



CHAPTER 1

ORIENTATION AND INTRODUCTION

1.1. Introduction

This chapter provides an overview of the reasons for conducting the current research and includes an outline of the content of each chapter, as well as a list of the terminology used throughout this thesis.

1.2. Problem Statement and Rationale

Self-efficacy has been described as a person's belief in his or her ability to successfully complete actions relating to any given domain (Bandura, 1995). Research indicates that self-efficacy beliefs impact on future behaviour and thus create the opportunity for behavioural change (Haidt & Rodin, 1999). Self-efficacy acts as one of the most powerful predictors of future success, as it not only plays a part in the goals a person sets and which activities that person becomes involved in, but also influences the coping strategies the person will adopt under difficult circumstances. There are four primary sources that contribute towards the development of self-efficacy judgements. The most influential of these sources is personal success experiences (also called performance experiences). Current self-efficacy levels can also be altered by observing successful actions in others (vicarious experience) or by using imagery experience to imagine successful outcomes before completing the action. Finally, a person's own level of emotional arousal and well as verbal persuasion by others also possess the potential to alter current levels of self-efficacy (Bandura, 1982). The recognition and attribution of successful experiences therefore plays an important role in developing self-efficacy. As a result, people who have higher levels of self-efficacy in a given domain will think, feel and act differently from those who perceive themselves as less efficacious. For this reason, researchers have measured the impact of self-efficacy on performance in a variety of different domains (Bandura, 1989). Parenting abilities represent one such domain.

Parenting self-efficacy can be defined as judgements that a parent holds regarding his/her ability to successfully complete tasks related to parenting a child (de Montigny & Lacharité 2005). Making parents believe in their own ability to raise and support their children

throughout life can be regarded as one of the cornerstones of adaptive parenting. Improving parenting competence will not only lead to better parent and family outcomes, but also better developmental outcomes for the child. The field of early childhood intervention acknowledges the interdependence between the individual and his or her context. This premise concurs with the understanding of change as proposed by proponents of the systems theory. The primary aim of intervention can therefore be stated as the need to promote positive adaptation by directing change within the different levels of the family ecology (Bornman & Granlund, 2007; Mahoney & Bergman, 2002). As a result interventions designed to make positive changes to child development by focusing on parental functioning have, in recent years, become a major focus of early intervention programmes. Assisting parents to increase their feelings of competence, however, remains a complex process. Through the process of empowerment, parents develop an awareness of their own parenting strengths and weaknesses, as well as an awareness of the way their actions contribute towards changing the family's environment (Arai, 1997). Improved competence in the parenting domain as a result of a heightened awareness of parenting strengths and weaknesses, increases parent's ability to influence the support and resources in their environment. This, in turn, promotes change in a positive direction. Due to the positive relationship between self-efficacy and a sense of competence, such intervention programmes may benefit by incorporating self-efficacy as an integral component of intervention (Teti, O'Connell & Reiner, 1996).

Research conducted in the last two decades supports the opinion that parenting self-efficacy impacts on different levels in the family ecology. Not only does parenting self-efficacy impact on other parental factors, such as stress and coping (Donovan, Leavitt & Walsh, 1990; Teti, et al., 1996; Wells-Parker, Miller, & Topping, 1990) but a relationship also exists between levels of self-efficacy and child characteristics such as behaviour problems and the presence of childhood disability (Hastings & Brown, 2002; Johnston & Mash, 1989; Mash & Johnston, 1983). Self-efficacy beliefs also impact on broader social and environmental variables such as social support (Coleman & Karraker, 1998; Cutrona & Troutman, 1986). Finally intervention aimed at improving self-efficacy may mediate the relationships between each of these ecological levels (Sanders & Woolley, 2005; Tucker, Gross, Fogg, Delaney & Lapporte, 1998).

Parenting self-efficacy is typically assessed through self-report measures (Jones & Prinz, 2005). Coleman and Karraker (2000) identified three distinct self-report formulations used in

the literature to measure parenting self-efficacy. The first, a domain-specific measure of self-efficacy, sums the scores across a variety of parenting sub-domains in order to ascertain the level of parenting self-efficacy. Some authors also refer to measures at this level as task-specific. The second formulation, termed domain-general, focuses on obtaining an overall measure of self-efficacy within the parenting domain without being linked to particular parenting sub-domains. The final formulation, namely general self-efficacy, views self-efficacy as a relatively stable belief with application and relevance across diverse domains (Scherer & Adams, 1983). When reviewing the research on parenting self-efficacy, domain-specific and domain-general measures appear to be the most favoured formulation. Some criticisms exist which relate to the current measures used to assess levels of parenting self-efficacy (Coleman & Karraker, 2000).

The fact that a systematic taxonomy for describing parenting self-efficacy measuring instruments does not exist can be seen as one of these criticisms of the existing parenting self-efficacy measures (Jones & Prinz, 2005). This implies that theoretical consensus regarding terminology and definitions of formulations of parenting self-efficacy measures does not exist. While several valid domain-specific and domain-general measures have been developed, no clear definition of task-specific measures has been agreed upon. In addition, the field lacks a clear distinction between the task-specific and domain-specific formulation of parenting self-efficacy measures. Certain authors suggest that task-specific measures might be more sensitive to ascertaining differing levels of self-efficacy compared to single-domain measures such as domain-specific or domain-general measures (Guimond, Wilcox & Lamorey, 2008).

Three pertinent criticisms regarding the development of valid measures to assess parenting self-efficacy are worth noting. The first criticism relates to the validation of the existing measures, as not all of the existing measures adhere to the development criteria postulated by Bandura (1997). The second criticism relates to the construction and validation of the individual scale items. Bandura (1997) states that measurement of self-efficacy must be firmly grounded in the individual's functioning in a specific domain and should also include gradations of a challenge, in order to accurately ascertain the level of self-efficacy. It would appear as if measures designed according to the task-specific formulation may be more likely to meet these criteria than other single-domain formulations. Finally many of the scales that broadly meet the development criteria set out by Bandura do not possess sufficient evidence

of validity. It remains difficult to further advance the concept of parenting self-efficacy due to the challenges in its measurement.

As a result of the paucity of validated task-specific measures of parenting self-efficacy, this research will aim to develop and validate a task-specific measure of parenting self-efficacy for mothers of young children. This measure will be based on available theoretical knowledge and validated against existing measures. This can be seen as an essential subsequent step in furthering our understanding of the formulations best used to understand the concept of parenting self-efficacy.

1.3. Chapter Outlines

Chapter 1 introduces the study and presents an outline of each chapter. This chapter also provides an explanation of important terms and abbreviations used in the study. *Chapter 2* provides a detailed discussion of the theoretical background for this study. This chapter discusses the definition of self-efficacy and factors contributing towards the development, maintenance and modification of these beliefs. The chapter also highlights issues in the literature regarding the measurement of the construct and emphasises the theoretical issues relating to the construction and validation of measures evaluating parenting self-efficacy. *Chapter 3* outlines the methodology and procedures of this research study. This chapter discusses the aims, design, participants, material development and data collection procedures of the current study. The pilot study results and recommendations are also presented in table format. *Chapter 4* presents the results of this research study. This chapter presents and discusses the results according to the sub-aims formulated in Chapter 1. The validity of the measure is established and the results from the sample population are analysed. *Chapter 5* offers a critical review of the results and presents the strengths and limitations of the current study. This chapter concludes with recommendations for future research.

1.4. Definition of Terms

Competence

“Competence can generally be understood as knowledge times experience times power of judgment. Knowledge is the necessary foundation of competence, and experience is the habitual ways one deals with acquired and continuously changing knowledge. Power of

judgment is a criterion for the independence of knowledge and its use. Thus, competence is always more than just knowledge or just experience” (BMBF, 1998, p.10). For the purpose of this study competence is therefore defined as “a generative capability in which component skills must be selected and organized into integrated courses of action to manage changing task demands” (Bandura & Schunk, 1981, p. 587).

Content validity

Content validity involves determining whether the content of the measure covers a representative sample of the behaviour domain to be measured (Woolfaardt & Roodt, 2005, p. 32).

Convergent validity

Convergent validity can be viewed a form of construct validity. According to Woolfaardt and Roodt (2005, p. 36) “a measure demonstrates construct validity when it correlates highly with other variables with which it should theoretically correlate”.

Differential validity

Differential validity can be defined as the ability of a measure to differentiate or distinguish between characteristics of individuals, groups or organizations (Woolfaardt & Roodt, 2005, p. 36). In the development of this measure of parenting self-efficacy, two different groups of mothers who were expected to have different levels of parenting self-efficacy were used in order to demonstrate differential validity. The two distinct groups consisted of mothers of typically developing young children and mothers of children with disabilities.

Domain-general self-efficacy measures

Domain-general measures of self-efficacy focus on obtaining an overview measure of self-efficacy within a domain, without using discrete parenting tasks or sub-domains specified as belonging to the parenting domain (Coleman & Karraker, 2000).

Domain-specific self-efficacy measures

Domain-specific measures of self-efficacy sum the results obtained across a number specific tasks within a targeted domain. Domain-specific self-efficacy measures therefore involve “combining task-specific measures of self-efficacy into a single measure of self-efficacy within a broader domain of parenting” (Coleman & Karraker, 2000, p. 13).



Face validity

This refers to whether or not the test appears to measure what it is intended to measure. As such, it is not evidence of validity in psychometric terms, but it remains “a desirable characteristic for a measure” (Woolfaardt & Roodt, 2005, p. 32). In this study, a panel of subject matter experts was used to determine the face validity of the measure.

Global self-efficacy

Global self-efficacy can be seen as a relatively stable belief with application and relevance across diverse domains (Shelton, 1990). Also referred to as general self-efficacy, global self-efficacy differs from specific self-efficacy in the sense that it is the belief in one’s competence to tackle novel tasks and to cope with adversity in a broad range of stressful or challenging encounters, as opposed to beliefs which are constrained to a particular task at hand (Luszczynska, Gutiérrez-Doña, & Schwarzer, 2005).

Operationalization

“Operationalization is the process of delineating how a concept will be measured” (Waltz, Strickland & Lenz, 2005, p. 23). It involves identifying the dimensions of the concepts as well as determining the indicators which will be used to observe or measure the concept.

Parenting self-efficacy

In this study parenting self-efficacy can be defined as “beliefs or judgements a parent holds of their capabilities to organize and execute a set of tasks related to parenting a child” (de Montigny & Lacharité, 2005, p. 390). This study focuses on parenting of young children, as this is the stage where children are rapidly acquiring new competencies and parents themselves may be learning new skills. Adaptive parenting hinges on parents acquiring skills and competence at this stage of parenting therefore interventions that appear to be most effective are those which “start early and are comprehensive, utilizing a systems approach” (Osofsky & Thompson, 2005, p. 69).

Self-efficacy

This study defines self-efficacy as “people’s judgements of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned

not with the skills one has but with judgements of what one can do with whatever skills one possesses” (Bandura, 1986, p. 391).

Task-specific self-efficacy measures

No clear definition exists in the literature for task-specific measures of self-efficacy however Coleman and Karraker (2000) define task-specific parenting measures as measures which capture parental perception of self-efficacy for specified tasks within the parenting domain. It would therefore appear that precise judgments of capability must be matched to a specific outcome as these are typically the kind of judgments that individuals use when confronted with behavioural tasks (Bandura, 1986). To this end, self-efficacy judgments should be consistent with and tailored to the domain of functioning and/or task under investigation which would occur in a task-specific self-efficacy measure.

Validation

Validation is the process of establishing validity. Validity can be defined as “the degree to which scientific explanations of phenomena match the realities of the world” (McMillan & Schumacher, 2001, p. 603). This thesis explores validity within the conceptual, methodological and substantive domains as proposed by Brinberg & McGrath (1982). For the purpose of this dissertation, face and content validity are seen as elements of conceptual validity, while content and convergent validity are seen as elements of the methodological domains. Differential validity is seen as pertaining to the substantive domain.

1.5. Abbreviations

GSE	General self-efficacy scale (the global self-efficacy measure used in this study) (Schwarzer & Jerusalem, 1995)
PMP-S-E	Perceived maternal parenting self-efficacy tool (Barnes & Adamson-Macedo, 2007)
PSA	Parenting self-agency measure (Dumka, Stoerzinger, Jackson, & Roosa, 1996)
P-SEMI	Parenting self-efficacy measuring instrument (the measure under construction in this study)
PSI	Parenting stress index – with specific reference to the parenting domain (Abidin, 1986)



PSOC	Parenting sense of competence scale (the domain-general parenting self-efficacy measure used in this study) (Gibaud-Wallston & Wandersman, 1977; 1978)
SEPTI	Self-efficacy for parenting task index (school-aged children's scale) (Coleman & Karraker, 2000)
SEPTI-TS	Self-efficacy for parenting task index (toddler scale) (Coleman & Karraker, 2003)
SES	Parenting subscale of self-efficacy scale (Wells-Parker, Miller & Topping, 1990)
S-ES	Self-efficacy scale (Scherer et al., 1983)
TOPSE	Tool to measure parenting self-efficacy (Kendall & Bloomfield, 2005; 2007)

1.6. Summary

This chapter provides the rationale and justification for the current study. This chapter presents definitions frequently used in the study and briefly outlines the structure and content of each chapter in this dissertation.

