a strong client-centred approach as characteristic of an outcome measure. They felt it was important for a client to understand the reason why he or she was referred for occupational therapy and that individual needs had to be incorporated into the treatment programme and ultimately be reflected in the outcomes that would be measured. One participant mentioned that the clinician sometimes did not assess the environment and circumstances of the patient and consequently selected outcomes that were not beneficial to the patient.

The codes "realistic", "sensible", and "tangible" were often mentioned by participants to describe additional characteristics of an outcome measure. The semantics of and how an outcome was formulated were also mentioned. One participant expressed concern that a poorly formulated outcome would cause confusion and become meaningless. Her comment was: "*... ons moet dit afbreek in kleiner spesifieke goed wat ons kan meet*" ("... we have to break it down into smaller specific things that we can measure").

A third characteristic, reflecting the unique contribution of OT emerged. Codes like "*Ons moet teruggaan na arbeidsterapie as profesie, die teoretiese, wetenskaplike basis*" ("We have to go back to occupational therapy as a profession, the theoretical scientific basis") and "we must focus on function and skills, assertiveness, social skills, Lifeskills" and "we focus too much on components". This cluster correlated with theme 2: outcome domains.

5.2.2.5 THEME 5: BENEFITS OF MEASURING OUTCOMES

After all the relevant factors were discussed and shared, the participants were asked to talk about the benefits of an outcome measure. This question was only posed in the second round of focus groups although some benefits emerged spontaneously during the first round. The benefits were clustered into ones for the profession and others for the individual OT.

Benefits for the profession included statements like “It is essential if the profession is going to survive” and “it would make OT a more recognisable profession and the role that we play, the necessity”. In terms of improved treatment, a statement: “Effectiveness and productivity could be measured, we could then see where change is necessary” was made. There was also a comment that it provided opportunity for research. One participant pointed out that one could use it to predict future needs of clients and determine minimum and maximum requirements for successful treatment programmes.

Several participants mentioned increased motivation as a benefit for the individual OT. It would aid professional development and improve skills as confirmed in the following quote: “I will work more directed, will know the path of how to get there” and “it will decrease the risk of burnout”.

After the proceedings of the focus groups were analysed, clinicians participated in the nominal group technique where they were required to select domains from a list. This list was generated from the data of the focus groups and existing theoretical frameworks in occupational therapy literature (Appendix B). The results from the nominal group technique are presented below.

5.2.3 RESULTS OF THE NOMINAL GROUP TECHNIQUE

Seven participants responded promptly by e-mailing their selections from the list of domains to the researcher. One participant did not respond at all, despite several e-mail reminders and telephonic follow-up. Two participants were on maternity leave while another six participants had left their places of work by the time that participants were asked to make their selections.

Frequencies of the responses were counted and weightings calculated: these are reflected in Table 5.2.



Table 5.2 Frequencies of the domains and the respected total score in the Nominal Group Technique.

Domain	A 1 st priority 3 points	B 2 nd priority 2 points	C 3 rd priority 1 point	Total
Communication and interaction skills	1	1	1	6
Process skills	1	2	1	8
Leisure	0	0	1	1
Motivation	2	0	1	7
Affect	0	1	0	2
Self-esteem	1	1	1	6
Balanced lifestyle	1	0	0	3
Role performance	0	0	1	1
Instrumental ADL	0	0	1	1
Cognition	1	0	0	3
Lifeskills	0	1	0	2
Social participation	0	1	0	2

The listed domains were ranked according to the total points received in Table 5.2.

Table 5.3 Domains ranked in order of priority.

Ranking	Total points scored	Domain
1	8	Process skills
2	7	Motivation
3	6	Communication and interaction skills
	6	Self-esteem
4	3	Balanced lifestyle
	3	Cognition
5	2	Affect
	2	Lifeskills
	2	Social participation
6	1	Leisure
	1	Role performance
	1	Instrumental ADL

It was interesting to see that although most clinicians felt strongly about lifeskills as an outcome in the focus groups, they did not designate it as a priority. Process skills, Motivation, Communication/Interaction skills and Self-esteem received the highest totals and were identified as priority outcomes. The remaining eight domains received a total of three or less.

The domains that scored three or less were grouped with domains reflecting universal characteristics e.g. Cognition was relocated to Process skills as these two domains had much in common, Social participation and Leisure were grouped with Balanced lifestyle, and Instrumental ADL was grouped with Lifeskills. Although Affect and Role performance also elicited scores lower than three, the two remained ungrouped as they did not fit into existing domains. It was felt that even though these two outcomes were lowly rated, they warranted inclusion as they were part of intervention programmes offered in occupational therapy.

The domains that were used to develop the outcome measure finally emerged in the following order, after prioritisation by the clinicians:

1. Process skills
2. Motivation
3. Communication / Interaction skills
4. Self-esteem
5. Balanced lifestyle
6. Affect
7. Lifeskills
8. Role performance

Once the domains for the outcome measure were identified, these were compared with the needs and expectations of the recipients of the service, namely the mental health care users.

5.2.4 RESULTS FROM INDIVIDUAL AND FOCUS GROUP INTERVIEWS WITH MENTAL HEALTH USERS/CLIENTS

5.2.4.1 THE SAMPLE

The table below describes the profile of the mental health care users who participated in the individual and group interviews. Their ages ranged from 22 to 58 years while their diagnoses included schizophrenia, mood disorders and post-traumatic-stress disorder.

A total of 15 mental health care users participated in individual interviews while eight were part of the focus group interviews. Two individual interviews were discarded. The clients proved unsuitable for participation because they did not understand the questions. They focused on their personal problems and constantly digressed from the lead-in question. They were considered as not information-rich informants.

Table 5.4 Profile of the mental health care users in the individual and groups interviews.

Setting	No of persons	Individual or group interview	Age range	Length of stay at time of interview	Primary diagnosis
Weskoppies Hospital	12	Individual	28 – 58 yrs	4 weeks – 12 yrs	Schizophrenia Mood disorders
Vista Psychiatric Clinic	4	1 Individual 3 group interview	25 – 52 yrs	2 – 3 weeks	Post-traumatic stress disorders Mood disorders
Denmar Psychiatric Clinic	5	Group interview	22 – 55 yrs	2 – 3 weeks	Post-traumatic stress disorders Mood disorders

5.2.4.2 CONSTANT COMPARISON OF RESPONSES OF MENTAL HEALTH CARE USERS

Responses from mental health care users on how they associated with a domain are next described.

- **PROCESS SKILLS:**

Some clients felt that participation in activities helped them to concentrate and compelled them to put effort into a task. Some reported that craft activities assisted them to rediscover their planning abilities. The majority of responses that matched Process skills emphasised the importance of

regaining concentration and memory so as to be able to complete a task or activity successfully for instance, by following a recipe.

- **MOTIVATION:**

Clients pointed out “being occupied” as an important concept. Statements like the following were expressed: “My personal opinion is that you can't stay around doing nothing the whole day you can't stagnate the whole day.” The same person continued and said: “If you stagnate the whole day [then] you're getting older [and] you[re] getting up to mischief, you[re] getting bored. I think all patients come here to keep them occupied”. Another mental health care user reported that: “We do things, it is something to do”, and “I have learnt the value of your hands being kept busy”.

One of the assumptions in the Model of Creative Ability is that successful engagement in one task spills over into another, and sometimes to an even more challenging task. One can therefore link the statement on the clients being occupied, to that of being motivated.

- **COMMUNICATION / INTERACTION SKILLS:**

Many positive effects of occupational therapy groups were mentioned. The mental health care users specifically mentioned social skills groups that showed them the value of interacting with others. One person said that “Social skills groups are good; they teach you about how to handle yourself in society.” One individual mentioned the positive effect of the assertiveness group and that he was now more aware of the feelings of others, another pointed out that, “In the groups you hear about other people's stories and you realise you are not the only one with problems,” while a third person stated the opposite and was not that positive about being involved in groups. She said that she did not come to hospital to hear about other people's sad stories.

- **SELF-ESTEEM:**

This domain matched well with the responses of the mental health care users. They reported that being involved in craft activities, cooking sessions, games or sport groups gave them a sense of self-worth. The process of creating a product which they could offer to significant others initiated a positive feeling about themselves and this renewed believe in themselves: “In groups you learn about yourself, you get to know yourself and in the end you feel good about yourself,” one person said. And others said: “Other people give nice comments about your stuff”, “the art classes, that was great, you feel good about yourself, you have done something”, and “[they] make you feel worth something”.



- **BALANCED LIFESTYLE:**

Mental health care users, who attended a maintenance intervention programme, reported that the occupational therapy programme helped them to live a balanced life inside the hospital. They had the opportunity to participate in games and sport groups, as well as craft activities, and worked in the protected workshops inside the hospital or did work in the laundry, the garden or at the administration block.

Mental health care users in the acute phase of treatment mastered new craft activities to do at home and permitted them to incorporate meaningful and enjoyable activities in their lifestyles. One client mentioned that time planning had helped her to realise that she had insufficient variety in her lifestyle.

Another client expressed the need to have occupational therapy during weekends as well because those were the times when she found it difficult to structure meaningful engagement in activities.

- **AFFECT:**

Many mental health care users realised the positive effect of craft activities on their emotions. “Being occupied in something enjoyable like making leather belts reduced my anxiety and fear. I could focus on something else”. “My hands are busy and my mind becomes clear”. “When you feel good about yourself, your mood also improves. You don’t feel so depressed anymore.” One mental health care user felt she did not benefit from a group focused on emotions. She reported that talking about depression and listening to other people’s problems made her feel more depressed.

- **LIFESKILLS:**

This domain was well supported by the responses of the mental health care users. “They helped me to cope with my problems better”, “I learnt how to make stuff, you know, I’ve learnt a lot from news groups about news I didn’t know, you know, I learnt how to cook better you know”. One client suggested that more groups on the handling or raising children ought to be arranged.

Stress management and time planning were worthwhile for some. “We have learnt a lot of tips and skills here,” and, “I cannot solve my problem now, but I got guidelines to cope”.