CHAPTER 2

A THEORETICAL ANALYSIS OF THE DEVELOPMENT AND MEASUREMENT OF PARENTING SELF-EFFICACY

2.1. Introduction

This chapter introduces the theoretical framework and principles which shaped the research question and design. It includes an explanation of the development and measurement of self-efficacy beliefs. This chapter highlights the value of parenting self-efficacy as a tool to increase parental competence and explores the current challenges in measuring parenting self-efficacy. The current usage of terminology is examined and evaluated in terms of its clarity.

2.2. A Description of Self-Efficacy Beliefs

Self-efficacy has been defined as “beliefs in one’s capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands” (Bandura & Wood, 1989, p. 408). Although strict behaviourists would like to propose that behaviour is a conditioned response and shaped by its effects, researchers in the field of social cognitive psychology state that the focus of regulation should not be located exclusively in the environment (Neisser, 1967). Cognitive theory postulates that behaviour, cognitions and the environment all influence each other in a dynamic fashion (Bandura, 1986). Early cognitive psychologists argued that traditional behaviourist explanations for behaviours were inadequate because they ignored how people think and problem solve (Neisser, 1967; Newell & Simon, 1972). Cognitive-behavioural psychologists believe that regulatory control of behaviour lies within the individual, thus cognitive processes play a prominent role in the acquisition and retention of new behaviour patterns, as well as the modification of existing patterns (Bandura, 1977).

According to Bandura (1978) personal and environmental factors do not function as independent determinants of behaviour. In his reciprocal determinism model Bandura addresses the interaction between how we think and how we act (Bandura, 1986). He states that psychological functioning involves a continuous reciprocal interaction between behaviour, cognition and environment. It is Bandura’s belief that it is through one’s actions



that people produce environmental conditions that affect their behaviour and this relationship is reciprocal in nature (Bandura, 1986). It is within this framework that the concept of self-efficacy has developed. Maddux (2002) emphasizes this point when stating that self-efficacy is best understood from a framework of social cognitive theory, which is grounded in the assumption that we are actively able to shape our environment, rather than being passive reactors to it. One of the primary underpinnings of social cognitive theory is that individuals respond cognitively, emotionally and behaviourally to environmental events. Maddux (2002, p. 279) states that these perceptions “are socially embedded, [therefore] personality and self are not simply what we bring to our interaction with others, they are created in these interactions, and they change through these interactions.” It is the human capacity to engage in reflective thought which allows them to create future courses of action, and predict outcomes (Bandura, 1978; Maddux, 2002). Efficacy beliefs mediate behaviour and competence through four primary processes, namely cognitive processes, motivational processes, affective processes and selection processes. This is possible because human beings are capable of vicarious learning, forethought (planning courses of action), self-regulation and self-reflection (Bandura, 1994). Behaviour is therefore modified based on the comparative information gained through self-reflection and this is then used to master desired competencies in certain contexts (Bandura, 2005). These self-observational and self-reflective activities set the stage for reflecting on our own behaviour (Alden, 1986).

Bandura encapsulates this within his theoretical model, in which he proposes that events, and our reactions to them, have the potential to alter the level and strength of self-efficacy and this, in turn, impacts on future behaviour, which ultimately determines performance and advances change. The use of past knowledge and experiences to guide beliefs and expectancies about future interactions and events is a key component of personal agency and therefore integral to social cognitive theory. Thus behaviour, internal personal factors, and environmental influences operate as transactional determinants of each other. This implies that individuals are able to choose goals; choose environments in which to achieve these goals and monitor their own behaviour in pursuit of these goals. The origin of self-efficacy theory therefore lies in attempting to account for change in performance or behaviour (Schwarzer, 1992).

However, the process of self-efficacy is not simply a mechanical audit of one's performances (Bandura, 1986). For change to occur, a set of internal sub-functions relating to self-monitoring must be invoked. The primary three processes are self-observation; judgmental process and self-reaction respectively, which are presented in Figure 2.1. Each component contributes to the processing of the behaviour. According to Bandura (1986), not only does self-observation provide the information necessary for setting realistic performance standards, but it can also set in motion a process of corrective change. Self-observation alone, however, provides little information on which to base a reaction. The process of making meaning of the performance (against personal and other important referential standards), provides a basis on which a reaction is formed. This occurs during the second set of processes. These judgemental processes filter the performance and form the basis against which the performance will be regarded as successful or unsuccessful. This filter is influenced by cultural norms and values, as well as the social context in which the action occurs (Bandura, 1986). The final component of self-monitoring, namely self-reaction, involves a reaction to one's behaviour, depending on how it compares to internal judgements and standards. Thus, individuals pursue courses of action that produce positive self-reactions and refrain from behaving in ways that result in self-censure (Bandura, 1986).

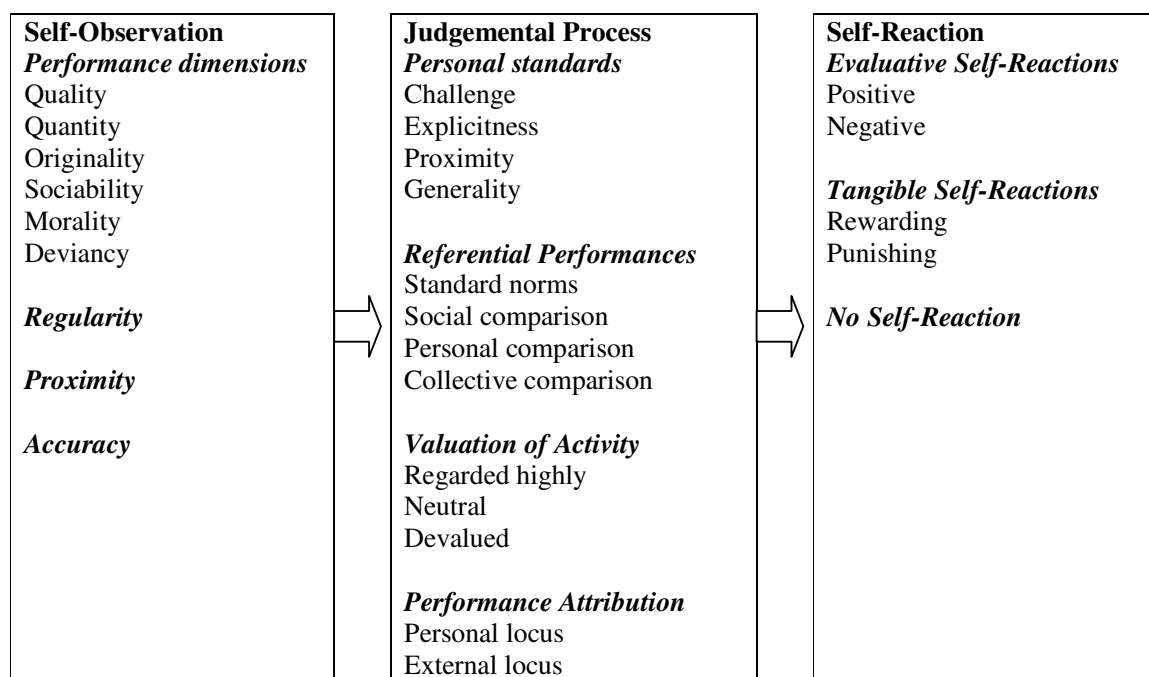


Figure 2.1. Sub-processes involved in the self-generation of behaviour by internal standards and incentives (Bandura, 1986).

An individual's reactions to events in his or her current environment potentially alters the level and strength of their self-efficacy beliefs and this, in turn, impacts on future behaviour, thus creating the opportunity for change to occur. Therefore self-efficacy is one of the most powerful predictors of an individual's success as it plays a part in the goals a person sets; which activities the person engages in and the coping strategies he or she will adopt under difficult circumstances.

A review of the literature highlights the following factors as contributing towards the development of self-efficacy namely, performance experience, vicarious experience, verbal persuasion, emotional arousal and imagery experience (Bandura, 1997; de Montigny & Lacharité 2005; Maddux, 2002; Steyn & Mynhardt, 2007). Bandura (1977) originally postulated that four factors influence the growth of an individual's personal efficacy beliefs, namely, vicarious experience (watching others achieve outcomes); direct experience or enactive learning; verbal persuasion from others; and emotional arousal experienced in a situation, such as fear. Maddux (2002), however, added a fifth factor, namely imagery experience. According to Bandura (1986) and Steyn and Mynhardt (2007), self-efficacy beliefs grounded on direct experiences are stronger and less susceptible to change brought about by the other three factors. As such, mastery experiences are pivotal for the maintenance of self-efficacy beliefs, as they form the basis against which performances are judged. Vicarious learning (or watching others achieving success), as well as imaginal experiences (imagining successful outcomes) have also been used successfully to alter self-efficacy beliefs across a wide set of behaviours (Gross, Conrad, Fogg, & Wothke, 1994; Tucker et al., 1998; Wolfson, Lacks, & Futterman, 1992). It is thus possible to use direct, vicarious or imaginal experiences to actively facilitate a change in outcome as well as to alter perceived self-efficacy levels within that domain.

Since self-efficacy beliefs can be improved, it is important to discuss the three dimensions of efficacy expectations in which change is most likely to occur, namely magnitude, generality and strength, as this has important implications for evaluating and measuring performance (Bandura, 1977). Magnitude is used to describe the level of self-efficacy and is linked to the level of difficulty of a task that the person believes he or she is able to accomplish successfully. Generality refers to the quality of self-efficacy that renders an individual able to transfer beliefs of competence obtained under one set of circumstances to activities that are substantially different. Some experiences instil a specific sense of mastery, whereas other

experiences substantially alter one's mastery beliefs over a broader range of activities and settings. Strength of self-efficacy beliefs denotes stability in that weak beliefs may easily be altered, in the presence of negative experiences, whereas strong beliefs of competence will not easily be swayed. An understanding of these three characteristics of self-efficacy allows for a clearer picture of the transactional relationship between experiences and performance.

It can therefore be said that self-efficacy influences action, behaviour and coping responses in a variety of situations and contexts. Haidt and Rodin (1999) state that self-efficacy beliefs are among the best predictors of success and performance in many contexts. It is therefore clear that knowledge, competence and self-efficacy act in tandem to provide adequate explanations of behaviour. It is, however, important to caution that human behaviour is influenced by numerous factors and in order to attempt to predict or change behaviour a thorough understanding of the interaction among the determinants is required (Pajares, 1997). Before attempting to predict or change behaviour a thorough understanding of the interaction among the determinants is therefore required (Pajares, 1997). There remains sufficient evidence however, that self-efficacy beliefs foster positive well-being and human accomplishments. People who have higher beliefs of self-efficacy in a given domain will think, feel and act differently from those who perceive themselves as less efficacious (Bandura, 1989). As a result, self-efficacy has been investigated across a variety of domains, one of which is parenting.

2.3. The Role of Self-Efficacy in Family-Centred Early Intervention Programmes

Improving parents' feelings of competence and increasing their belief in their own abilities to raise and support their children throughout life can be regarded as one of the cornerstones of positive parenting. According to Kamerman (2001), one of the major foci of early intervention programmes is on educating and assisting parents to become more successful in their childrearing role. Adaptive parenting is not only seen as a resilience factor (Osofsky & Thompson, 2000), but also a factor that can influence a family's environmental ecology. It is acknowledged that adaptive parenting will not only lead to more positive parent outcomes but also to more positive child outcomes. This emphasis on the interdependence between the individual and his or her context is one of the premises on which the field of early childhood intervention is based and is consistent with a systems theory of change. The aim of intervention is thus to promote positive adaptation by directing change within the different

levels of the family ecology (Bornman & Granlund, 2007; Mahoney & Bergman, 1992). As a result, interventions which are designed to make positive changes to child development by focusing on parental functioning have become a major focus of early childhood intervention programmes in recent years. Assisting parents to increase their feeling of competence is, however, a complex process.

Competence can be defined as “a generative capability in which component skills must be selected and organized into integrated courses of action to manage changing task demands” (Bandura & Schunk, 1981, p. 587). From the definition it is apparent that developing parenting competence is a complex process that requires not only an understanding of the way parents relate to other members in the family’s ecology, but also implies an ability to go beyond mere evaluation of parenting skills and move towards understanding how one’s own strengths and weaknesses impact on the broader environment. It is therefore important for parents to develop a belief in their own abilities to cope as parents. The concept of empowering parents refers to the process of assisting parents to “affect the behaviour, thoughts, physical well being and/or feelings of another” (Turnbull, Turbiville & Turnbull, 2005, p. 631). According to Arai (1997) empowerment is a process which involves positive changes in the individual’s psychological well-being through the pursuit of positive experiences in whatever domain is applicable. This implies that parents are able to identify their own strengths and weakness in coping with raising children. The four phases of empowerment as described by Arai (1997), describe an individual’s movement from passive awareness through to active engagement with society and commitment to change. Stage 1 indicates an awareness of situation; stage 2 is characterized by connecting and learning from individuals in the environment; stage 3 involves mobilization of resources and implies action towards change and stage 4 involves contribution towards society. Throughout these stages of empowerment the individual is encouraged by supports in the environment to take action to bring about change.

According to Bandura, (1995) the ability to use past knowledge and experiences to guide beliefs and expectancies about future interactions and events is an important element in determining self-efficacy beliefs. This ultimately determines performance and advances positive change. This account of change in performance or behaviour forms the foundation on which the self-efficacy theory was developed. Self-efficacy influences action, behaviour and coping responses. Bandura in 1977 (p. 191), states “cognitive events are induced and altered

most readily by experience of mastery arising from effective performance.” This implies that individuals are able to choose goals and regulate their own behaviour in pursuit of these goals. In terms of empowerment, as discussed by Arai (1997), an increase in self-esteem, sense of control as well as increased feelings of competence are reported as desired outcomes very early in the empowerment process (from stage 2 onwards). It is clear that an individual cannot have an increased sense of control without an accompanying increase in self-awareness. It is however, also evident that the ability to self-evaluate and monitor ones own performance and coping ability clearly falls into the more advanced stages of the empowerment process.

Parenting self-efficacy is the belief a parent holds of his or her capability to organize and execute parenting tasks; thus self-efficacy can be seen as one of the mechanisms through which empowerment can be developed. It is possible to improve feelings of competence by addressing parenting self-efficacy as a component of family-centred intervention programme. Consequently, parenting self-efficacy can be defined as “beliefs or judgements a parent holds of their capabilities to organize and execute a set of tasks related to parenting a child” (de Montigny & Lacharité 2005, p. 390). Improved competence in the parenting domain results in a heightened awareness of parenting strengths and weaknesses, as well as an increase in ability to manage and influence the support and resources in the environment. This, in turn, promotes change in a positive direction. Due to the positive relationship between self-efficacy and a sense of competence, early childhood intervention programmes may benefit by incorporating self-efficacy as an integral component of intervention. It would therefore appear as if the ability to engage in the process of self-reflection and self-monitoring is a key component of both self-efficacy judgements and the empowerment process, and is therefore a fundamental component of any family-centred intervention programme. It is for this reason that self-efficacy should be an integral component of any family-centred early childhood intervention programme. Therefore educating parents by increasing their competence and knowledge of the resources they require in order to facilitate their own competence forms an integral part of the intervention process, and one which is pivotal to ensuring family resilience (Kaiser & Hancock, 2003). Adaptive parenting hinges on parents acquiring skills and competence at an early stage of parenting and as a result the most effective interventions appear to be those which “start early and are comprehensive, utilizing a systems approach” (Osofsky & Thompson, 2005, p. 69). Therefore many studies describing the impact of parenting self-efficacy on parenting competence have focussed on parents of young children.

2.4. Current Evidence Describing the Impact of Parenting Self-Efficacy on Adaptive Parenting

In the previous two decades, considerable research has investigated the role of parenting self-efficacy on the family ecology. Research evidence supports the opinion that parenting self-efficacy impacts on different levels in the family ecology. In the microsystem, self-efficacy impacts on other personal factors. It would appear as if higher levels of parenting self-efficacy are associated with higher levels of parental satisfaction and lower levels of parental depression. It also affects other factors such as perception of stress and the use of coping strategies parents use to mitigate stress (Donovan, et al., 1990; Teti et al., 1996; Wells-Parker, et al., 1990).

Still within the level of the microsystem, a relationship also exists between levels of self-efficacy and child characteristics such as behaviour problems and the presence of childhood disability (Hastings & Brown, 2002; Johnston & Mash, 1989; Mash & Johnston, 1983). Various studies (Coleman & Karraker, 1998; Scheel & Rieckmann, 1998; Teti & Gelfand, 1991; Wells-Parker, et al., 1990) have investigated the role of self-efficacy in relation to predicting parenting practices, as well as the mediating role that self-efficacy plays in relation to perceived child temperament, parent-child interaction and bonding. There is, however, sufficient literature to suggest that parents of children and infants with disabilities or at-risk children do find certain aspects of care-giving more challenging when compared to parents of typically developing children (Barnes & Adamson-Macedo 2007; Kendall & Bloomfield, 2005; Hastings & Brown, 2002; Pit-ten Cate, Kenedy, & Stevenson, 2002; Scheel & Rieckmann, 1998). Hastings and Brown (2002) investigated parenting self-efficacy levels among parents of children diagnosed with autism. This data revealed strong relationships between children's behaviour problems and mothers' anxiety and stress. For mothers, self-efficacy acted as a mediator between these two variables, but not for fathers. This data therefore revealed that self-efficacy has a different effect on parental behaviour depending on parental gender. Mash and Johnston (1983) report a high correlation between mothers' perception of child behaviour problems and parenting stress. They suggest that having a child with a disability creates on-going stress for parents, which may negatively influence their self-efficacy. Results from their study indicate that parents of children with behaviour problems perceive themselves as significantly less skilled and knowledgeable in their roles as parents, and derived less value and comfort from their parenting roles, than the parents of typically developing children. Promoting self-efficacy is thus of value to early childhood intervention

professionals as it is hypothesized that an increase in levels of parenting self-efficacy has also led to decreased incidence of perception of child difficulty (Kendall & Bloomfield, 2007; Tucker, et al., 1998) and improved parenting practices.

Within the broader ecological level, i.e. the mesosystem, self-efficacy beliefs also impact on broader social and environmental variables such as access to social support (Coleman & Karraker, 1997; Cutrona & Troutman, 1986) and the length of time parents will persevere with early intervention (Scheel & Rieckmann, 1998; Tucker, et al, 1998). Teti and Gelfand (1991) investigated the link between self-efficacy and various aspects of maternal behaviour, including: depression, perception of child difficulty, as well as access to social-marital supports. The results obtained indicate that self-efficacy and maternal reports of competence were positively related. They stated that if maternal self-efficacy is controlled, neither maternal competence nor external support is significantly related to maternal behaviour. Finally, when looking at the relationship between the ecological levels is it clear that intervention aimed at improving self-efficacy may mediate the relationships between each of these ecological levels (Sanders & Woolley, 2005; Tucker et al., 1998). According to Jones and Prinz, (2005, p. 358) “the research literature involving parental self-efficacy is sufficiently complex in supporting to some degree all four of these roles, depending on the context.”

There have been some studies where insignificant correlations between maternal self-efficacy and child and parental outcomes are reported. Coleman (2003) investigated maternal efficacy as a predictor of parenting competence and toddler development. However, contrary to her hypothesis, self-efficacy did not fully predict parenting competence or child behaviour. The results did, however, indicate that domain-specific (i.e. parenting) self-efficacy beliefs do operate as a mediator between perception of toddler temperament and parenting stress and satisfaction. Hastings and Brown (2002) identified self-efficacy as an important variable in understanding relationships between child behaviour problems in children with autism and parental mental health outcomes. What this data does reveal is that judgements of self-efficacy have a different effect on outcomes depending on parental gender. Results for mothers indicated that self-efficacy functioned as a mediator of maternal perception of child behaviour problems and mothers’ mental health outcome. For fathers, however, self-efficacy was a moderating variable, in that it reduced the impact of child behaviour problems on anxiety only for those fathers dealing with the most difficult children.

The studies mentioned above highlight the fact that parenting self-efficacy could be affected by gender, perceived parental stress, and also perceived child behaviour problems and the presence of disability. In terms of parenting, this implies that interventionists need to assist parents to understand and develop realistic perceptions of their own ability to cope in specific contexts as a function of moving through the empowerment process. However, in order to guide parents towards becoming more active agents of change, appropriate and valid descriptive tools are necessary to assist interventionists and parents in understanding the role of self-efficacy in the intervention process. Within the field of self-efficacy, self report has been used successfully to establish how competent individuals feel with regards to certain self-efficacy domains. However, some criticisms and controversies exist with regard to the development and validation of these measuring instruments. The challenges pertaining to the development and validation of self-efficacy measures will now be discussed.

2.5. Development and Validation Challenges Related to Describing Parenting Self-Efficacy

The self-report survey instrument has been successfully applied in previous research as suitable method for determining parenting self-efficacy beliefs (see Coleman & Karraker 1998; de Montigny & Lacharité, 2005; and Jones & Prinz, 2005) for a review of self-efficacy and its measurement. Coleman and Karraker (1998) and Dumka *et al.*, (1996) have voiced concern regarding the conceptual clarity and validity of existing parenting self-efficacy measures. These two issues appear to be interlinked and the lack of conceptual consensus will, of necessity, impact negatively on the construction and development of the instruments themselves. Variability in operationalization of the concept of self-efficacy and the overlap between self-efficacy and related constructs appear to contribute to the lack of conceptual clarity (Coleman & Karraker, 2000; de Montigny & Lacharité, 2005; Jones & Prinz, 2005). It is evident that a systematic taxonomy for describing self-efficacy measuring instruments does not exist. Regarding the development and validation of parenting self-efficacy two pertinent points are worth discussing. The first is that not all the existing measures are constructed using the criteria postulated by Bandura (1997), and secondly, there is no evidence in the literature indicating that these scales have been sufficiently validated. It remains very difficult to describe and evaluate the concept of parenting self-efficacy and its measurement. Two

broad issues will be established, namely lack of conceptual clarity and insufficient evidence of validity for the established measures.

2.5.1. Issues relating to conceptual clarity within the parent self-efficacy domain

As previously stated, many concepts have been created and described in the psychology literature and related fields over the past 20 years, which approximate the concept of self-efficacy (de Montigny & Lacharité, 2005). The variability in the conceptualization of the parenting self-efficacy construct, and the overlap between related constructs may be one of the challenges relating to the assessment of parenting self-efficacy (Coleman & Karraker, 2000; Jones & Prinz, 2005). An additional obstacle to understanding and measuring self-efficacy is that a variety of assessment formulations have been used in the literature in an attempt to capture self-efficacy beliefs (Coleman & Karraker, 2000; Jones & Prinz, 2005). Coleman and Karraker (2000), describe four distinct formulations which have been used in the parenting self-efficacy literature. According to Coleman and Karraker (2000), the first two, namely task-specific and domain-specific measures of self-efficacy focus on specific tasks within a targeted domain. The third formulation is termed domain-general, and focuses on obtaining an overview measure of self-efficacy within a domain, without using sub-domains specified as belonging to the parenting domain. The final formulation is that of general or global self-efficacy in which self-efficacy is seen as a relatively stable belief with application and relevance across diverse domains (Scherer, et al., 1983). From a review of the literature it would appear that domain-specific and domain-general measures appear to be the formulations favoured by most researchers. There is, however, still no agreement as to which formulation of single-domain efficacy is the preferred option. In addition, an imprecise understanding of the relationship between the different formulations of single domain self-efficacy makes it difficult to compare and quantify these results in order to substantiate any such decision.

It is evident when scrutinizing the current classification of different self-efficacy measuring instruments by different authors that the same instrument may be classified differently in different citations. For example, Coleman and Karraker (2003) describe the SEPTI-TS as a task-specific measure as well as a domain-specific measure, while Jones and Prinz (2005) describe this same measure as being task-specific. However, in stark contrast to this, other authors do not include the SEPTI –TS at all when describing available task-specific measures

of parenting self-efficacy (de Montigny & La Charité, 2005). Moreover, the parental self-efficacy questionnaire (Kendall & Bloomfield, 2005), which contains items constructed in a very similar manner to the SEPTI-TS, has been described as domain-specific in the literature (Barnes & Adamson-Macedo, 2007) and not as a task-specific measure. The authors, themselves, do not state its formulation as either domain-specific or task-specific (Kendall & Bloomfield, 2005; Kendall & Bloomfield, 2007). From the above it is possible to deduce that sufficient empirical data is still lacking in order to clearly distinguish between the different formulations and the exact meaning of terminology.

The process of operationalization has been used here to obtain clarity on the nomenclature currently in use in order to evaluate the terminology in terms of its relevance. Operationalizing terminology follows a four stage process (Brink, 1999). In order to gain clarity, terminology must first be named, then defined, then categorized and finally sorted into a hierarchy or logical structure. Applying this process to the concept of self-efficacy it is evident that self-efficacy can be categorized into distinct levels namely:

- global or single-domain measures (in this case the single domain is parenting)
- within the single-domain measures (parenting self-efficacy measure) measures can be classified as either category specific (otherwise known as domain-specific in the literature) or category general (otherwise known as domain-general in the literature) (Coleman, 2000; de Montigny & Lacharite, 2005; Jones & Prinz, 2005).
- finally, there is an additional measure of single-domain self-efficacy namely the task-specific self-efficacy measures which appear to be the most recent formulation described in the literature.

Figure 2.2 highlights the common terminology currently used in the literature to describe self-efficacy measures. As can be seen in this figure, there are at least two distinct levels. It is evident that there is less clarity at the sub-ordinate level compared to the super-ordinate level, although terminology ambiguity exists at all levels. There is also partial evidence to suggest that the sub-ordinate level may be sub-divided further into additional level(s).