- **ROLE PERFORMANCE:**

Mental health care users did not talk about role performance but nonetheless expressed some concern about facing reality. They felt safe inside the hospital or clinic given all the support they received from staff and fellow-clients who understood their problems. Once they were discharged, they had to use the skills acquired in the hospital. The reality that was waiting was actually the roles that they had to fulfill, whether it is a worker role, a mother role, running a household and the like. “The work only begins when you go out, you have to get a place to stay, a new job”. One mental health care user who was readmitted said that he did not use the skills immediately but only at a later stage. He then realised how he had grown. Another mental health care user said the clinic is “an unnatural world and I do not feel prepared to go”, “The discharge group helped me a lot”.

There were overwhelming similarities between the domains and the expectations of the mental health care users. Only one disagreement was noticed; the response where a person felt that groups were not beneficial and it did not help to improve her mood.

A number of additional themes that did not fit any of the domains emerged from the interviews with the mental health care users. These are discussed below.

5.2.4.3 ADDITIONAL THEMES FORM THE INTERVIEWS WITH MENTAL HEALTH CARE USERS

- **HEALING FACTORS**

Mental health care users mentioned two aspects that helped them in the road to recovery. Firstly they reported the therapists’ friendliness and caring attitude towards them, much more than other health care professionals in the team. One mental health care user said that “therapists treat you with dignity”. However, responses from clinicians in the focus groups expressed concern over the fact that they did not have enough time to form good therapeutic relationships with mental health care users due to time constraints and patient overload.

Secondly, support from fellow-clients in the ward or in the occupational therapy groups were mentioned by the majority of mental health care users. Mental health care users said that it comforted them to share their problems with others and that this helped them feel that they were

not alone. Only one mental health care user experienced the opposite by mentioning that sharing experiences with other depressed patients made her feel more depressed (as mentioned earlier).

Although the healing factors theme emerged from the mental health care users' data set, no new domains were added or removed from the outcome measure. The theme of therapists being seen as caring was not addressed as such in the intervention programmes and was therefore not measured as an outcome. "Caring" is an essential characteristic of any health care worker and would therefore be part of the generic tools of practice, namely therapeutic relationship or use of self.

- **OUTPATIENT PROGRAMMES**

There was a suggestion from two mental health care users that discharged patients be permitted to participate as outpatients and to attend the craft sessions or other occupational therapy groups to assist them with "facing the reality outside". They felt that when they had to face a new or difficult challenge, it would help if they could attend one or two groups that dealt with this specific challenge.

This theme was not added to the domains as this is not a specific outcome of the occupational therapy programme and could happen in circumstances that fall outside the occupational therapy programme. In- or outpatient status was added to the minimal data set; in other words, a mental health care user could receive treatment as an inpatient or an outpatient and this was clearly noted.

The responses from the mental health care users confirmed that the domains selected by the clinicians were relevant for an outcome measure. With these findings, Phase 1 of the study was completed.

5.3 PHASE 2: DESIGN AND DEVELOPMENT OF THE OUTCOME MEASURE

Once the domains materialised from Phase 1, the outcome measure had to be developed. At this stage it was necessary to label the outcome measure. A collective construct that included all the eight domains was *Activity Participation*. The researcher felt that this was a descriptive term that depicted the core objective of occupational therapy, namely activity participation. The label was deemed appropriate as the Model of Creative Ability was central to the development of the outcome measure and also a key assumption thereof. Furthermore, the term activity participation is

familiar among multidisciplinary teams in mental health care settings. The final name of the outcome measure became the Activity Participation Outcome Measure. The acronym APOM was decided upon.

Scale development of the APOM was guided by the levels of creative ability and is described in the next section.

5.3.1 SCALE DEVELOPMENT

The first six levels of the Model of Creative Ability, namely tone, self-differentiation, self-presentation, passive participation, imitative participation and active participation were embedded in developing the rating scale (Du Toit 2004). Although Du Toit’s Model of Creative Ability accommodated two higher levels, these were not accounted for in the current study. People functioning on such high levels of creative ability usually are not admitted to mental health care settings and generally do not show restricted activity participation that can be addressed in inpatient occupational therapy programmes.

Each level of creative ability was further divided into a therapist-directed phase, a patient-directed phase and the transitional phase as explained in the methodology section. Clinicians who are trained in the Model of Creative Ability know the indicators of these levels and phases. Those who are not trained in this model could undergo training to understand and master the levels and the phases.

Table 5.5 indicates the first six levels of creative ability as well as the phases within each level.

Table 5.5 The rating scale of the APOM.

Tone			Self-differentiation			Self-presentation		
Therapist-directed	Patient-directed	Transition	Therapist-directed	Patient-directed	Transition	Therapist-directed	Patient-directed	Transition
1	2	3	4	5	6	7	8	9

Passive Participation			Imitative Participation			Active Participation		
Therapist-directed	Patient-directed	Transition	Therapist-directed	Patient-directed	Transition	Therapist-directed	Patient-directed	Transition
10	11	12	13	14	15	16	17	18

Each domain was divided into distinct items. Items were scored by allocating a number between 1 and 18, 1 being the lowest possible and 18 the highest possible score. Each item required description in terms of the levels of creative ability.

5.3.2 OPERATIONALISATION OF THE DOMAINS

All domains selected by the clinicians were latent traits. Measurement of latent traits needs to be operationalised or deconstructed. Rossouw (2003) suggested that a good operational definition be formulated first. This definition had to reflect the essential characteristics or connotations of the trait. The eight domains of the APOM were defined and items that figured in the domain were selected. Item content also had to be observable during participation in everyday life. The researcher described each item according to the first six levels of the Model of Creative Ability.

5.3.2.1 ITEM DESCRIPTORS FOR PROCESS SKILLS

The term Process skills was developed and named by Fischer (2001) when she developed the AMPS during the 1980s. She described it as observable actions regulating one's performance over time, in selecting and using appropriate tools and materials during task performance and in adapting one's performance when problems are encountered. She distinguished between the Process skills energy, knowledge, temporal organisation, organising space and objects and adaptation.

Many concepts in Du Toit's (2004) Model of Creative Ability related well to some of the concepts in the Process skills, as described by Fischer (2001). Du Toit (2004) used terminology such as task concept to describe a person's performance of a task. This concept related closely to Fischer's temporal organisation, while Du Toit's description of concept formation and handling of tools and materials contained similar aspects to Fischer's description of knowledge. Making effort, as described by Du Toit (2004) linked with Fischer's energy while one of the aspects of the creation of a product (Du Toit 2004) linked with organising space and objects.

The definition for Process skills for the APOM was phrased as follow: the cognitive and executive functions that one uses to perform a task. This included the ability to plan a task, select and use tools and materials appropriately, pacing actions and adapting one's performance when problems

are encountered. Definitions extracted from the International Classification of Functioning and Health's mental functions were used in the eventual formulation of this definition (WHO 2001).

The above theoretical concepts were used to write the items for Process skills which are: Attention, Pace, Knowledge, Skills, Task concept, Organising space and objects and Adaptation. Refer to Appendix F1 for the complete description of each of the eight items for Process Skills.

5.3.2.2 ITEM DESCRIPTORS FOR MOTIVATION

Motivation was often described as the cornerstone of the occupational therapy process (Arnsten 1990; Doble 1988; Du Toit 2004; Kielhofner 2002; Reilly 1962; Smith 1974). Due of the importance of the concept of motivation, many definitions thereof were found in the literature of occupational therapy. Lou and Lane (2005, p. 275) defined motivation as a drive toward action. Coleman (in Du Toit 2004) described volition as an inner condition of the organism that initiated or directed its behaviour towards a goal. Jacobs and Jacobs Quick Reference Dictionary (2004) defined it as "individual drives toward the mastery of certain goals and skills; may be intrinsic or involve inducements and incentives".

The way in which people behave when they are actively engaged in their daily occupations and during their interaction with others and their environment, is the result of intrinsic motivation. Reilly (1962) described intrinsic motivation as a biologically inherent or innate urge to explore and master the environment through occupation. The human motive to fill one's life with occupation is central in the occupational therapy theories, especially in Kielhofner's (2002) theory of human occupation.

Reilly (1962, p. 78) put forward the hypothesis upon which occupational therapy was founded: "Man through the use of his hands as they are energised by mind and will, can influence the state of his own health". This hypothesis emphasised the importance of active participation. Reilly further stated that man has a vital need for occupation and the need to master his environment. One of the key concepts in the Model of Creative Ability is that of creative participation. It refers to the process of being actively involved in all activities concerned with everyday living (De Witt 2004). When a person is actively involved, he is motivated to engage in a subsequent, and often more challenging task, resulting in a perpetuation of active participation.

Du Toit (2004, p. 4) stated that: "man is only truly man if he fulfills the need to contribute to his world". A study by LaMore and Nelson (1993) suggested that choices and options in treatment activities are important to motivate a person's performance and commitment, as they induce a sense of self-efficacy, competence and being in control, and thus contributing to his world.

Humans project themselves into the future and decide how tomorrow will be lived (Arnsten 1990). A lack of options contributes to an external locus of control. Kielhofner (2002) supported this notion when he said that a sense of efficacy is the perception of control over one's own behavior. Doble (1988) said that humans possess the ability to actively choose the course of action they will take and thus assume some control over their desire to explore and master. Therapeutic contexts could facilitate choices by providing a number of opportunities in which to experience control. However, Doble (1988) accentuated that it is essential that the choices offered had to be structured to match the client's abilities and also be graded to challenge the person's skills.

Arnsten (1990) believed that a person can only be motivated when he experiences a sense of control and success. When a person believes in his skill, he is more likely to expect success. It is these feelings of competence that will motivate the person to engage in other activities (White 1971). However, engagement in activities does not always result in success and a person will develop beliefs about why he was successful or why his efforts failed. These beliefs referred to locus of control and this phenomenon influences the choice to engage or not to engage in certain activities.

The above discussions of motivation described the many constituents of motivation. For the purpose of the APOM, the definition of Motivation was formulated as: the desire to explore and master the environment through occupation or engagement in activity. It includes the basic drives and motives for action as well as the perception about the underlying main causes of events in one's life.

Five items constituted the domain of Motivation: Active involvement, Motives and drives, Shows interest, Goal-directed behaviour and Locus of control. Refer to Appendix F2 for the descriptions for the respective items associated with the different levels of creative ability.