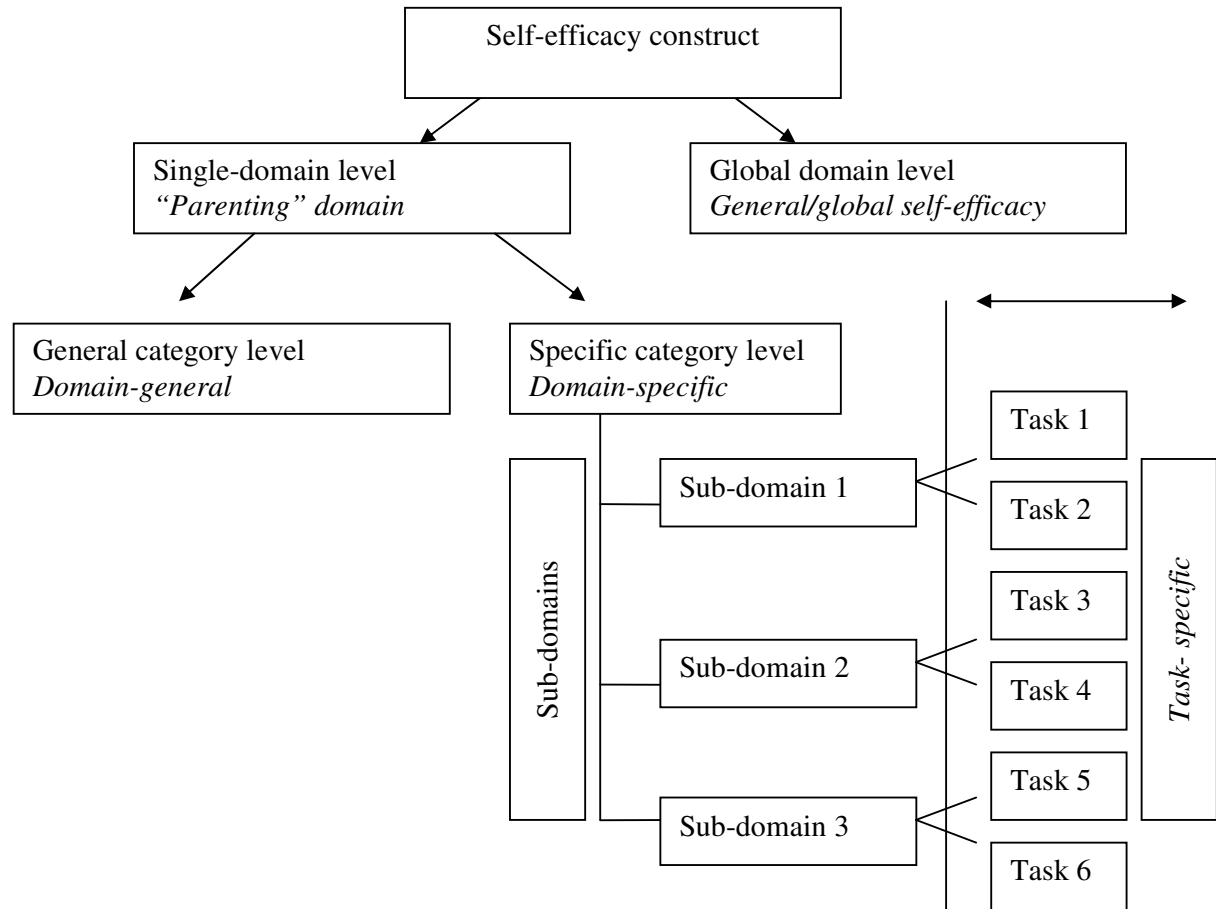


Figure 2.2 Operationalization of the self-efficacy construct within the parenting domain.

As multiple terms are assigned at each level, it is necessary to objectify the use of terminology in this study. The criteria, as stipulated by Lloyd and Fuller (1986), were used in order to evaluate the current terminology. They state that when evaluating terminology, the terminology must meet the following three criteria namely, terms:

1. must possess internal logic
2. must be parsimonious and limit possible ambiguity in meaning
3. must make linguistic and social sense, which implies that the terms must be compatible with usage of terms within other fields and in everyday use and they must possess clinical and educational relevance.

The current terminology in use is therefore evaluated against these criteria in order to substantiate the choice for using certain terminology throughout this study.

In evaluating the terminology used at each level the following conclusions can be drawn. The primary distinction self-efficacy measurement is the distinction between global measures and single-domain measures (see Figure 2.2). There is sufficient research to indicate that the distinction between global measures and single-domain measures is a valid distinction. Some authors indicate that moderate correlations, between global or general self-efficacy measure and domain-specific measures, are evident (Wang & Richarde, 1988) while others state that the global self-efficacy measures account for a percentage of the variance distinct from domain-specific measures when conducting statistical analyses of variance (Coleman & Karraker, 2000). It is therefore clear that these two terms are conceptually distinct and measurably different. Global measures and single-domain measures therefore appear to be a viable super-ordinate classification. This observation is supported by the fact that existing terminology is available from which to choose the terminology to refer to this level.

The first term in the dichotomy proposed at the super-ordinate level of self-efficacy measurement has been referred to in the literature as general self-efficacy or global self-efficacy (Shelton, 1990; Scherer, et. al, 1983; Wang & Richarde, 1988). The two terms appear to be synonymous. This term global self-efficacy displays internal logic, is unambiguous and is congruent with the term as it used every day and is preferred above the term general self-efficacy for the following reason. Although the term general self-efficacy possesses its own internal logic, the term may promote confusion (ambiguity) with the existing term allocated to a lower level of the taxonomy namely domain-general (the term domain-general is used to describe a particular type of single-domain measure and is therefore categorized as a subordinate level term). Thus the term global self-efficacy as opposed to general self-efficacy will be used in this study when referring to the super-ordinate level of parenting self-efficacy measurement.

The second term at the super-ordinate level should indicate measures that capture functioning within a particular domain. However, as no specific term is at present assigned to this level, it appears as if the domain is simply articulated, i.e. parenting self-efficacy (within a domain). Synonyms used for parenting include maternal or paternal, or parental self-efficacy. For classification and discussion purposes the term single-domain is to contrast single-domain [parenting] measures to measures which assess global self-efficacy.

A closer look at the descriptors present in the literature which pertain to the measurement of self-efficacy within a particular domain would seem to suggest an additional level (sub-ordinate level) under the super-ordinate level of global versus single-domain self-efficacy. The terms most commonly used to describe measures at the sub-ordinate level (i.e. those measures targeting self-efficacy within one particular domain) include domain-general, domain-specific and task-specific. It is clear that once working within a single domain multiple terms are assigned to this level. When reviewing the literature it is clear that at least two of these terms are conceptually distinct and that these three terms do not necessarily represent the same level. Therefore, the following distinction (proposed as level two of the classification) would in all likelihood be the distinction between domain-general and domain-specific measures. The reason for this once again would be that research indicates a difference between levels of self-efficacy measured at a domain-specific versus domain general-level (Sanders & Woolley, 2005).

Both of these terms are well defined, are currently in use and appear to be conceptually distinct entities. Definitions state that domain-general measures focus on obtaining an overview of self-efficacy within a domain, without being linked to particular tasks falling within that domain, whereas domain-specific measures summate the values across different dimensions of the domain in order to obtain an indication of the level of self-efficacy within the particular domain. In terms of the nomenclature, this distinction is congruent with the super-ordinate level (both contain the term domain which is a key term from the super-ordinate level). The logical terms proposed for the dichotomy at this sub-ordinate level would therefore be domain-general and domain-specific self-efficacy measures.

It is important however, to caution, that while the definitions of these two terms are relatively clear, they are not unambiguous. It depends on how the domain to which these terms refer is defined. If parenting is seen as the domain, this classification is self-explanatory, but when describing self-efficacy measures in general, the use of these terms without sufficient clarification can be misleading. For example, domain-general might be seen as synonymous with general self-efficacy (if self-efficacy is implied as the domain) and domain-specific may be seen to refer to all measures of self-efficacy tapping the parenting domain (if parenting is implied as the domain). This terminology is thus problematic both in terms of ambiguity and internal logic unless viewed from within the framework discussed in Figure 2.2.

If domain-general and domain-specific are accepted as being the first sub-ordinate level, it implies that the third type of single domain measure, namely the task-specific measure remains unclassified. When evaluating this term it becomes clear that the definition of task-specific is problematic. The descriptions and differentiations between task-specific and domain-specific measures are, in the first instance, vague, and in the second instance not congruent across authors. It is obvious that while literature clearly distinguishes between domain-general and task-specific measures, less effort has been expended in trying to distinguish between domain-specific and task-specific measures. Currently, most authors do not differentiate between task-specific and domain-specific forms of parenting self-efficacy. This is further substantiated when scrutinizing the classification of different self-efficacy measuring instruments by different authors. As discussed previously, certain measures are classified as being task-specific and domain-specific, while measures which are constructed in a similar manner are only referred to as domain-specific measures.

Furthermore, it is apparent that some authors (Coleman & Karraker, 1998, 2003; Jones & Prinz, 2005) equate domain-specific and task-specific measures as falling on the same level. According to Coleman and Karraker (1998), both task-specific and domain-specific measures of self-efficacy focus on specific tasks within a targeted domain. Based on this definition it would seem that task-specific measures can be defined as nothing more than domain-specific measures which summate values on different tasks and in so doing present a single measure of self efficacy within the targeted domain. On the other hand, it has been suggested that task-specific measures are more accurate in predicting outcomes due to the fact that items are structured to elicit responses regarding particular tasks or actions as this formulation is the only one which meets Bandura's criteria for the measurement of self-efficacy (de Montigny & Lacharité, 2005; Guimond, Wilcox & Lamourey, 2008). According to de Montigny & Lacharité (2005), measures such as task-specific measures that incorporate the ability to organize and execute actions to produce results and gather situation specific information, are most likely to tap into the concept of self-efficacy. From this discussion it is evident that until such time as research clearly delineates the relationship between task-specific and domain-specific measures, there remains the possibility that the task-specific self-efficacy measures may in fact be one of the formulations for a third level in the classification.

This discussion clarifies which terminology will be used in this study, but also highlights the need for a standardized and accepted classification system that would clearly articulate the terminology that is most suited to a particular level of measurement. This can be seen as a first step to facilitate understanding of the distinction and overlap between existing measures. In order to appraise the ability of the classification to distinguish between measures, existing measures used within the parenting self-efficacy literature are presented in Table 2.1, according to the proposed classification system. Thus existing self-efficacy measures used in studies investigating the construct of parenting self-efficacy are classified as being either global self-efficacy measures, or single-domain self-efficacy measures in Table 2.1. The single-domain self-efficacy measures are then further classified as domain-general or domain-specific or task-specific measures.

Table 2.1. Classification of existing parenting self-efficacy measures.

Measure	Authors	Date of publication	Super-ordinate level	Sub-ordinate level
General Self-Efficacy Scale (GSE)	Schwarzer & Jerusalem	1995	Global	Not applicable
Self-Efficacy Scale (S-ES)	Scherer & Adams	1983	Global	Not applicable
Parental Efficacy Subscale of Parental Locus of Control Scale	Campis, Lyman, & Prentice-Dunn,	1986	Single-domain	Domain-general
Parenting Self-Agency Measure (PSA)	Dumka, Stoerzinger, Jackson & Roosa	1996	Single-domain	Domain-general
Parenting Sense of Competence Scale (PSOC)	Gibaud-Wallston & Wandersman	1977; 1978	Single-domain	Domain-general
Parenting Stress Index – Parenting Domain (PSI)	Abidin	1986	Single-domain	Domain-general
Parenting Subscale of Self-Efficacy Scale (SES)	Wells-Parker, Miller & Topping	1990	Single-domain	Domain-general
Maternal Self-Definition Measure	Deutsch, Ruble, Flemming, Brooks-Gunn & Stangor	1988	Single-domain	Domain-general and domain-specific
Comfort with Parenting Performance	Ballenski & Cook	1986	Single-domain	Not specified. Domain-general or Domain-specific



Measure	Authors	Date of publication	Super-ordinate level	Sub-ordinate level
Maternal Efficacy Questionnaire	Teti & Gelfand	1991	Single-domain	Not specified Domain-specific or Task specific
Parent Expectations Survey	Reece	1992	Single-domain	Domain-specific
Perceived Maternal Parenting Self-Efficacy Tool (PMP-S-E)	Barnes & Adamson-Macedo	2007	Single-domain	Domain-specific
Self-Efficacy for Parenting Task Index (SEPTI)	Coleman & Karraker	1998; 2000, 2003	Single-domain	Domain-specific
Tool to Measure Parenting Self-Efficacy (TOPSE)	Kendall & Bloomfield	2005; 2007	Single-domain	Domain-specific
Parenting Tasks Checklist	Sanders & Woolley	2001	Single-domain	Not applicable (task-specific measure)

From Table 2.1 it can be seen that very few domain-specific measures exist and that some of the formulations of the measures cannot be established. The last entry in Table 2.1, the parenting tasks checklist (Sanders & Woolley, 2001) is the only other existing task-specific measure (as defined in this thesis). Thus a paucity of task-specific measures for measuring parenting self-efficacy exists.

2.5.2. Issues relating to the construction and development of parenting self-efficacy measures

According to de Montigny and Lacharité (2005), there are four attributes of parenting self-efficacy which need to be accurately captured when constructing a measure which measures self-efficacy. They state that in order to tap into the concept of self-efficacy, measures need to incorporate personal beliefs; capabilities or power; the ability to organize and execute actions to produce results and gather situation specific information.

In more concrete terms Bandura (1997, p. 43) states the minimum criteria that items should meet in order to successfully measure self-efficacy beliefs. These criteria include:

- items portraying different levels of task demands
- items phrased in terms of “can do”
- items phrased in such a way that individuals rate “the strength of their belief in their ability to execute the activity”.

In addition, Bandura (1997) states that measurement of self-efficacy must attempt to link to factors that regulate functioning in the selected domains and should include gradations of a challenge, in order to accurately ascertain the level of self-efficacy. According to Bandura (2001) self-efficacy scales must be tailored to specific activity domains and assess the multi-faceted ways in which self-efficacy beliefs operate within their selected activity domains. Furthermore, as self-efficacy must link to factors that regulate functioning in the selected domains it should include gradations of a challenge, in order to ascertain the level of self-efficacy. This is because the level of self-efficacy will impact on aspects such as perseverance under difficult situations and in the face of increasing challenges.

Table 2.2 presents the self-efficacy measures which were discussed in Table 2.1 in terms of whether or not they meet with these criteria. In addition many of the existing measures have been criticized for displaying minimal validity (Coleman & Karraker, 1998; Dumka et al., 1996). The available reliability and validity data for these measures are therefore included in the table. The validity and reliability data presented in Table 2.2 is based on the work of Barnes and Adamson-Macedo (2007), Coleman and Karraker, (1997) and Jones and Prinz (2005).

Table 2.2 Reliability and validity information of parenting self-efficacy measures.

Bandura's criteria (1997)	Measures meeting Bandura's criteria	Super-ordinate level	Sub-ordinate level	Internal consistency reliability	Validity		
					Face and content	Criterion	Construct
Items in a self-efficacy scale must: 1) portray different levels of task demands 2) be phrased in terms of "can do" 3) rate "the strength of their belief in their ability to execute the activity".	General Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995)	Global	Global	Yes	Yes	Yes	Yes
	Self-Efficacy Scale (S-ES) (Scherer & Adams, 1983)	Global	Global	Yes	No	No	Yes
	Parenting Subscale of Self-Efficacy Scale (SES) (Wells-Parker et al., 1990)	Single-domain	Domain-general	Yes	Unclear	No	Yes
	Maternal efficacy questionnaire (Teti & Gelfand, 1991)	Single domain	Not specified Domain-specific or task-specific	Yes	Unclear	Yes	No
	Perceived Maternal Parenting Self-Efficacy Tool (PMP-S-E) (Barnes, & Adamson, Macedo, 2007)	Single-domain	Domain specific	Yes	Yes	No	Yes
	Self-Efficacy for Parenting Task Index (SEPTI) (SEPTI-TS) (Coleman & Karraker, 1998; 2000; 2003)	Single-domain	Domain specific	Yes	Unclear	No	Yes
	Tool to Measure Parenting Self-Efficacy (TOPSE) (Kendall & Bloomfield, 2005; 2007)	Single-domain	Domain-specific	Yes	Yes	No	No
	Parenting Tasks Checklist (Sanders & Woolley, 2001)	Single-domain	Task-specific	Yes	Unclear	Unclear	Unclear

Bandura's criteria (1997)	Measures not meeting Bandura's criteria	Super-ordinate level	Sub-ordinate level	Internal consistency reliability	Validity		
					Face and content	Criterion	Construct
Items in a self- efficacy scale must: 1) portray different levels of task demands 2) be phrased in terms of "can do" 3) rate "the strength of their belief in their ability to execute the activity".	Parental Efficacy Subscale of Parental Locus of Control Scale (Campis et al., 1986)	Single-domain	Domain-general	Yes	No	Yes	No
	Parenting Stress Index – Parenting Domain (PSI) (Abidin, 1986)	Single-domain	Domain-general	Yes	Yes	Yes	Yes
	Parenting Sense of Competence Scale (PSOC) (Gibaud-Wallston, 1977)	Single-domain	Domain-general	Yes	Unclear	Yes	Yes
	Maternal Self-Definition Measure (Deutsch et al., 1988)	Single-domain	Domain-general and domain-specific	Yes	Unclear	Yes	No
	Comfort with Parenting Performance (Ballenski & Cook, 1986)	Single domain	Not specified Domain specific or task-specific	Yes	No	No	No
Parent Expectations Survey (Reece, 1992)	Single-domain	Single-domain	Domain-specific	Yes	Yes	Yes	No

From Table 2.2 it is evident that only five domain-specific or measures meet the criteria for construction of self-efficacy scales as previously described. Moreover, while all of the scales have established internal consistency reliability, not all the scales possess sufficient data substantiating their validity. It is therefore evident from Table 2.2 that there are very few domain-specific scales which fulfil all of these criteria for construction of self-efficacy measures and possess sufficient evidence of validity.

Furthermore, from the literature it would appear as if the formulation which matches these criteria is that used during the development of a task-specific measure. This is because items portraying different levels of task demands are more likely to be task-specific as opposed to domain-specific measures. There are, however, currently very few task-based measures available to measure parenting self-efficacy, as can be seen in Table 2.2. Once again, it is difficult to state an exact number of scales due to the lack of agreement as to the relationship between task-specific and domain-specific measures. However, Guimond et al., (2008, p.2) state that task-specific measures are “even more detailed than domain-specific measures of self-efficacy”. They state that refining the constructs of parenting self-efficacy by investigating the role that task-specific measures play in determining the level of parenting self-efficacy seems to be the next pivotal step in understanding the reciprocal relationship between beliefs and behaviours.

When evaluating the construction of the measures which have been described as task specific, it would seem, however, in principle, as if the task-based measures currently used are developed from a practical rather than a theoretical framework (which may account for the variation in the amount of validity data available for these scales). Therefore the integrity of the operationalization process, as well as the resultant validity of these measures is questionable. Thus, the need is evident to develop and validate a task-specific parenting self-efficacy measure which is based on the current theoretical understanding of parenting self-efficacy and which meets the criteria for development of self-efficacy scales as put forward by Bandura (1997) and de Montigny and Lacharité (2005). This research study therefore aims to develop and validate a task-specific measure of parenting self-efficacy for mothers of young children between the ages of 3-7.



2.6. Conclusion

This chapter investigated the role of self-efficacy in family-centred early intervention programmes. The concept of self-efficacy was defined and factors contributing towards its development were described. The effect of self-efficacy on parenting abilities was described in detail. In addition, challenges relating to the measurement of self-efficacy were described as well as the criteria which must be adhered to during the construction of self-efficacy measures were investigated. Two main areas of concern were highlighted, namely a lack of conceptual clarity regarding the classification of self-efficacy measures and a lack of attention to the systematic validation during the development of existing measures. These issues were presented as a justification for the present study.



CHAPTER 3

RESEARCH METHODOLOGY

3.1. Introduction

The aim of this study was to develop and validate a task-specific measuring instrument to measure self-efficacy beliefs in the parenting domain. This chapter discusses and validates the methodology selected to investigate the above research aim. Firstly, the aims and sub-aims of the study are presented, followed by a discussion of the research design. The procedures and development of materials used in this study are described in detail in this chapter. The pilot study is then presented in terms of results, and modifications, are discussed in terms of recommendations. In addition, a description of the participants and participant selection criteria is provided. Finally, the data collection and data analysis procedures are described and discussed.

3.2. Aims of the Study

3.2.1. Main aim

The main aim of this study was to develop and validate a task-specific parenting self-efficacy measuring instrument for mothers of young children.

3.2.2. Sub-aims

The following sub-aims were developed in order to fulfil the main aim:

1. To develop a task-specific parenting self-efficacy measuring instrument.
2. To establish the face and content validity of the developed measuring instrument.
3. To establish reliability by determining the internal consistency of the measuring instrument.
4. To establish construct validity by determining convergent validity of the measuring instrument
5. To establish differential validity of the measuring instrument in terms of the ability to capture differences in levels of parenting self-efficacy across two groups of mothers.

6. To describe the overall validity of the measuring instrument as presented in this study.

3.3. Research Design

This study uses a descriptive survey type design (Lutz, 1983). This type of descriptive design, particularly suited to studies focusing on the validation of measuring instruments, has been widely demonstrated in validation studies (Benson & Clark, 1982; Guimond, et. al., 2008; Uys & Alant, 2004). The study includes three phases as part of the process of validation; each phase involves determining the validity of the measure within one of the three validation domains described by Brinberg and McGrath (1982).

3.4. Research Phases

The research followed a linear course that involved three phases. The aim of phase 1 was to ensure that the developed measure displayed validity within the conceptual domain. During this phase the measuring instrument was developed and face and content validity was established using a panel of subject matter experts. This provisional measuring instrument was then tested during a pilot study and refined, based on the recommendations obtained from the pilot study. During the pilot testing interim reliability and validity of the measuring instrument was established by evaluating internal consistency reliability. This established validity in the conceptual domain. The aim of phase 2 involved establishing whether or not the measure possessed validity within the methodological domain. This was achieved by re-establishing internal consistency reliability as well as determining construct (convergent) and differential validity. Construct validity of the measuring instrument was established by comparing the new measuring instrument against two pre-established and validated measuring instruments, as comparable assessment tools. Differential validity was established for all the measuring instruments used in the study. During this phase the measuring instrument was administered to two groups of mothers meeting the selection criteria for participation, a group of mothers of typically developing children and a second group of mothers of children with disabilities. A schematic representation of the research process can be seen in Figure 3.1. Each of the first two phases presented in Figure 3.1 will be discussed in more detail in subsequent sections of the methodology chapter. The aim of phase 3 involved establishing the measures initial validity within the substantive domain and the results of this phase will be discussed in Chapter 4.

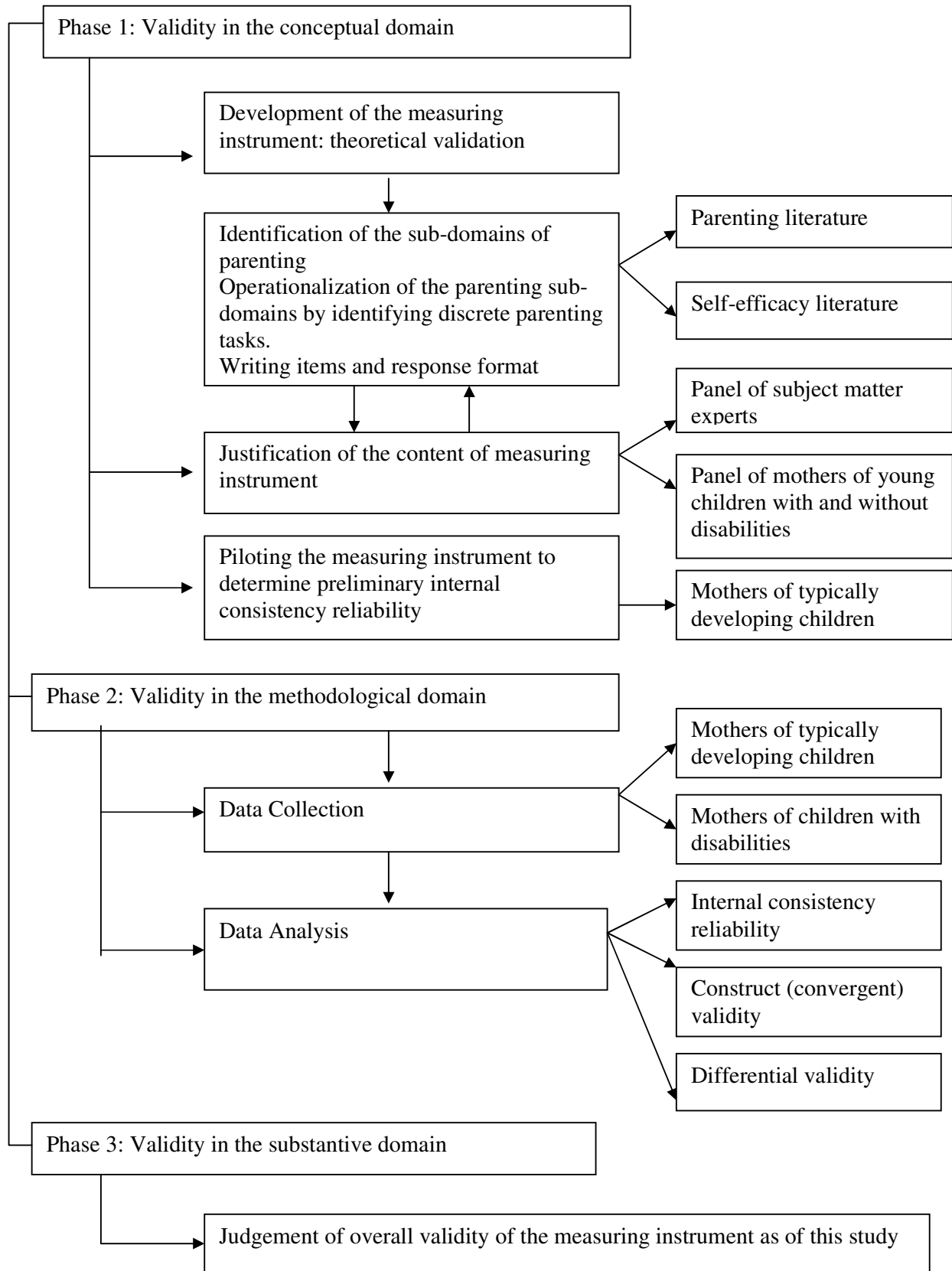


Figure 3.1. Schematic representation of the research process.

3.5. Phase 1: Establishing Validity in the Conceptual Domain

The development of the measuring instrument took place in the first step of phase 1, as can be viewed in Figure 3.1. The first step in this phase involved reviewing both the parenting and self-efficacy literature in order to highlight sub-domains of parenting that could be included in the self-efficacy measuring instrument. In addition, variables affecting the development of self-efficacy and concerns around the construction of the items within such a measuring instrument were also investigated. Within this step three key decisions were made, namely: the sub-domains of parenting to be included in the measuring instrument; the development of the measuring instrument items; the response format of the measuring instrument. The second step involved the justification process of the initial measuring instrument, while the third and final step in this phase involved pilot-testing the measuring instrument in order to ascertain the internal consistency of the measuring instrument.