5.3.2.3 ITEM DESCRIPTORS FOR COMMUNICATION AND INTERACTION SKILLS

The Communication/interaction skills item was selected from the Assessment of Communication and Interaction Skills (ACIS) (Forsyth, Lai & Kielhofner 1999). This instrument assesses three domains namely Physicality, Information exchange and Relations. These three domains were taken up as the items for the APOM. Forsyth et al (1999) described physicality in terms of physical contact with others, the posture a person assumes during communication, while using gestures and eye contact to communicate, maneuvering, and orienting one's body during communication with others and posturing that a person assumes during communication.

The Physicality domain of the ACIS was typified as Non-verbal communication in the APOM by means of four items; physical contact, eye contact, gestures and maneuvering the body. The

Information domain of the ACIS was interpreted as Verbal communication in the APOM through inclusion of four items; using speech, exchanging information, expressing desires and refusals and initiating interaction. The Relations domain of the ACIS was exemplified in the APOM by two items; awareness of others and conforming to social norms, and by establishing rapport in a relationship. Social contact and Relations with people, as described in the Model of Creative Ability, were used during the search for items that aptly described each of the levels of creative ability.

The Communication/Interaction skills domain of the APOM consisted of three main items namely Physicality or Non-verbal communication, Information exchange or Verbal communications and Relations. Physicality and Information exchange were represented by 4 items each. Relations were covered by 2 items. All in all, description was based on a total of 10 items.

The domain Communication/interaction skills in the APOM was defined as: Exchange of information using the physical body and spoken language to express intentions and needs in building and maintaining social relationships and interacting with others. Description of the 10 items representative of the levels of creative ability for the APOM are presented in Appendix F3.

5.3.2.4 ITEM DESCRIPTORS FOR SELF-ESTEEM

Esteem was defined as one having great respect or high regard for someone or something (Sinclair 2001). Self-esteem is therefore the regard that one has for oneself, or the worth that one ascribes to one self. A vital aspect of self-esteem is a sense of competence, since this which could determine one's expectations of success or failure (White 1971). When a person believes in his skill, he is more likely to expect success. The degree of commitment to a task could be an indicator of expectations of success or failure.

Rosenberg's (1965) Self-esteem scale is a well known scale that was developed in the early 1960's. The content of this scale, nonetheless, is still relevant today. The scale assesses how one feels about one's efforts, comparing one's own skills to those of others, attitude towards oneself and the qualities one believes he/she has. Some of these aspects were incorporated into the items measuring self-esteem.

Du Toit (2004) believed that commitment to a task or a situation revealed a belief in one's skill and therefore how one perceived feedback from others. Handling the negative effects of anxiety is linked to task commitment since an individual could be immobilised by anxiety, and as a result, show little commitment to begin or complete a task. Another assumption in the Model of Creative Ability (Du Toit 2004) was that maximum effort in task performance depends on previous experiences.

Positive experiences will motivate a person to engage in or commit to a task (and sometimes commit to an even more challenging task) again, whereas negative feelings, like anxiety, will lower a person's belief in himself and he will in all likelihood lack the courage to engage again.

Many scales measuring self-esteem are available while different authors express different opinions when they personally explain the most vital aspects of self-esteem. It was a challenge to restrict the items for self-esteem. The main criterion that served as a guideline was to determine which of these vital aspects of self-esteem are observable during activity participation in occupational therapy programmes. In the end six items were selected for this outcome measure: Commitment to task or situation, Using feedback, Attitude towards self, Awareness of qualities, Social presence and Self-worth.

The definition for self-esteem for the APOM was formulated as: the worth one ascribes to one self, the evaluation of one's virtues, the desire to feel accepted and expectations of success or failure.

Refer to Appendix F4 for the descriptors for each item according to the levels of creative ability.

5.3.2.5 ITEM DESCRIPTORS FOR BALANCED LIFESTYLE

Contributions by Christiansen, Baum, and Bass-Haugen (2005) as well as by Neistadt and Blesedell Crepeau (1998) were used to define and operationalise Balanced lifestyle. A balanced lifestyle is the result of occupations and activities that are meaningful and promote wellness in a person. Individuals prefer specific occupations above others, as a consequence of good mix and balance between physical, mental, social, spiritual and rest activities: in short, living a balanced lifestyle (Christiansen et al. 2005).

Use of time, habits and routines that address personal needs as well as the demands of the environment cannot be removed from balanced lifestyles. Poor time management often points to unbalanced lifestyles. A person's habits and routines fill up the time and are therefore included in the concept of balanced lifestyles. Habits are described as "automatic behavior that is integrated into more complex patterns that enable people to function on a day-to-day basis" (Neistadt & Blesedell Crepeau 1998, p. 869). Habits can either support or interfere with performance in areas of occupation. A person can thus have good habits or undesirable habits. Routines are the regular sequences that individuals apply to perform tasks, activities and practice occupations.

The definition for Balanced lifestyle in the APOM was phrased as: use of time, habits and routines that address personal needs and demands of environment, occupational preferences in balance

(good mix of occupations in all areas: physical, mental, social, spiritual, rest). It requires involvement in occupations that are meaningful and promote wellness.

Three items were described in the APOM for Balanced lifestyle: Time use and routines, Habits and Mix of occupations. These are presented in Appendix F5.

5.3.2.6 ITEM DESCRIPTORS FOR AFFECT

Emotion is a complex feeling with psychic, somatic and behavioural components, that is related to affect and mood (Sadock & Sadock 2007, p. 279). Petri and Govern (2004, p. 368) mentioned that emotion implies a change from one state to another, for example from happy to sad. The terms affect and mood further explain the dimensions of emotion.

Affect is defined as the observed expression of emotion by others, or what people are able to see from the outside (Sadock & Sadock 2007) or the way that a feeling is communicated through facial musculature changes (Petri & Govern 2004). The appropriateness of an emotion, how it is regulated and the range or repertoire of different emotions are aspects that one could observe in a person.

Du Toit (2004) described emotions in terms of different levels of creative ability. She believed that the lower the level of creative ability, the more basic the emotions would be. Du Toit never listed the emotions but pointed out that basic emotions were linked to levels of self-differentiation and self-presentation while more refined emotions were evident in passive participation and at higher levels.

Plutchik (2001) described a set of basic or innate emotions that a person would use for survival, similar to the fight or flight response. The eight basic emotions that he found were anticipation, joy, acceptance, fear, surprise, sadness, disgust and anger. He further described a blend of emotions that generated more complex emotions e.g. joy and acceptance would produce the emotion of love, fear whilst surprise turned into awe, anger and anticipation into aggressiveness. Refer to Figure 5.2. Plutchik's reference to basic emotions and blended emotions that were included in the explanation of the domain Affect, provided an informative overview of the repertoire of human expression of emotions (Plutchik 2001).



Figure 5.2 Plutchik’s basic emotions (inside the circle) and blended emotions (outside the circle).

Mood, the other dimension of emotion, is a pervasive and sustained emotion that is experienced subjectively, reported by one person and observed by others. It is often seen as a lasting state of emotion and describe as temper. Typical descriptions of mood are positive, consistent, optimistic or happy.

The definition for Affect reads: the observed expression of emotion, or what one is able to see from the outside. The appropriateness of the emotion, how it is controlled and the range or repertoire of different emotions are aspects that one could observe in a person.

Affect was represented by three items: Repertoire of emotions, Control and Mood. Please refer to Appendix F6 for complete descriptors of the three items.

5.3.2.7 ITEM DESCRIPTORS FOR LIFESKILLS

Lifeskills is a term used by many professions. The WHO defined Lifeskills as “abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life” (WHO 2002, p. 3). Occupational therapists view Lifeskills as those that are necessary to survive the demands of everyday life (Creek & Lougher 2008). It is therefore sometimes referred to as survival skills. These skills might include managing money, organising and running a home, preparing meals, performing domestic skills, personal self-care, using transport,

caring for children/pets/parents, managing stress, communicating with others in a social context, and so on (Brokenshire 2001; Robertson, Connaughton & Nicol 1998).

The items that represented the domain of Lifeskills included Assertiveness, Stress and Conflict management, Domestic skills, Child care, Money and budgeting skills, Personal safety, Care of medication, Personal care, Hygiene, Grooming. Social skills were not included again as it was covered in the item Communication/Interaction skills, while Time management and planning leisure pursuits were included in the domain of Balanced lifestyle. These skills are not all inclusive and there are skills mentioned in life skill programmes not covered in this outcome measure e.g. friendships, nutrition, banking, recreation, coping with death, divorce and separation. The selection of skills included in this outcome measure was guided by the responses of the clinicians and mental health care users provided during the individual and group interviews.

The definition that was used for the APOM was: skills and competencies required by a person to manage independently in the community. It includes the abilities individuals acquire and develop in order to perform everyday tasks successfully.

The item descriptors for these Lifeskills can be seen in Appendix F7.

5.3.2.8 ITEM DESCRIPTORS FOR ROLE PERFORMANCE

Role performance can be described as the ability to effectively meet the demand of roles in which the client engages. Creek and Lougher (2008, p. 40) defined roles as “social constructs which carry behavioural expectations and which contribute to a person’s self image and sense of identity”. They are the sets of tasks that individuals perform in specific positions within a group. Roles are allocated by the society or culture of that person but each person will interpret his/her role in a unique way (Creek & Lougher 2008).

Christiansen et al (2005, p. 596) described roles within the context of human occupation: “A set of socially agreed upon expectations, functions or obligations that involve patterns, scripts, or codes of behaviour, routines, habits, and occupation that a person assumes and which become part of that person’s social identity”.

The definition formulated for the APOM was: the ability to meet the demands of roles in which the person engages. A set of socially agreed upon expectations, tasks or obligations that a person fulfills and which become part of that person’s social identity and participation in everyday life.

Three items were selected for the APOM: Awareness of roles, Role expectations, Role balance and Competency were included (see Appendix F8).

A total of 52 items were selected to represent eight domains in the outcome measure. Table 5.6 is an overview of each domain with its items.

Table 5.6 Domains and corresponding items.