3.5.1. Development of the parenting self-efficacy measuring instrument (P-SEMI)

3.5.1.1 Selection of parenting sub-domains

In order to select the parenting sub-domains that were included in the parenting self-efficacy measuring instrument, a review of the literature was necessary. This task-specific parenting self-efficacy measuring instrument is based on the work of Ballenski and Cook (1982), Kendall and Bloomfield (2005), and Zeanah, Boris, Heller, Hinshaw-Fuseier, Larrieu, Lewis & Palomino (1997). The following parenting sub-domains, included in the measuring instrument were extrapolated from existing parenting self-efficacy scales, as well as other parenting literature:

- Showing affection and empathy
- Engaging in play
- Facilitating routines
- Establishing discipline strategies
- Providing appropriate activities for learning and development
- Promoting communication interaction

Table 3.1 indicates the parenting sub-domains included in the development of the parenting self-efficacy instrument, as well as examples of parenting tasks that typify each sub-domain.



Table 3.1. Parenting sub-domains highlighted in the literature.

Parenting sub-domains	Examples of tasks typifying each parenting sub-domain
Showing affection and empathy	Be empathetic, listen to the child, understand the child's moods and emotions
Engaging in play	Find time to play, choose appropriate activities
Facilitating routines	Establish routines, be consistent in following routines
Establishing discipline strategies	Manage behaviour, find a comfortable method of discipline, set realistic limits for the child
Providing appropriate activities for learning and development	Help the child learn skills for formal schooling, help the child learn general life skills
Promoting communication interaction	Sharing experiences, helping the child control emotions, teaching social interaction skills

3.5.1.2. Operationalization and measurement of parenting sub-domains

As discussed in Chapter 2, a review of the literature reveals a paucity of task-specific measures available to measure parenting self-efficacy (de Montigny & Lacharité, 2005). For this reason, a task-specific parenting self-efficacy measuring instrument was designed using the parenting sub-domains discussed in 3.5.1.1.

For a self-efficacy measuring instrument to be successful in establishing the level of an individual's self-efficacy within a certain domain, the measuring instrument must attempt to capture the variables that influence the functioning in the selected domain. The current measuring instrument consists of four item formats and makes use of Bandura's multi-dimensional approach the construction of items (1995). The generation of the four item formats were primarily based on the types of experiences which Bandura (1995) states influence the development of self-efficacy beliefs. Maddux (2002) added a 5th type of experience and therefore the five types of experiences considered for item format were performance experience, vicarious experience, imagery experience, verbal persuasion and state of emotional arousal. However, de Montigny and Lacharité's (2005) review of the literature over the past 20 years highlighted only four contributors to perceived parenting efficacy namely personal experience, vicarious experiences, verbal persuasion and appropriate behavioural states. For this reason imagery experiences were therefore excluded from the operationalization process of the measuring instrument.

Each parenting sub-domain therefore contains items covering performance and vicarious experience as well as verbal persuasion, and state of emotional arousal. Consequently, 2-3 items per experience type were then generated within each of the parenting sub-domains, i.e. **showing affection and empathy and establishing discipline**. The last consideration when developing the items was to include a measure of challenge within each parenting sub-domain. Bandura (1997) states that in addition to accurately capturing essential contributors to and sub-domains of the targeted domain, it is necessary that not all tasks are at the same level of difficulty. In Table 3.2, the developed items are grouped according to the type of experiences affecting the development of self-efficacy and a sample item is provided.

Table 3.2. Conceptualization and format of items in the parenting self-efficacy measuring instrument (based on Bandura, 1995; Maddux, 2002).

Types of experiences	Explanation	Questions	Sample items from measuring instrument
Direct experience	Personal attempts at controlling the environment.	4, 7, 9, 10, 11, 14, 16, 17, 19, 21, 24, 26, 28, 29, 37, 40, 41, 42, 43	10. I can help my child successfully complete daily routines. 21. I can regularly make time to spend with my child.
Vicarious experience	Observing attempts of others and their respective outcomes.	5, 8, 13, 15, 22, 25, 27, 30, 33, 34, 35, 38, 39.	8. I can show my child love and be affectionate as well as any other parent can. 15. I can listen to advice from other people about how I should discipline my child.
Emotional state	Competence under more stressful situations, varying according to the difficulty of the task and the context.	1, 2, 3, 6, 12, 18, 20, 23, 31, 32, 36.	12. I can find time to assist my child to complete daily routines when I am having a bad day. 36. I can discipline my child if they misbehave when we are in a public place i.e. shopping centre.
Verbal persuasion	What others say about what they believe we can/cannot do.	44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54.	46. Other parents comment that I communicate well with my child. 51. Other parents comment that I will benefit from establishing more of a set routine with my child.
Imagery experiences	Imagining effective behaviour.	Not included in the instrument.	

3.5.1.3. Response format of the parenting self-efficacy measuring instrument

According to Bandura (1995), the preferred format for self-efficacy instruments uses a continuous percentage rating where the respondent is requested to indicate from a value of 0-10. Bandura (1997) states that this is a better match with the response task as in this instance the individual is rating current level of competence as opposed to expressing agreement or disagreement with statements of competence which would be evident in a Likert type scale (as discussed in 3.5.1 2). In his later work Bandura (1997, p. 44) observed "scales that use only a few steps should be avoided because they are less sensitive and less reliable". This is substantiated by the work of Pajares, Hartley and Valiante (2001) in which two different response modes of a writing self-efficacy measuring instrument were compared, namely the traditional Likert format (with a 6-point scale), and a response format with a scale with 0-100 format. They concluded: "results of the factor and reliability analyses showed that a writing self-efficacy measuring instrument with a 0-100 response format was psychometrically stronger than a traditional Likert format scale". The mean values obtained for the two response formats were, however, comparable when converted.

During the presentation of the measuring instrument to the panel of parents the continuous percentage (1-10) response format was used, but during the formal pilot testing the traditional 6-point Likert response format was used. After the administration to both groups of participants it was decided that the 6-point Likert response format would be used during the main data collection. There were two primary reasons for this decision. Firstly, the fact that the two scales used to establish convergent validity both make use of a 6-point Likert response format and therefore the 6-point Likert response format for the P-SEMI was consistent with the other measuring instruments. Secondly, the questionnaire was relatively lengthy to complete and it was felt that consistency within the test battery would be advantageous by making the questionnaire easier to complete.

3.5.2. Justification of the content of the measuring instrument

In order to determine face and content validity a panel of subject matter experts evaluated the measuring instrument. The final number of parenting self-efficacy items sent for justification was 54. The breakdown of the items for the initial measuring instrument was as follows: discipline, affection and learning parenting sub-domains each contained 10 items, while the routines, communication and play sub-domains each contained 8 items. Two separate panels

appraised the complete parenting self-efficacy measuring instrument. The first panel consisted of 12 subject matter experts and the second panel consisted of a group of 8 parents. Each of these panels will be described in more detail in 3.5.2.1 and 3.5.2.2 respectively.

3.5.2.1. Panel 1: Subject matter experts

In order to determine face and content validity the initial 54 parenting self-efficacy items were then sent through to a panel of subject matter experts. This panel consisted of 12 professionals working in the disability field as well as the field of family-centred early childhood intervention. Their primary professional qualifications were as follows: 8 speech language therapists, 2 occupational therapists, 1 medical doctor and 1 teacher. All had a minimum of 5 years experience in their respective fields of interest. The majority of experts (7) were working in tertiary education contexts (universities), 2 were in provincial hospitals, 2 in private practice, and 1 in the primary school education context. During the content justification process the panel of experts were provided with a random arrangement of the newly generated items and then they were requested to place each item under the corresponding parenting sub-domain (as suggested by Benson & Clarke, 1982). In this process, items correctly placed by the majority (10 out of 12) of the experts (80% of the panel) remained unedited while items not meeting the stipulated minimum criteria were rewritten until sufficiently clarified. These items were once again put to the panel of experts, and consensus was reached as to which parenting sub-domain the revised item represented.

3.5.2.2. Panel 2: Parents of children with disabilities and parents of typically developing children

In the second part of the content justification process the 54 items condoned by the panel of subject matter experts was administered to a group of mothers of typically developing children, as well as mothers of children with disabilities. The purpose of this step in the justification process was to obtain information regarding the merit of the content, as well as the ease of administration of the parenting self-efficacy measuring instrument.

In addition to the parenting self-efficacy items, 10 questions requesting demographic information and 5 questions (questions 55-59) determining the likelihood of the presence of

social desirability bias were also included in the measuring instrument. The researcher was concerned that the participants was likely to provide what they felt was the socially desirable answer as opposed to their actual feelings of competence, as this concern has been raised as a limitation in survey type research (Edwards, 1957). The response format presented to the parents was a continuous percentage response format (see 3.5.1.3) and ranged from 1 (“*No, I cannot*”) to 10 (“*Yes, I can*”). The provisional instrument used for the justification with the mothers can be viewed in Appendix A.

Eight mothers completed the questionnaire. Three of the children were female and five were male. Three of the children had established disabilities (Down syndrome; cerebral palsy and epilepsy) while five were developing typically. In addition to completing the self-efficacy measuring instrument, these parents were asked to critically analyse the measuring instrument, in terms of the relevance of the items, clarity of instructions, as well as the suitability of the layout of the questionnaire and response format. They were also asked to identify items they had difficulty completing as well as to make recommendations on any other items relating to parenting competence that they felt should be addressed in the current instrument. This was achieved by asking five semi-structured questions at the end of the letter of consent. Results and recommendations from the parent panel can be viewed in Table 3.3.

Table 3.3. Results and recommendations from the panel of mothers.

Aims	Procedures	Results	Recommendations for change
1. To determine the face validity of the compiled questionnaire	The questionnaire was given to eight mothers for completion.	Questions regarding verbal persuasion were rated as the most difficult to complete. The mothers said they could not gauge what others were thinking about their parenting ability, as it was never discussed with them.	This section with questions relating to verbal persuasion was removed from the final measuring instrument, i.e. items 44-54 (n=11). Thus the measuring instrument used during the pilot study contained 43 items.
2. To determine the clarity of items, and the use of terminology.	The mothers completed the questionnaire and a rating scale in which they indicated ease of completion. They also had the opportunity to circle questions that they found difficult to understand.	Questions were rated overall as being clear and unambiguous.	Minor wording issues were clarified in the final draft (n=9). Examples of the re-wording: Q25: "Follow what my child is saying to me as well as any parent I know." was reworded to: "Understand what my child is saying as well as any other parents would."
3. To ascertain the clarity of instructions, response format and the layout of the questionnaire.	The mothers were asked their opinion regarding the layout of the questionnaire, by rating the overall clarity of the layout, on a scale from 1-4 and providing additional comments in the space provided for comments.	The mothers indicated on the rating scale how easy the instructions were to follow and how effective the questionnaire layout was. Participants stated that while the instructions appear clear, the layout was cluttered.	The mothers suggested placing each section of the measuring instrument on a separate page and making minor layout changes. Instructions were repeated for each section of the questionnaire and each alternative item was shaded to make it easier for participants to complete. The response format was edited from a 1-10 continuous percentage format to a 1-6 Likert format. The final measuring instrument thus consisted of 43 items. The remaining five items from Section C were re-positioned at the end of the questionnaire after the GSE items.
4. To determine participants' perception of factors impacting on their self-efficacy beliefs.	The mothers completed open-ended questions regarding their own views on factors contributing to maintaining self-efficacy beliefs.	The mothers felt that the measuring instrument covered pivotal areas	

3.5.3. Piloting the revised measuring instrument in order to establish reliability

3.5.3.1. Aims of the pilot study

The main aim of the pilot study was to test the procedures and instruments that were proposed for data collection during the main study. The specific aims of the pilot study were as follows:

1. To determine the internal consistency of the individual items in the parenting self-efficacy measuring instrument (P-SEMI).
2. To determine preliminary convergent validity with the two additional measuring instruments.
3. To evaluate the use of clear, concise language for items in the measuring instrument.
4. To ascertain the clarity of instructions, response format and the layout of the questionnaire.
5. To evaluate the effectiveness of the administration procedure to be followed during main data collection.

3.5.3.2. Participants of the pilot study

20 parents (who met the selection criteria specified for the main study) were asked to complete the entire instrument with all four measuring instruments (see 3.6.1). Parents' ages ranged from 27-43; and the children were between 3 and 7 yrs old. The majority (n=12) of the mothers had completed 3 years of tertiary education (either a degree or diploma). Five parents had additional qualifications equivalent to 5 years of tertiary education and 2 parents had completed 10 years of tertiary education (equivalent to a doctoral degree).

3.5.3.3. Materials used during the pilot study

Two additional measuring instruments were included in the composite measuring instrument together with the revised parenting self-efficacy measuring instrument (P-SEMI). These included the GSE: General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995) and the PSOC: Parenting Sense of Competence Scale (Gibaud-Wallston &

Wandersman, 1978). Table 3.4 provides a brief description of each of the measures including the newly developed P-SEMI.

Table 3.4. Description of the measuring instruments used during data collection.