Domain	Items	
Process skills	Attention, Pace, Knowledge (x2), Skills, Task concept, Organising space and objects, Adaptation	8 items
Motivation	Active involvement, Motives and drives, Shows interest, Goal-directed behaviour, Locus of control	5 items
Communication/interaction skills	Physicality: Physical contact, eye contact, gestures, use of body Information exchange: speech and articulation, expressing needs, conversation Relations: forming relationships and rapport	10 items
Self-esteem	Commitment to task or situation, Using feedback, Attitude towards self (x2) Social presence, Self-worth, Pursuing goals	7 items
Balanced lifestyle	Time use and routines, Undesirable and good habits, Mix of areas (physical, mental, social, spiritual, rest)	3 items
Affect	Repertoire of emotions, Control of emotions, and mood.	3 items
Lifeskills	Personal care, hygiene, grooming, Personal safety, care of medication, use of transport Domestic skills, child care, money and budgeting skills Assertiveness, stress and conflict management Pre-vocational and vocational skills, problem-solving	12 items
Role performance	Awareness of roles, role expectations and balance, Role competency	4 items

Certain items had to be described by subitems, for instance knowledge (under the domain of Process skills) and attitude towards self (Self-esteem).

5.3.2.9 A NOMOLOGIC NETWORK FOR ACTIVITY PARTICIPATION

The construct of Activity Participation was presented in a nomological network. Nomologic networks were first described by Cronbach and Meehl in 1955. They strongly recommended that a theoretical framework be constructed to explain the interrelationships between the constructs under investigation. Such a theoretical framework is crucial for the interpretation of construct validity analysis. At this stage of the study, the nomologic network is presented as a preliminary framework which is not yet based on empirical evidence. As soon as factor analysis or item response theory reveal the internal structure of this newly emerged construct of activity participation, the network would be revisited to decide if it is a true reflection of this construct.

The nomologic network of the eight domains that emerged from Phase 1 of the study is explained as follows. Activity participation is a core component in the scope of occupational therapy and is viewed as the overarching construct. Three subconstructs present this construct namely Client factors, Occupational performance skills and Well-being. The term Client factors is borrowed from the Occupational Therapy Practice Framework (2nd edition) compiled by the American Occupational Therapy Association (2008). Client factors in this framework refer to specific abilities, characteristics, or beliefs within a person and could affect performance in areas of occupation (AOTA 2008). Body functions and body structures as described in the ICF (WHO 2001) are also taken account of in Client factors. The CMOP describes clients factors as performance components which comes from the Uniform Terminology of the American Occupational Therapy Association (the precursor of the Occupational Therapy Practice Framework) while the PEOP model refers to intrinsic factors.

The three subconstructs presented in the nomologic network are often used in the clinical reasoning process of occupational therapy clinicians in a consequential manner. A clinician will commence with assessments to determine problems with client factors, these client factors usually affect the occupational performance of a client which in turn, will affect the well-being. This clinical reasoning is also postulated as the dynamic interaction between performance components, occupation and the environment in the CMOP. The PEOP model has a similar interaction between the various factors: both extrinsic and intrinsic factors impact on the occupational performance and participation of a person or groups of people and could either enhance or restrict their well-being and quality of life. Therefore assessment and intervention in occupational therapy take cognisance of the client factors as a first line of therapy, followed by occupational performance skills to influence the well-being of a client.

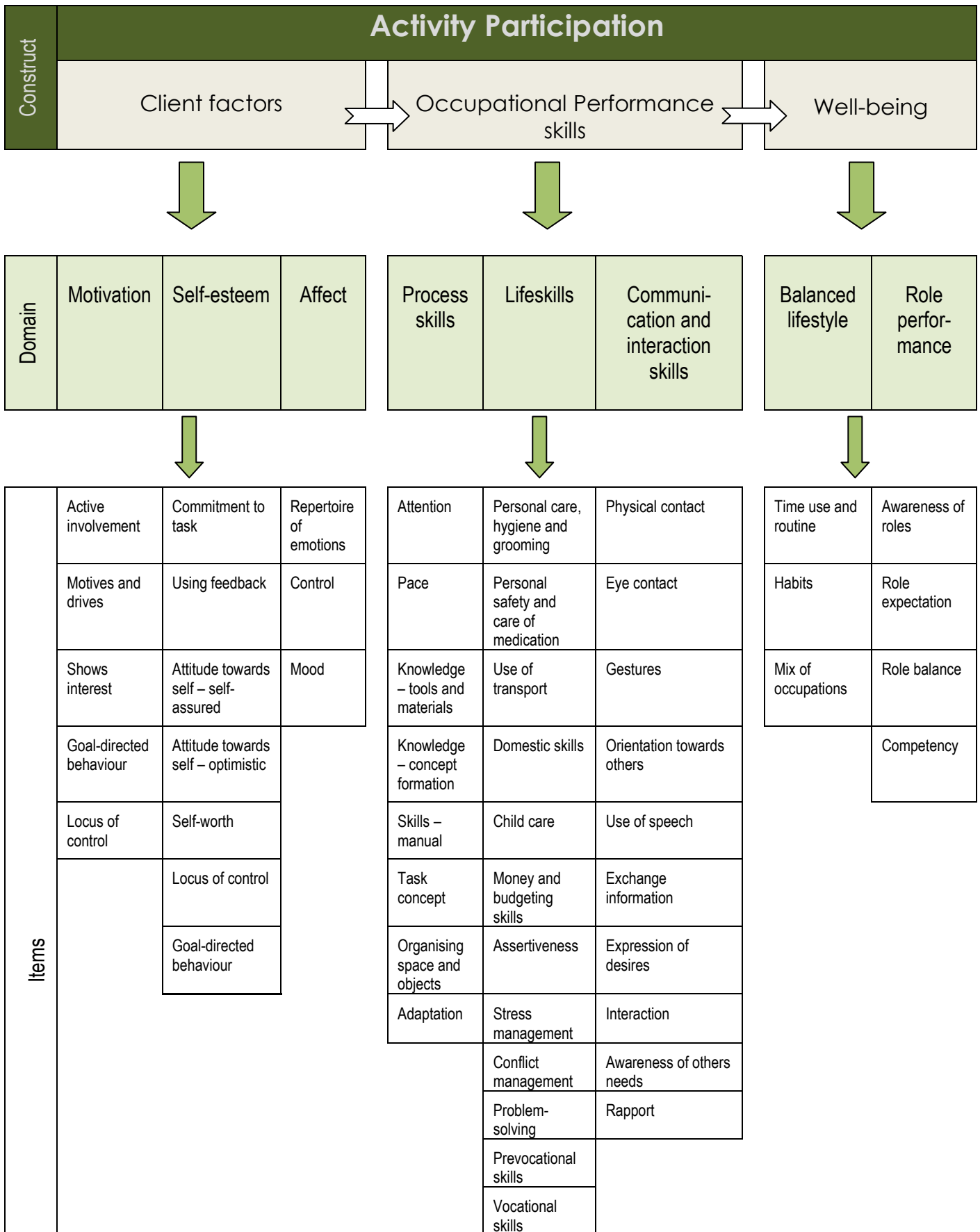


Figure 5.3 The nomologic network of activity participation.

An example to illustrate this clinical reasoning is presented. A client, who is finding it difficult to perform the prescribed duties at work, may experience problems with motivation and self-esteem. These problems will influence the vocational skills, stress management and conflict management, which will prevent a balanced lifestyle and the ability to perform the roles that is expected from that client.

The items under each domain in the APOM represented the observable behaviours that a clinician would assess or treat during the occupational therapy programme. These items can easily be expanded but for the scope and context of this study, these items emerged from Phase 2 of the study.

Figure 5.3 depicts the nomologic network that explains the interrelationships between the domains and items of the APOM.

5.3.3 THE FORMAT OF THE OUTCOME MEASURE

The format of the APOM was primarily constructed for electronic application but was available in hard-copy format as well. Use of the electronic format makes automatic data capturing possible. Item responses are in fact raw scores and these are automatically transferred to a data capturing sheet. When the hard-copy is used, raw scores have to be transferred manually onto the electronic datasheet.

In practice, a clinician would use the tables in Appendices F1 – F8 to select the description of a specific item that best portrayed the client. She could tick off more than one item (the rows of the table) but must carefully select one column as the columns indicate the “amount” or level of that item. If a clinician sometimes was unable to observe all the types of behaviours of a specific domain and it thus could happen that only some items of a domain would be scored.

The components of the APOM consist of a summary sheet, a data collection sheet, a base-line and final report and a spider graph compiled in Microsoft Excel 2003 or 2007. (Refer to CD file labeled Demonstration copy)



5.3.3.1 SUMMARY SHEET

Personal information (name, hospital number, age, gender), dates (admission to and discharge from the hospital, commencement and termination of the occupational therapy programme, and assessments), name of the occupational therapist, type of programme, being an in- or outpatient, number of sessions attended (group and individual sessions), the primary diagnosis, presence of personality traits/disorder (Axis II) and history of substance abuse were filled in onto the summary sheet. Raw scores for each domain for every assessment (base-line, 2nd, 3rd etc) automatically appeared on the summary sheet since scoring was linked to the data collection sheets.

The clinicians selected the above variables for inclusion as they were of the opinion that these were the most important factors impeding on the progress of a client. The summary sheet was actually the minimum data set since these variables become important when a clinician wishes to observe emerging trends. For instance, a clinician might have decided to analyse the progress of all mental health care users of a specific diagnosis, from a specific age range, with or without substance abuse and being an in-or outpatient. Progress patterns in terms of activity participation could be recalled since these progress patterns would be the emerging trends.

5.3.3.2 THE REPORT

A report for a specific client could be generated after a single assessment. The report would contain the selected item descriptors for that item. Provision was made for a base-line report as well as a final report. These reports could be used as the summary of the occupational therapy outcomes and could be filed for future references.

5.3.3.3 THE SPIDER GRAPH

Upon completion of two assessments, their respective outcomes could be compared by means of spider graphs and added to the report. These spider graphs have useful applications. A summary of the eight domains could be generated, or alternatively, each domain with its constituent items could be presented as separate graphs e.g. a graph for Process skills in terms of its eight items (Attention, Pace, Knowledge etc).

Figure 5.4 illustrates the eight domains in the format of a spider graph while figure 5.5 illustrates one domain with its items.