Measuring instrument	Types of self-efficacy being measured	Description of the type of self-efficacy being measured	Sample items
General Self – Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995)	Global self-efficacy	Relatively stable global belief with application and relevance across diverse domains of functioning. This measure assesses a composite of all life’s successes and failures.	When I am confronted with a problem, I can usually find several solutions. Thanks to my resourcefulness, I know how to handle unforeseen situations.
Parenting Sense of Competence Scale (PSOC) (Gibaud-Wallston, 1977)	Domain-general self-efficacy	Focuses on obtaining a global measure of self-efficacy within a domain. This measure does not link self-efficacy to particular tasks falling within that domain.	Being a parent is manageable, and any problems are easily solved. I meet my own personal expectations in caring for my child.
Parenting self-efficacy measuring instrument (P-SEMI)	Task-specific self-efficacy	Sums up values across tasks and then comes up with a single measure of self-efficacy within the parenting domain. This measure focuses on specific activities within a targeted domain.	I can figure out which activities my child enjoys doing. I can communicate easily with my child.

The general self-efficacy scale (GSE) was developed by Schwarzer & Jerusalem (1995). This 10-item scale has been validated in 25 countries (including both developed and developing contexts) and has been translated into 21 different languages (Luszczynska, et. al., 2005; Scholz, Gutiérrez-Doña, Sud, & Schwarzer, 2002). This measuring instrument was included as a measure against which the convergent validity of the P-SEMI would be evaluated, as literature seems to support a moderate correlation between levels of generalized self-efficacy and task-specific self-efficacy levels (Maddux, 2002; Tipton & Worthington, 1984). The second measuring instrument used as a domain-specific correlation measure is the parenting sense of competence scale (PSOC) (Gibaud-Wallston & Wandersman, 1978). This measuring instrument was developed in 1978 and has subsequently been used as a concurrent measure in a number of research projects investigating the concept of self-efficacy (Mash & Johnston, 1983; Johnston &

Mash, 1989; Rogers & Matthews, 2004). Johnston and Mash (1989) further developed the PSOC as a measuring instrument of parent self-esteem for use with parents of primary school children. The revised PSOC scale consists of 17 items with a 6-point Likert response format. The PSOC can be divided into two sub-scales, namely: efficacy (the degree of skill knowledge parent possesses in handling child problems) and satisfaction (the quality of value attributed to, or comfort derived from parenting). Johnston and Mash (1989) report that the PSOC possesses satisfactory reliability, internal consistency reliability values of 0.75 for the satisfaction and 0.76 for the efficacy subscales were reported. According to Mash and Johnston (1983) the PSOC also correlates moderately with other measures of adaptive parenting such as the parenting stress index (Abidin, 1986). Moderate correlations have also been recorded with the depression anxiety stress scale (DASS) (Rogers & Matthews, 2004) and the Beck depression inventory (Cutrona & Troutman, 1986).

Thus the measuring instrument used during the pilot study consisted of the following sections: A demographic questionnaire (10 items), the parenting self-efficacy measuring instrument (43 items), the PSOC (Gibaud-Wallston & Wandersman, 1978) (17 items) and the GSE (Schwarzer & Jerusalem, 1995) (10 items and the 5 items reflecting the likelihood of the presence of socially desirable responses). The final composite measuring instrument for use during the pilot study can be viewed in Appendix B.

3.5.3.4. Results and recommendations arising from the pilot study

As mentioned in 3.5.3.1 the participants were asked to critically analyse the measuring instrument, in terms of length and ease of completion, the clarity of items and the instructions and the level of comfort they felt at answering the individual items. Cronbach alpha values for the P-SEMI were calculated in order to determine internal consistency reliability) as well as Pearson correlation coefficients for all the measuring instruments (Cronbach, 1951; Lutz 1983). The results of the pilot study, as well as the recommendations and changes made to the measuring instrument are provided in Table 3.5 on the following page. The final measure used during data collection field can be viewed in Appendix C.

Table 3.5. Results and recommendations from the pilot study.

Aims	Procedures	Results	Recommendations
1. To determine the internal consistency of the individual items in the parenting self-efficacy measuring instrument (P-SEMI).	Cronbach alpha coefficients were determined based on the participant data.	The initial Cronbach alpha coefficients for the six parenting sub-domains of the self-efficacy measuring instrument ranged from 0.79 to 0.92. Five out of the 43 individual items indicated an item-total correlation value of less than 0.30.	The five items with an item-total correlation value of less than 0.30 were reworded. This meant questions 19, 24, 34, 40, 43 were reworded.
2. To determine preliminary convergent validity with two additional measuring instruments.	Pearson correlation coefficients for each of the subsections of the P-SEMI and the additional two measures were determined.	Correlation coefficients ranged from 0.58 to 0.79 providing preliminary evidence of a moderate to strong correlation between the measures.	As moderate correlations were established, all the measures were retained for use during data collection.
3. To evaluate the use of clear, concise language for items in the measuring instrument.	The mothers had the opportunity to circle questions that they found difficult to understand and rate the overall clarity of the questions.	Questions were rated overall as being clear and unambiguous.	Minor wording issues were clarified in the final draft (n=5), based on feedback from the mothers and the internal consistency results.
4. To ascertain the clarity of instructions, response format and the layout of the measuring instrument.	The mothers indicated on the rating scale how easy the instructions were to follow and how effective the layout was.	The mothers stated that while the instructions appeared clear, the layout was logical and well structured. The response format for the questions pertaining to social desirability was queried.	No modifications were deemed necessary in terms of the layout.
5. To evaluate the effectiveness of the administration procedure to be used during main data collection.	The questionnaires were sent home via the classroom teacher. The mothers could place the completed questionnaire in a sealed box in the classroom.	This procedure worked well and all the mothers returned their questionnaire (n=20).	As a result no adaptations to the data collection procedure were indicated and no changes were made.

3.6. Phase 2: Establishing Validity in the Methodological Domain

During the second phase, in which validity was established in the methodological domain, the measuring instrument was administered to two groups of mothers who met the stipulated selection criteria. The first was a group of mothers of typically developing children and the second, a group of mothers with children with disabilities. In this phase, a description of the participants and the participant selection criteria; materials used during the main data collection of the study; as well as procedures for data collection and analysis will be described. During the data analysis process, convergent validity of the measuring instrument was established by comparing the new measuring instrument against two pre-established and validated measuring instruments, as comparable assessment tools. In addition, differential validity was established for all of the measuring instruments used in the study.

3.6.1. Selection criteria of participants

3.6.1.1. Selection criteria for the mothers

The mothers were selected according to the following criteria:

- The mother's level of proficiency in English should be such that they would be able to complete the questionnaire. To ensure that the parents had the level of proficiency needed, the researcher included parents whose home language was English, or those parents whom the teachers reported as being fluent in English.
- The mother and child should reside in the same home and the mother should be actively involved in parenting the child. This is based on the definition of active parenting as provided by Mowder (1997).
- The mother should provide written consent to complete the questionnaire.

3.6.1.2. Selection criteria for the children with disabilities

The children should display the following characteristics as reported by teachers/staff at school:

- The children should have an established disability (confirmed by the parent and classroom teacher with the principal and teacher at the relevant school).
- The children should attend school for a minimum of 10 hours a week. Many of the children with disabilities in the South African context are not involved in a formal

schooling programme. Due to the fact that the mothers were accessed via the school, the children had to attend school for a minimum of 10hrs a week, in order to ensure sufficient access to the mothers.

- The children should be between 3 and 7 years of age. Many children begin preschool between the ages of 3 and 4. In South Africa formal schooling begins the year the child turns seven. Therefore mothers of children between the ages of 3-7 were approached to participate in this study.

3.6.1.3. Selection criteria for the typically developing children

The children should display the following characteristics above as reported by teachers/staff at school. Justification for inclusion of the criteria can be viewed in 3.6.1.2 above.

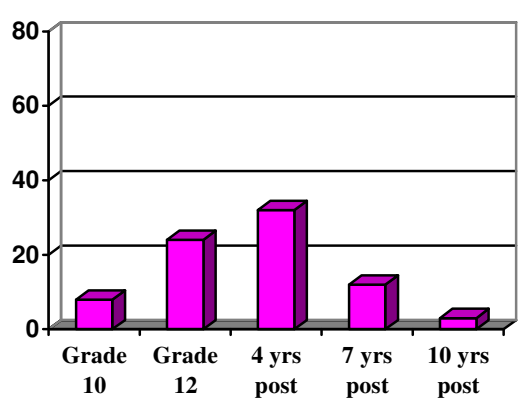
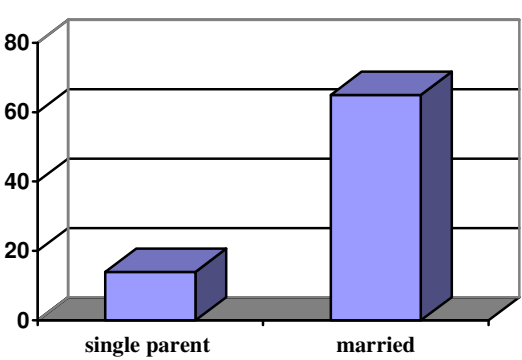
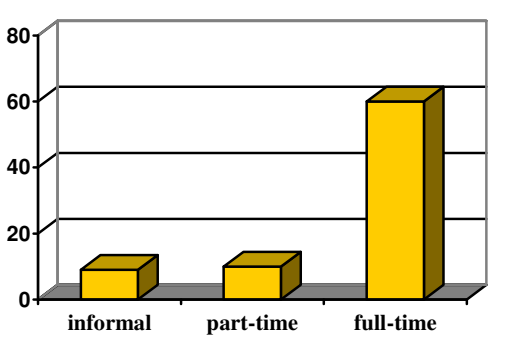
- Their ages range from 3 years to 7 years.
- They attend school for a minimum of 10 hours a week.

3.6.2. Descriptive criteria of the participants

The primary research participants were parents of children aged between 3-7 years, whose children were in a structured schooling environment. 128 questionnaires were distributed. Two parents refused consent. The final number of completed questionnaires was 79. 47 questionnaires were returned by the mothers of typically developing children and 32 from the mothers of children with disabilities. The response rate was thus 62%.

The two groups of participants were compared using Fisher's exact test in order to determine whether or not the groups were comparable (Mendenhall & Beaver, 1994). No significant difference was observed for educational level, marital status or employment. There was, however, a statistically significant difference in maternal age. Therefore the two groups were grouped together for the following demographic information; employment status, and level of education and marital status. This descriptive is displayed in Table 3.6. The mean maternal age for the group of children with a disability was 37 years while the mean age for the group of mothers of typically developing children was 33 years. This difference can, however, be explained by looking at the mean ages of the children within each group. The mean age range for the children with disabilities was also slightly higher (7 years) than that of the typically developing children (6 years). The age group with the smallest number of children is the 3yrs olds (n=5). The majority of the children were six years old at the time of the study (n=44).

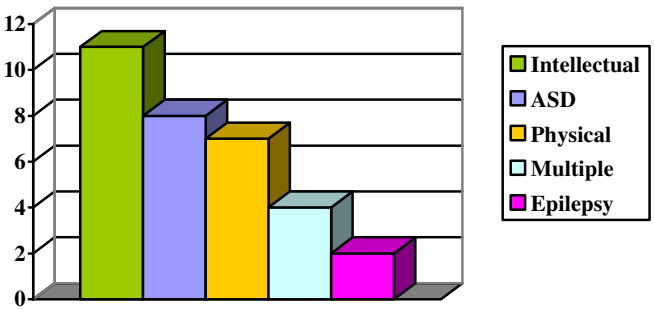
Table 3.6. Demographic information for the mothers who participated in the study.

Demographic variable	Graphic representation (n=79)	Summary												
Level of education	 <table border="1"> <caption>Level of Education Data</caption> <thead> <tr> <th>Level of Education</th> <th>Count (Approximate)</th> </tr> </thead> <tbody> <tr> <td>Grade 10</td> <td>10</td> </tr> <tr> <td>Grade 12</td> <td>25</td> </tr> <tr> <td>4 yrs post</td> <td>35</td> </tr> <tr> <td>7 yrs post</td> <td>15</td> </tr> <tr> <td>10 yrs post</td> <td>5</td> </tr> </tbody> </table>	Level of Education	Count (Approximate)	Grade 10	10	Grade 12	25	4 yrs post	35	7 yrs post	15	10 yrs post	5	The majority of the mothers (n=71) had completed at least Grade 12 (secondary education).
Level of Education	Count (Approximate)													
Grade 10	10													
Grade 12	25													
4 yrs post	35													
7 yrs post	15													
10 yrs post	5													
Marital status	 <table border="1"> <caption>Marital Status Data</caption> <thead> <tr> <th>Marital Status</th> <th>Count (Approximate)</th> </tr> </thead> <tbody> <tr> <td>single parent</td> <td>20</td> </tr> <tr> <td>married</td> <td>65</td> </tr> </tbody> </table>	Marital Status	Count (Approximate)	single parent	20	married	65	The majority of the mothers were married (n=65).						
Marital Status	Count (Approximate)													
single parent	20													
married	65													
Employment	 <table border="1"> <caption>Employment Status Data</caption> <thead> <tr> <th>Employment Status</th> <th>Count (Approximate)</th> </tr> </thead> <tbody> <tr> <td>informal</td> <td>10</td> </tr> <tr> <td>part-time</td> <td>10</td> </tr> <tr> <td>full-time</td> <td>60</td> </tr> </tbody> </table>	Employment Status	Count (Approximate)	informal	10	part-time	10	full-time	60	The majority of the mothers (n=60) were involved in full time employment.				
Employment Status	Count (Approximate)													
informal	10													
part-time	10													
full-time	60													

For descriptive purposes the children with an established disability were further divided into five categories according to primary diagnosis namely:

- Developmental and/or intellectual disability e.g. Down syndrome (n=11)
- Autism spectrum disorder (n=8)
- Physical disability e.g. cerebral palsy (n=7)
- Multiple disability (n=4)
- Epilepsy (n=2)

Table 3.7. Diagnoses of the children with disabilities.