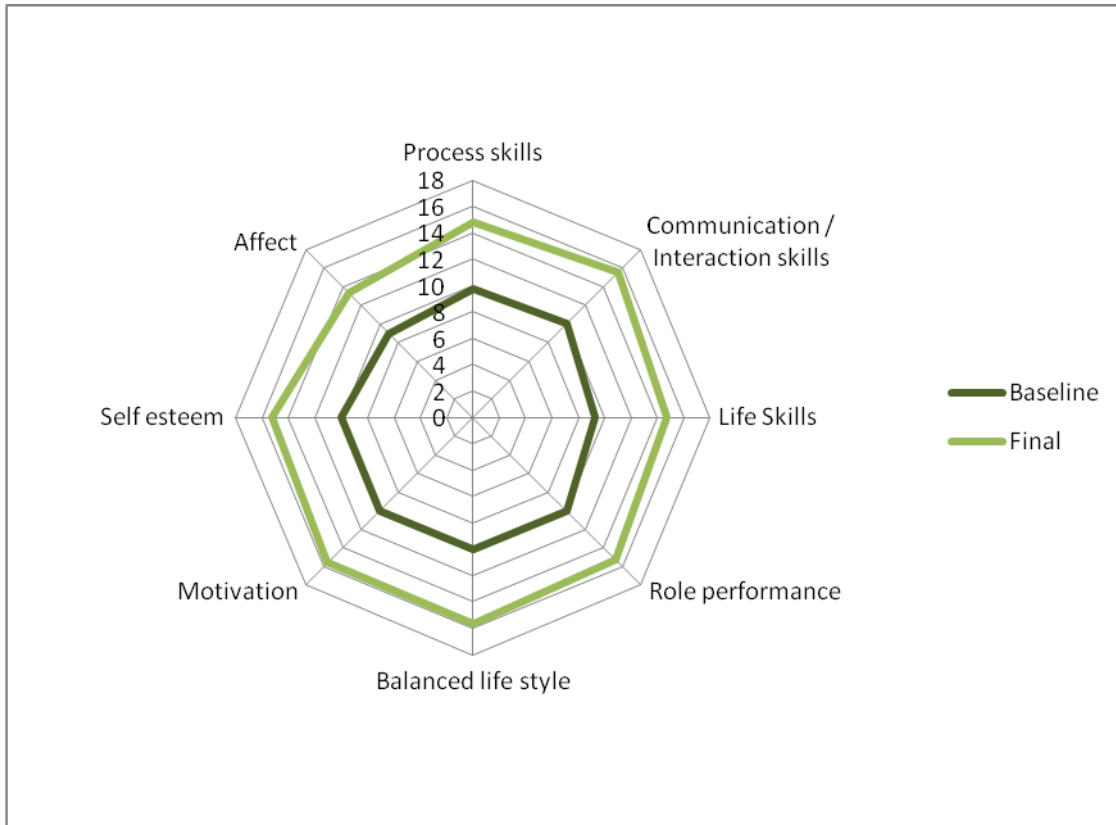


Figure 5.4 Example of the eight domains in the format of a spider graph

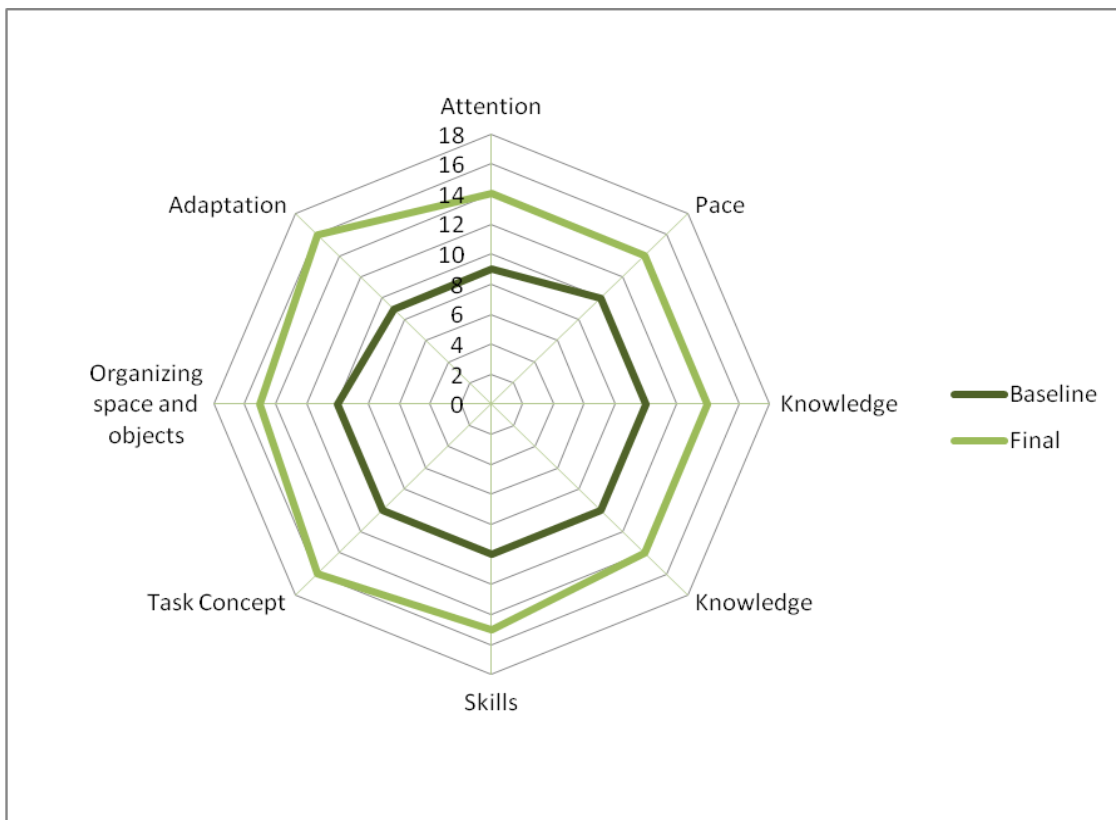


Figure 5.5 Example of one domain (Process skills) with its items

The spider graph is a visual presentation and often is an attention-grabbing way to present evidence of change in a patient. These graphs were useful in indicating areas of weaker improvement to a clinician and served as a mechanism which permitted effective redesign of intervention.

5.3.4 GUIDELINES FOR USE OF THE INSTRUMENT

A user manual was compiled and distributed among clinicians at one mental health care institution. These clinicians agreed to participate in the piloting of the outcome measure. The user manual introduced outcome measures to occupational therapy mental health care which was followed by a background of the origin and development of the APOM. (Refer to the CD file labeled User Manual APOM). Characteristics of typical outcome measures were explained and a comparison of outcome measures and assessment procedures in occupational therapy was presented. This comparison was included after comments of the focus groups indicated that clinicians were not sure of the difference between outcome measures and assessment procedures.

Definitions of the domains and their respective items in the outcome measure were presented followed by the rating scale itself. Scoring or rating was explained. A clinician selected the description that fitted her patient best and allocated a score between 1 and 18 for each item. The median was calculated for each domain by using the scores of all the items. If the electronic data-collection sheet was used, these medians were calculated by default. Medians, instead of means, were calculated as the scale of measurement was an ordinal scale.

The final section in the user manual explained the procedure for using the APOM. Usually, an initial interview would be conducted with a new mental health care user. The clinicians were provided with an interview guide containing useful questions. They were however not compelled to use this interview. If they were satisfied that their standard interview covered all the relevant questions they were encouraged to continue with their tried and trusted procedure. A mental health care user then received an intervention programme. The particular institution who participated in the pilot conducted four different intervention programmes: 1) maintenance group; 2) acute; 3) self presentation; 4) passive participation and transition groups. These intervention programmes consisted of group therapy, activities therapy, sport and games sessions and outings. Occupational therapy assistants usually presented the activities therapy, sport and games sessions and accompanied clients on outings while occupational therapists presented group therapy as well as activities therapy.

Clinicians often expose their clients to self-report questionnaires and inventories, like role checklists and time-use schedules. Data from these self-report sources provide valuable information that permits a clinician to complete the assessments of certain components such as Balanced lifestyle and Role performance. Clinicians were encouraged to continue using these assessments.

After the initial interview, a mental health care user had to be assessed in at least two further sessions before a clinician could do the first or base-line assessment. This was necessary as the assessment is based on observing a clients' real performance or participation in activities, groups and situations in the hospital. A clinician also received feedback from other clinicians and assistants who had seen their clients. Personal observations and feedback from other staff members enabled the clinician to rate a client's participation comprehensively. In practice, it could happen that after some time a clinician did not have enough observations to rate a mental health care user on all eight domains or on all the items of one or more domains. Mental health care users sometimes, for various reasons, do not attend their occupational therapy programmes, thereby limiting opportunities for observation of performance. In such instances a clinician would then only rate those items on which she obtained adequate observations and feedback to rate the client.

The clinicians considered one week was as a realistic time period in which to obtain enough observations for the base-line assessment. The date for a follow-up assessment was determined by the type of programme that the mental health care users attended. For example, those on the maintenance programme would receive monthly assessments while those attending the acute programme would have had their second assessment two weeks after the base-line assessment. The final assessment needed to be completed before the mental health care user was discharged.

5.3.5 TRAINING OF THE CLINICIANS IN THE USE OF THE OUTCOME MEASURE

The user manual was introduced and reviewed at a training workshop. The event gave participating clinicians an opportunity to clarify uncertainties, report on omission of essential information or removal of irrelevant content from the manual. Eleven occupational therapists attended the workshop. Six of these clinicians participated in the initial phase where domains for the outcome measure were identified.

Each clinician was asked to administer the outcome measure to five mental health care users. After a period of three months, clinicians reported back that they were not confident in administering the outcome measure as they had reservations about descriptions of certain items.

A second training session was held where clinicians expressed their concerns and gave reasons for not completing their first attempt at applying the outcome measure. This session was structured as a focus group and attending clinicians gave permission for audiorecording of the session.

Problems that came up were a lack of support and encouragement from the researcher. At the time of the pilot of the APOM, clinicians were involved in a Gauteng Health Department project about ICF codes. Their experience from that project was that a staff member at the Occupational Therapy Department was driving the project and they felt compelled to complete the ICF codes on their patients. Since there was no one available to drive the outcome measure project, they forgot to complete the outcome measure. Other complaints were high patient loads and other administrative duties that limited clinicians' time to do additional work, such as completing the outcome measure.

The clinicians suggested that the researcher be present to clarify their uncertainties when they complete the outcome measure. Individual appointments were then arranged with the clinicians where the researcher applied the electronic version of the outcome measure while the clinicians used their hard copies to score their clients. The researcher captured clinicians' scores with the electronic version. This procedure worked out well as an immediate discussion followed in instances where the clinician had uncertainties or encountered differences. Only six of the eleven clinicians were able to make regular appointments as some were due for maternity leave while others withdrew from the research.

This method of data collection slowed down the assessment process and affected the sample size. Two other hospitals from the Gauteng Province (Chris Hani Baragwanath and Sterkfontein Hospitals) volunteered to participate. Ethical clearance was obtained from these two hospitals and data collection started hereafter. Refer to Appendix E5 for the additional Ethical Approval.

A training session was held at each of the two hospitals. The feedback from the first pilot group was used to adapt the training and further support was provided during a practical session where attending clinicians rated a client known to all of them. Discussions to clarify uncertainties followed and the researcher shared common problems encountered during the first pilot group. The clinicians at the volunteering hospitals were able to complete the outcome measure on their own.

After the training was completed, Phase 3 of the study commenced.



5.4 PHASE 3: PILOT THE OUTCOME MEASURE AND INVESTIGATE SELECTED PSYCHOMETRIC PROPERTIES.

5.4.1 PSYCHOMETRIC PROPERTIES

Phase 3 of the study included the piloting of the outcome measure while certain psychometric properties were investigated. Problems regarding clinical utility were also determined.

5.4.1.1 CONTENT VALIDITY

Six experts on the subject matter of the Model of Creative Ability and occupational therapy in mental health care contexts, scrutinised the relevance of the eight domains to the overall outcome of Activity participation. They had to judge how well each item fitted in with the domain to which it was assigned. Their ages ranged between 35 and 65 years.

Content validity indices were calculated. Lynn (1986) suggested that two indices of content validity be calculated. The first was an index for individual items in a measure, referred to as the Item-level Content Validity Index and the second version, an index for the overall measure, referred to as the Scale-level Content Validity Index. Polit and Beck (2006) agreed with Lynn (1986) that when six raters were being used, an Item-level Content Validity Index of 0.78 and higher was recommended while for a scale-level content validity index, 0.80 and higher was acceptable. Polit and Beck (2006) urged researchers to report both the Item-level and Scale-level Content Validity Indices for a complete presentation of content validity.

The rating scale that the six raters used, was an ordinal 5-point rating scale. Table 5.7 describes the rating scale.

The ordinal scale was dichotomised according to relevance and irrelevance, where ratings of 1 and 2 were computed as irrelevant and ratings of 3,4 and 5 as relevant.

Table 5.7 The rating scale for content validity.

Rating	Description	
1	The item fits the domain very poorly	} Irrelevant
2	The item fits the domain poorly	
3	The item fits the domain moderately	} Relevant
4	The item fits the domain well	
5	The item fits the domain very well	

The Item-level Content Validity Index was calculated by adding the number of raters that scored the item as relevant, divided by the total number of raters. Table 5.8 reports on the Item-Level Content Validity Index for each domain as well as the mean Item-Level Content Validity Index.

The Scale-level Content Validity Index could be calculated in two ways. The first was the average of the Scale-level Content Validity Index (S-CVI/Ave) which was the same as the mean Item-level Content Validity Index. A more stringent method was the Universal Agreement Scale-level Content Validity Index where only items with total agreement (those items that received a relevant rating by all the raters) were divided by the total number of items. The Scale-level Content Validity Index Universal Agreement (S-CVI/UA) and the S-CVI/Ave are reported in Table 5.8.

All the Item-level Indices for the domains were well above the recommended 0.78, with two domains receiving total agreement (Communication/Interactions skills and Role performance) while the weakest index was reported for Balanced lifestyle (0.83), but still in excess of the 0.78 cut off point.

The Scale-level Index of 0.93, when calculated with the average method, was well above the critical limit of 0.80, but when the Universal Agreement approach was used, the index equaled 0.61. It was not clear from the literature what the recommended S-CVI/UA Index ought to be as this method was rarely reported in studies of content validity (Polit & Beck 2006). An index of 0.61 in this study meant that 22 out of 36 items attained an Item-level Index of 1.00 while 14 items (39%) of the items had Item-level Indices of, respectively, 0.0 (0 out of six), 0.16 (1/ 6), 0.33 (2/6), 0.5 (3/6), 0.66 (4/6) or 0.83 (5/6). The raw data indicated that 15 items reached 0.83 and 1 item 0.66. In this study the Scale-level Content Validity Index was judged as satisfactory since no items were rejected.

Table 5.8 Content validity indices of eight experts' ratings on the relevance of the items of the APOM.

Domain	Item-level content validity index (I-CVI)	Scale-level content validity index – average method (S-CVI/Ave)	Scale-level content validity index – universal agreement method (S-CVI/UA)
Process Skills	0.95	0.93	0.61
Comm/Interact Skills	1.00		
Lifeskills	0.89		
Role Performance	1.00		
Balanced Lifestyle	0.83		
Motivation	0.87		
Self-esteem	0.97		
Affect	0.94		
Mean I-CVI	0.93		

In interpreting the content validity findings for clinical significance, it was clear that almost all the items were judged by the six experts as relevant for Activity participation. The only item that was scored below 0.78 was the item Motives and drives which fell under the domain of Motivation. The item-level index for Motives and drives was 0.66 and was the only item where two out of the six raters judged it as irrelevant. All the other items had an index of either 0.83 or 1.00.

Three of the experts were also asked to change the descriptions for each item if they were not satisfied with the precision of the description or if it did not fit the particular level of creative ability. One of the experts found all descriptions acceptable and did not suggest any changes. The remaining two experts suggested changes to improve clarity. Some of the suggestions were incorporated in the final version of the APOM that was piloted.

One expert suggested adding an item of Norm awareness. Norm awareness is an important concept in the Model of Creative Ability and refers to social norms, norms for the quality of an end product and norms for behaving in specific situations. It is one of those concepts that apply to all items. A therapist will evaluate all the behaviours and actions in terms of the awareness of norms and draw on it as guiding criteria for “leveling” a client. A therapist trained in the Model of Creative Ability

uses Norm awareness during the clinical reasoning process. It was decided not to include it as a specific item as it is a critical indicator relevant to all items.

It must be noted that the descriptions in the APOM did not attempt to cover all theoretical concepts but were typical summary descriptions of specific items for specific levels. Another important concept in the Model of Creative Ability is Task concept. It had to be used in the sense that the theory originally had explained it. Task concept has different steps or components which are common knowledge for a therapist trained in the theory. Therefore all the steps of Task concept were not included in the descriptions but were mentioned only in summary. It was suggested that all the steps be included but this made the descriptions cluttered.

Other minor suggestions were made, for instance, changing “not prepared to engage in a task” into “does not engage in task”.

The results of the content validity index calculations as well as the judgments of the individual item descriptors by subject matter experts supported good content validity of the APOM.

5.4.1.2 CONSTRUCT VALIDITY

In Section 4.6.4 of Chapter 4 the researcher reasoned in detail why the factor analytic statistics based on a naïve and inadequate data set would be reported in the results. The APOM was a novel construction. The development, piloting and application of the new measure generated statistical information about its psychometric properties that up to now did not exist. The statistical data, despite its naivety, does permit data interpretation but cannot provide any convincing evidence of what the instrument purports to measure. It will only contribute noteworthy research data when it progresses from an embryonic entity into convincing evidence about the factor structure of the APOM that will expand the existing body of scientific knowledge of the discipline occupational therapy.

A correlation matrix using the Pearson correlation coefficient was constructed for the eight domains of the APOM with the naïve data set of 41 subjects. The eight domains showed early but unconfirmed promise of fair to good correlations. The matrix of coefficients, at this stage, reflected neither convergent (commonality) nor divergent (independence) validity. The data set generated fair correlation between Process skills and Role performance (0.650), as well as between Balanced lifestyle (0.670) and Affect (0.641). Several domains correlated in excess of 0.70: the highest was Self-esteem’s correlation with Lifeskills (0.954) and Motivation (0.945) as well as Affect’s co-relation with Lifeskills (0.944). Table 5.9 presents the correlation matrix of the eight domains.

Table 5.9 Correlation matrix of the 8 domains of the APOM. (n= 41)

Factor / Domain	Process skills	Comm/ Inter skills	Life-skills	Role Performance	Balance	Motivation	Self-esteem	Affect
Process skills								
Comm/Inter. skills	0.856	1						
Lifeskills	0.798	0.894	1					
Role performance	0.650	0.780	0.911	1				
Balanced lifestyle	0.670	0.744	0.801	0.807	1			
Motivation	0.748	0.826	0.799	0.813	0.861	1		
Self-esteem	0.708	0.781	0.954	0.806	0.831	0.945	1	
Affect	0.641	0.763	0.944	0.762	0.753	0.825	0.872	1

The researcher next initialised a factor analysis of the variates in the naïve APOM data set. This statistical analysis was the equivalent of an initial attempt at data reduction, an acknowledged step in qualitative data analysis (Giorgi 1985). The outcome of factor extractions from the initial data set is presented in Tables 5.10 and 5.11.

The computed Eigenvalues reflected the presence of common variance or specific variance among the items of the measuring instrument. Values exceeding 1 pointed to a high degree of commonality rather than unique variance among certain items. The extraction method was principal component analysis (Field 2005). The ideal sample size of 10 per factor (in this study 10 X 8), thus 80, for meaningful results was suggested. Provisional Eigen values were computed to explore early trends at this stage of the study. The total variance of the sample is presented in Table 5.10. Thirteen components were extracted, of which only five at this early stage, were scientifically meaningful. The Eigenvalue of 35.663 that explained 69.7% of the variance in the naïve data set was a preliminary but premature indication of one dominant common factor in the outcome measure.

Interpretation of initial extraction was difficult (Ho 2006: 205) and rotation of factors could give more meaningful result. Since the domains were highly correlated in the above matrix, the Oblimin rotation technique with Kaiser Normalisation was the preferred rotation option. It had to be reiterated that the rotation was done for exploration of the data and that it could be of value to present the pattern matrix that emerged.

Table 5.10 Total variance explained using Principal Component Analysis.

Component	Initial Eigen values		
	Total	% Variance	Cumulative %
1	35.563	69.731	
2	3.557	6.974	
3	2.126	4.169	
4	1.275	2.501	
5	1.177	2.308	
6	.912	1.789	87.472
7	.842	1.650	89.122
8	.647	1.268	90.390
9	.585	1.147	91.537
10	.531	1.042	92.579
11	.472	.925	93.504
12	.411	.807	94.310
13	.360	.706	95.016

Fifty-one items of the eight domains were used in the rotation. The APOM consisted of 52 items but the item “child care skills” (L5) was excluded from the factor analysis as it was only relevant for five of the 41 subjects. There were too many missing data and it was decided to exclude this item.

The 51 items of the eight domains were factor analysed and reduced to five factors. Due to the small sample size no significant conclusions were derived at. Table 5.11 reflects the five factors, items that figured in each factor, and their respective item loadings in each of the factors. Items with factor loadings ≥ 0.35 and -0.35 indicated stability and replicability of the item (Overall & Klett 1972). These items are indicated in bold italic.

Table 5.11 The Pattern Matrix illustrating the factor loadings of the 51 items. (n=41)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
P1 - Attention		.930	-.214	-.225	-.125
P2 - Pace		.958		-1.34	
P3 - Knowledge (tools & materials)		.785			-.104
P4 - Knowledge (concept formation)		.852		.130	
P5 - Skills	.137	.809		.101	
P6 - Task concept		.844	.226		
P7 - Organising space & objects		.836	.254		.138
P8 - Adaptation	.115	.816		.119	



	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
C1 – Physical contact		.646		.421	-.127
C2 – Gases	.155	.376		.557	-.129
C3 – Gestures		.535		.492	-.103
C4 – Use of body		.525		.465	-.161
C5 – Use of speech	.282	.662	-.156	.128	
C6 – Exchange information	.414	.218	.107	.366	-.123
C7 – Express needs	-.119	.121	.118	.391	-.653
C8 – Initiate interaction	.342	.216		.287	-.324
C9 – Form relationships	.401			.183	-.572
C10 – Form rapport	.473				-.546
L1 – Personal care, hygiene, grooming		.561	.180	.257	-.170
L2 – Personal safety, care of medication	.166	.413	.349	.150	-.150
L3 – Use of transport	.308		.447	.380	
L4 – Domestic skills	.316	.265	.377		-.170
L6 – Money management and budgeting		.101	.738		-.211
L7 – Assertiveness		.313	.413		-.375
L8 – Stress management		.263	.321		-.541
L9 – Conflict management	.102		.532	.153	-.425
L10 – Problem-solving skills	-.131	.304	.336		-.612
L11 – Pre-vocational skills	.136	.594		.182	-.166
L12 – Vocational skills		.672			-.198
B1 – Time use and routines	.426	.384	.210	-.152	-.162
B2 – Habits	.532		.535		
B3 – Mix of occupations	.559		.525		
R1 – Awareness of roles	.212				-.794
R2 – Role expectations	.221			-.127	-.800
R3 – Role balance	.283				-.649
R4 – Competency	.286	.134		-.140	-.621
M1 – Active involvement	.646	.352			
M2 – Motives and drives	.648	.124	.151		-.170
M3 – Shows interest	.840		.108		
M4 – Goal-directed behaviour	.410	.318	.233		-.236
M5 – Locus of control	.725				-.176
S1 – Commitment to task	.804	.205		-.170	-.112
S2 – Using feedback	.754		.268		
S3 – Self-worth	.867				-.153
S4 – Attitude towards self (self-assured)	.870				
S5 – Attitude towards self (optimistic)	.730			-.166	-.238
S6 – Awareness of qualities	.708	.206	.117		
S7 – Social presence	.796	.158	.170		

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
A1 – Repertoire of emotions	.787	.101	-.115	.136	-.134
A2 – Control	.937		-.156	.234	
A3 – Mood	.861			.127	

P = Process Skills, C = Communication/Interaction skills, L = Lifeskills, R = Role performance, B = Balanced lifestyle, M = Motivation, S = Self-esteem, A = Affect

Factor 1 consisted of all the items under the domains of Motivation, Self-esteem and Affect. Theoretically these three domains are called client factors and clinically, it would make sense if those items clustered under one factor. One item from the domain Communication/Interaction skills and all three items from the domain Balanced lifestyle also assembled under Factor 1. All eight items of Process skills clustered under Factor 2 together with items from Lifeskills and Communication/Interaction skills. Factor 3 consisted of five Lifeskills items. Factor 4 only had two items from Communication/Interaction skills while Factor 5 contained all the Role performance items and the remaining items from Communication/Interaction skills and Lifeskills. Several items had double loadings (fell in two factors): all three items of Balanced lifestyle, four Lifeskills items and seven Communication/Interaction skills items. The item Information exchange under the Communication/Interaction domain (C8) highest loading was slightly less than .350; = 342. This item probably was unstable and unlikely to be replicated in any follow-up study. This was the only item with a loading less than .350 or -.350

The factor analysis was exploratory as the naïve data set did not meet the statistical requirement of a sample size of at least 10 subjects per domain. Although it was interesting to note how the items clustered into factors, no significant conclusions were made and meaningful repetition of the factor analysis is strongly recommended once the naïve data set was based on a sample in excess of 80 subjects, instead of the current 41 participants.

5.4.1.3 INTERRATER RELIABILITY

Five clinicians rated a mental health care user known to all of them, using the APOM. Two ratings were done by the same clinicians on the same mental health care user, five months apart. The average rating was calculated for the two ratings. The medians of each domain were calculated for each rater, where after the average of the median per domain was calculated. The Activity Participation of this mental health care user deteriorated slightly between the first and second rating, and as a result, all raters consistently judged the mental health care user lower.

Figure 5.4 shows the interrater reliability averages of the two data collection points.

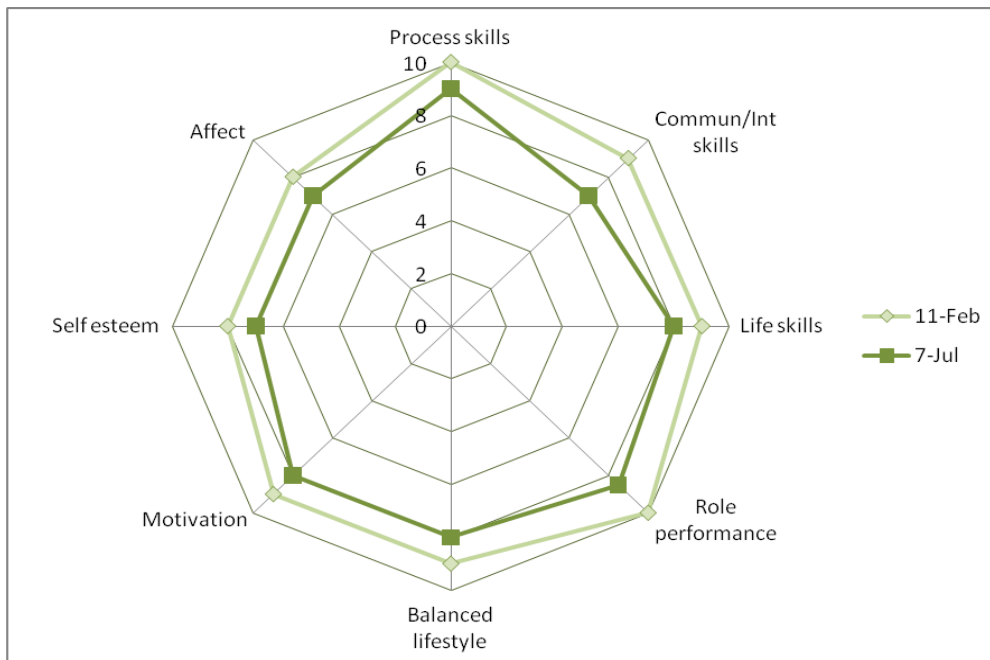


Figure 5.6 Interrater reliability averages of two data collection points

The interrater reliability of the five raters was judged by means of Kruskal-Wallis one-way analysis of variance tests. The raters assessed the eight individual domains as well as a combination thereof. The Kruskal-Wallis analysis involved the first and second ratings. The statistics of the analyses are presented in Table 5.12.

Table 5.12 Differences in scores between 5 raters according to the Kruskal Wallis Test Differences in scores between 5 raters according to the Kruskal Wallis.

Domain	Kruskal Wallis (H) for 1 st Rating (Trial 1)	P value for 1 st rating (Trial 1)	Kruskal Wallis (H) for 2 nd rating (Trial 2)	P value for 2 nd rating (Trial 2)
Process skills	15.6779	<u>0.0035</u>	17.9009	<u>0.0013</u>
Comm/Interact skills	12.6881	<u>0.0129</u>	15.9971	<u>0.0030</u>
Lifeskills	6.3668	0.1734	12.4825	<u>0.0141</u>
Role performance	6.3121	0.1770	10.3158	<u>0.0354</u>
Balanced lifestyle	8.8342	0.0654	9.2052	0.0562
Motivation	6.8390	0.1446	5.3547	0.2528
Self-esteem	13.6843	<u>0.0084</u>	2.9670	0.5634
Affect	1.5123	0.8245	7.4014	0.1161
All domains	0.7863	0.9403	0.8465	0.9321

The critical χ^2 probability value for 4 degrees of freedom ($k - 1$) was 9.49 at the $\alpha = 0.05$ level. The Kruskal-Wallis test, being sensitive to differences in central tendency, statistically tests data sets for presence of significant differences. Where differences are insignificant, similarity in central tendency was present (Howell 2006). All significant differences in the data set are presented in bold in Table 5.12. In general, the presence of insignificant differences pointed to similarity in the judgments of the panel of raters (reliable or consistent interrater). In both trials 1 and 2, the statistical analysis pointed to difference of opinion among raters in judging the domains Process skills and Communication/Interaction skills. The statistical analysis showed that inconsistency in rating occurred more often in the judgment of trial 2 outcomes than outcomes of trial 1. The insignificant differences for the combined domains were noteworthy observations. Differences in judgment of individual domains apparently were balanced out and in the overall rating, hence the agreement between the raters.

5.4.1.4 INTRARATER RELIABILITY

Intrarater reliability was also assessed by comparing the raters' first and second scores. In this case, Spearman's correlation coefficients were calculated for each rater. One rater's first and second ratings were inconsistent ($r_s = 0.02$), two other raters were reasonably consistent in their respective individual ratings ($r_s = 0.66$ and 0.65) while two others demonstrated more than adequate intra-individual consistency in their judgments ($r_s = 0.70$ and 0.79). The rater with the incongruent ratings was a recently qualified clinician. All other raters had at least five years of experience in the field of mental health care. Table 5.13 illustrates the distribution of the APOM scores for the individual raters.

Table 5.13 Distribution of the APOM scores for the individual raters.

Domains	Rater 1		Rater 2		Rater 3		Rater 4		Rater 5	
	1 st score	2 nd score	1 st score	2 nd score	1 st score	2 nd score	1 st score	2 nd score	1 st score	2 nd score
Process skills	9	8	10	8	8	9	10	10	9	8
Comm/Interac	9	7	10	7	8	7	7	8	9	6
Lifeskills	10	8	9	7	9	9	7	8	9	8
Bal lifestyle	10	9	9	8	8	6	7	7	8	7
Role perform	10	10	11	7	11	9	9	7	10	8
Motivation	9	8	10	8	9	8	7	7	9	7
Self-esteem	8	7	10	7	6	6	6	7	8	6
Affect	10	9	8	7	8	6	7	8	9	7
	0.79		0.02		0.70		0.66		0.65	

5.4.1.5 INTERNAL CONSISTENCY

Cronbach's alpha indices were calculated for the eight domains. Cronbach's Alpha index tests how well an individual item in a scale correlates with the sum of the residual items. It measures consistency among individual items in a scale. Indices between 0.7 and 0.9 indicate good internal consistency of a scale.

Table 5.14 exhibits Cronbach's alpha indices for each of the domains. These alpha coefficients pointed to high internal consistency.

The alphas calculated for the APOM yielded good internal consistency for five items. Three items obtained a Cronbach's alpha higher than 0.9. Table 5.14 shows the Cronbach's alpha index for each domain.

Table 5.14 Cronbach's alpha index for each domain of the APOM.

DOMAIN	n	Cronbach's alpha
Process skills	40	0.786
Communication/Interaction skills	39	0.868
Lifeskills	31	0.998
Role performance	39	0.912
Balanced lifestyle	41	0.824
Motivation	41	0.879
Self-esteem	37	0.926
Affect	41	0.828

The Cronbach's alpha for Role performance and Self-esteem were slightly above 0.9 and could still be interpreted as acceptable items in terms of internal consistency. The alpha index of 0.998 for Lifeskills is however alarming as this high correlation with other items could suggest that other items are already measuring the same construct.

A small number of items per domain (three or less) could usually produce moderate to low alphas (Spiliotopoulou 2009). In this study two of the domains contained only three items; Balanced lifestyle and Affect, yet they did not yield low alphas. Internal consistency in measuring instruments can occur despite small sample sizes.

Small sample sizes could on the other hand provide large reliability coefficients and could be an explanation for the high Cronbach's alphas in this study. Lifeskills with its Cronbach's alpha coefficient of 0.998 is an example of this.

5.4.1.6 SENSITIVITY

Those outcome scores of mental health care users who were subjected to both a base-line and final assessment were statistically analysed to determine the instrument's sensitivity to detect changes that could be attributed to the intervention. A data set of 31 subjects was available. This data set was tested for normality and was found to be normally distributed. The t-test for paired observations was used. A paired observation was defined as the final score minus the base-line score. Because the measurements were paired, one would expect a high correlation between the two observations. Table 5.15 depicts the correlations between the base-line and final score. Highly significant correlations were confirmed for all eight domains with p values below 0.0001.

Table 5.15 Paired sample correlations between base-line and final score. (***) $p < 0.0001$

	Paired observations	N	Correlation	Significance
Pair 1	Process_fin & Process_base	31	.786	.000***
Pair 2	Comm_fin & Comm_base	31	.809	.000***
Pair 3	Life_fin & Life_base	31	.851	.000***
Pair 4	Role_fin & Role_base	31	.852	.000***
Pair 5	Balance_fin & Balance_base	31	.784	.000***
Pair 6	Motivat_fin & Motivat_base	31	.797	.000***
Pair 7	Self_fin & Self_base	31	.840	.000***
Pair 8	Affect_fin & Affect_base	31	.869	.000***

The results of the t-test as presented in Table 5.16 indicated highly significant changes in all the domains with the highest t-value in Motivation (4.586) and the lowest in Communication/Interaction skills (2.927).

Table 5.16 The t-test results and effect size of 31 paired observations (final and base-line scores).
(*** $p < 0.0001$; ** $p < 0.001$)

Domain	Mean difference	Standard deviation	Effect size	t-distribution	Level of significance
Process skills	1.126	1.436	0.783	4.363	.000***
Comm/Interaction skills	.780	1.484	0.526	2.927	.006**
Lifeskills	.776	1.330	0.583	3.248	.003**
Role Performance	.944	1.491	0.632	3.523	.001**
Balanced Lifestyle	1.183	1.666	0.710	3.952	.000*
Motivation	1.252	1.520	0.823	4.586	.000*
Self-esteem	.983	1.587	0.620	3.450	.002*
Affect	1.086	1.417	0.767	4.268	.000*

A greater mean difference reflected more sensitivity to detect change after intervention. For the purposes of the current study, effect in a positive direction was viewed as positive and as supportive of detection of change. Detection of change supported the assumption that the outcome measure was sensitive in this regard.

The effect size was calculated using Cohen's difference where the mean difference was divided by the standard deviation. An effect size of 0.1 is interpreted as a small effect, 0.3 as a medium effect and 0.5 as a large effect. Estimating effect size was a statistical interpretation that required underpinning by clinical relevance. Table 5.16 illustrates the effect size for each domain of a sample of 31 subjects.

The final scores were consistently higher than the base-line scores (hence the positive mean differences) which reflected change in the desired direction. Motivation revealed the highest effect size (0.823), followed by Process skills (0.783), Affect (0.767) and Balanced lifestyle (0.710). The mean differences for all the domains were all highly statistically significant ($p, 0.0001$), indicating that the APOM was sensitive to detecting change.

Speculations why these domains revealed the best change could be that the intervention programmes were best tailored to improve these domains. However, interpretation of effect size of the APOM is premature at this early stage of the study. Effect size could be used to compare effect

sizes with similar services that also measure their outcomes with the APOM. Only when more sets of data become available, meaningful interpretations and comparisons will be possible. It is important to take cognisance of the sample size of each data set when comparisons are done since the standard deviation is influenced by the sample size. The smaller the sample size, the smaller the standard deviation, resulting in a smaller denominator when calculating effect size and thus inflating the effect size. It is advised to calculate effect size for sample sizes between 30 and 35 as this will give a reliable standard deviation.

5.4.2 CLINICAL UTILITY

While clinicians and the researcher rated mental health care users' activity participation by means of the APOM, the feasibility of the instrument was evaluated at the same time.

Clinicians understood the process of applying the APOM and did not experience noteworthy problems in completing the summary sheet containing demographic and medical information of the mental health care users. They found this information useful and necessary to record for each patient. The benefits of having this information in an electronic format were that they had their own database of patients and did not have to access the hospital's electronic management system which was not operating consistently and often unavailable for weeks. The drawbacks were that there computers were not reliable at all times and could also lose the valuable data. Therapists were advised to make regular backups to prevent losing data.

The rating scale with its 52 items was somewhat overwhelming for clinicians with little experience in the use of the Model of Creative Ability. It took them much longer to read through the descriptions than the experienced clinicians. It was also noted that experienced clinicians soon had an estimation of the patient's level of creative ability and will then focus on that specific level and the level below and above, but would not read all six levels of item descriptions. This initial estimation of a patient's level thus saved much time in reading and deciding which description fits their patient best.

There were items that clinicians were hesitant in rating a mental health care user on a specific level namely the Attitude toward self under the domain of Self-esteem and the first two items under information exchange of the Communication and Interaction skills domain. After discussing the performance of the patient with the researcher, they were able to make a firm decision. These discussions occurred with clinicians who were newly qualified. Some of the more experienced clinicians suggested changes in the descriptions of certain items. These changes were only made if

other clinicians agreed to the suggested change. Clinicians often commented on the accurate descriptions for many of the items, indicating that they were consistent with the observations in the clinical setting.

It took a newly qualified clinician approximately 45 minutes to complete all 52 items of the APOM while it took an experienced clinician 10 – 15 minutes to do so. Clinicians found the report that was automatically generated in Excell as helpful. Some reported that it was actually time-saving. The spider graph that was generated automatically was helpful, especially in team discussions about the progress of mental health care users.

Despite the obvious advantages of using the APOM, some clinicians still complained that they did not have time to complete the outcome measurements for their clients. These findings were similar to the findings of Colquhoun et al. (2010), Bowman (2006) and Chard (2000) that clinicians do not have time to complete outcome measures. Those clinicians who did find time to use the APOM routinely, continued to assess their patients after the data collection for this study ended. They found the visual illustration of the performance of the patients in the form of the spider graph extremely helpful in motivating for discharge or extended length of stay for their clients. These clinicians also reported that clients benefitted from the visual illustration and were often more motivated to attend occupational therapy.

5.5 CONCLUDING REMARKS

The results that were discussed in this chapter described the developmental process of the outcome measure, its eight domains and their constituent items. The rating scale, in practice known as the Activity Participation Outcome Measure, was based on the Model of Creative Ability. The new outcome measure was piloted in several mental health care settings. Assessment of the APOM's psychometric properties generally yielded positive results. Sample sizes for estimating the validity and reliability of aspects of the outcome measure, however, were not always optimal and require further data collection and analysis in search of supportive or even convincing evidence.