Diagnosis	Graphic representation (n=32)	Summary
Five primary diagnoses: <ul style="list-style-type: none"> ▪ Developmental and/or intellectual disability ▪ Autism spectrum disorder ▪ Physical disability ▪ Multiple disability ▪ Epilepsy 	 <p>The bar chart displays the frequency of five primary diagnoses among 32 children. The y-axis represents the number of children, ranging from 0 to 12. The x-axis lists the diagnoses. The bars are colored as follows: Intellectual (green, n=11), ASD (blue, n=8), Physical (yellow, n=7), Multiple (cyan, n=4), and Epilepsy (magenta, n=2).</p>	The largest disability group present was that of children with developmental and or intellectual disability.

As can be viewed in Table 3.7 it is clear that although the largest disability group represented in the sample was children with intellectual or developmental disabilities, children’s etiologies varied across the five disability groups. However, as the focus of the research was on the development of the measure and ascertaining its ability to differentiate between levels of parenting self-efficacy, the data regarding the type of disability was collapsed during data analysis and no further distinction was made regarding levels of self-efficacy of mothers of children with a specific etiology.

3.6.3. Data collection materials

The measuring instrument proposed for use in the main study consists of a self-administered questionnaire comprising four sections: Section A: the 10 demographic questions; Section B: the parenting self-efficacy measuring instrument (P-SEMI) comprising 43 items; Section C: the PSOC (Gibaud-Wallston & Wandersman, 1978) (comprising 17 items); section D: the GSE (Schwarzer & Jerusalem, 1995) (comprising 10 items) and the five items assessing

social desirability of responses. The development of the measuring instrument was discussed in 3.5.1 and 3.5.2 above and the final measuring instrument can be viewed in Appendix C.

3.6.4. Data collection procedures and ethical considerations

Approval for the study was granted by the University of Pretoria's Ethics Committee (see Appendix D) and data collection followed the ethical guidelines stipulated by the University. Contact was initiated with the principals of the respective schools and appointments were set up in which the purpose and rationale of the study was explained as well as the procedures that would be followed during data collection. In addition essential information regarding the study, participant selection criteria, implications on teacher's time and resources were clearly stated in letter format. A copy was provided to the principals who signed a tear-off slip as an indication of consent. Contact information of the primary researcher was provided to each principal. Governing body approval was also sought for the schools which were privately funded. Finally, teachers consented in writing to assist with sending and collecting the questionnaires from the mothers.

Mothers consenting to participate in the project were issued with the questionnaires, which the teachers sent home with the children. In a cover letter the mothers were informed of the procedures of data collection and were given the choice to withdraw at any stage of the study without any negative implications for their child. In addition, they were assured of the confidentiality of the results. The mothers were then asked to complete the tear-off slip indicating consent and also to complete the questionnaire once they had consented. The completed questionnaires were placed in the self-sealing envelope that was provided. The completed and sealed questionnaires and consent letters were then returned to the school and posted in a sealed box labelled "completed questionnaire". Mothers were given a week to complete and return the questionnaires. After this initial cut-off time a second round of questionnaires was sent out, together with an additional reminder and a further week was granted to return completed questionnaires.

3.6.5. Data analysis and presentation

Descriptive and parametric statistical analysis procedures were employed during data analysis. Results from the statistical analyses were then described in relation to the sub-aims stated in section 4.2.2. A detailed description of the results is presented in Chapter 4. Cronbach alpha co-efficient values were used to compute internal reliability consistency (sub-

aim 3) (Cronbach, 1951). In addition, Pearson correlation coefficients and independent sample t-tests were used to answer sub-aims 4 and 5 respectively (Mendenhall & Beaver, 1994; Spiegel, 1961).

In order to establish convergent validity (sub-aim 4) the Pearson correlation coefficient (r) was used. This is the most widely used measure of linear correlation (Mendenhall & Beaver, 1994). In order to determine differential validity (sub-aim 5) the t-test for independent samples was used in order to determine whether the means on the two groups of participants are different (Mendenhall & Beaver, 1994). The statistical significance level associated with the t value indicates the degree of certainty with which the null hypothesis can be rejected (Spiegel, 1961).

3.7. Summary

This chapter discusses and justified the methodology selected to investigate the primary research question. This chapter delineates the process of the development and validation of a task-specific parenting self-efficacy measuring instrument. Firstly, the aims and sub-aims of the study are presented. In addition, the research design (descriptive survey design) was discussed. The procedures and development of materials used in this study were described in detail in this chapter. The pilot study was presented in terms of results and recommendations. In addition, a description of participants and participant selection criteria was provided. Finally the data collection and data analysis procedures are described and discussed.



CHAPTER 4

RESULTS AND DISCUSSION

4.1. Introduction

The aim of this research study was to develop and validate a task-specific measure of parenting self-efficacy for mothers of young children. Parenting self-efficacy was sub-divided into 6 sub-domains of parenting ability, namely: showing affection and empathy; engaging in play; facilitating routines; establishing discipline strategies; providing appropriate activities for learning and development and promoting communication interaction.

The parenting sense of efficacy measuring instrument (P-SEMI) was developed and refined based on the available literature from both the parenting and self-efficacy domains. The parenting sense of efficacy measuring instrument (P-SEMI) was developed and used together with the general self-efficacy scale (GSE) (Schwarzer & Jerusalem, 1995) and the parenting sense of competence scale (PSOC) (Gibaud-Wallston & Wandersman, 1978), which were used as concurrent measures in order to establish construct validity. The results of statistical analyses used to establish validity of the measuring instrument will be presented according to the 3 validation domains described by Brinberg and McGrath (1982), namely the conceptual, methodological and substantive domains. The validation process and the structure of the chapter, as well as the sections where the specific sub-aims will be addressed, can be seen in Figure 4.1.

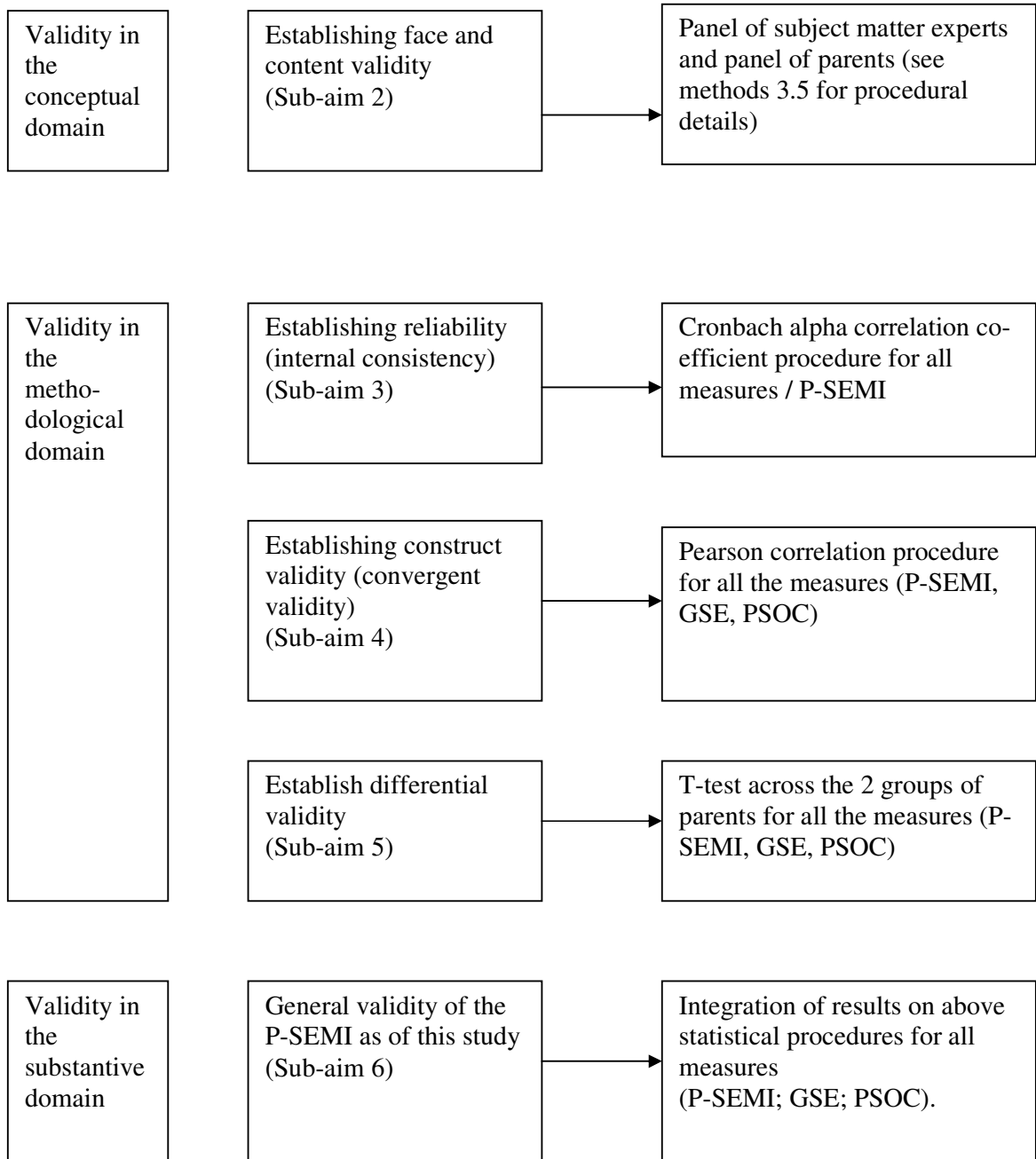


Figure 4.1. Schematic representation of the presentation of the results of the study.

4.2. Establishing Validity in the Conceptual Domain

Within the conceptual domain the focus is on constructs, concepts, assumptions and the relation between them (Brinberg & McGrath, 1982). During the development of this measuring instrument, verification of conceptual validity is pivotal to the success of the measuring instrument (Benson & Clark, 1982). During the instrument development this process encompasses the planning, development and construction of the items within the measuring instrument. In order to verify validity in the conceptual domain, face and content validity, as well as internal consistency was established (Benson & Clark, 1982). The verification of conceptual or theoretical validity was described in greater depth in the methodology section (see 3.5). The results and their implications will, however, be discussed in 4.2.1.

4.2.1. Establishing face and content validity

From a theoretical point, the measure adheres to the multidimensional construction of self-efficacy scales as proposed by Bandura (1997). This is because the items portray different levels of task demands, items are phrased in terms of current capabilities (i.e. “*I can do*” as opposed to “*I could do*” or “*I would do*”) and items are phrased in such a way that individuals rate the strength of their belief in their ability to successfully complete the task. However, in order to obtain information regarding face and content validity the proposed items were presented to a panel of subject matter experts. Items were re-written until the panel of subject matter experts correctly placed them in the intended parenting sub-domain. At the end of this process the panel of subject matter experts considered the P-SEMI items to have face and content validity. The subject matter experts considered the six parenting sub-domains and all of the items included in the P-SEMI to be relevant.

The P-SEMI was then evaluated by a panel of mothers and they suggested that the section pertaining to verbal persuasion experiences should be eliminated from the measure. They indicated that, as parents, they very seldom get feedback from others on whether they are successful in their parenting or not. In support of this, research has established that personal and vicarious experiences appear to be the best influences of self-efficacy across a range of domains. Steyn and Mynhardt (2007) found that self-efficacy was most influenced by self-referenced information (personal experiences) followed by social comparisons (vicarious experiences). Feedback from others (whether objective or subjective) appeared to have the least impact on rating of self-efficacy. As a result, items relating to verbal persuasion (or

external feedback) were removed from the measure before the measure was administered during the pilot study to evaluate internal consistency. The measure thus contained items most likely to capture self-efficacy namely personal and vicarious experiences as well as items pertaining to heightened emotional states (which are usually indicative of an increased challenge within the task).

Results from the two panels, in conjunction with available theoretical knowledge, indicated that the measure used during the pilot study had both face and content validity. Subsequently, the internal consistency reliability was determined in order to establish the reliability of the measure.

4.2.2. Establishing internal consistency reliability

Before addressing the issue of validity in the methodological and substantive domains, it was necessary to establish the reliability of the measures being used (sub-aim 2). In order to achieve this, internal consistency was established for the newly constructed P-SEMI. Internal consistency was also computed for both of the two established convergent-measures (namely the PSOC and GSE). Computing internal consistency ascertains whether or not the individual items measure the same construct. In order to indicate that the measure is reliable Cronbach alpha values should be 0.80 or higher, but values above 0.95 may indicate redundant items (Lord & Novick, 1968).

Preliminary reliability of the P-SEMI was established during the pilot study described in more detail in section 3.5.3. The initial item subscale total correlations for each of the parenting sub-domains ranged from 0.79 to 0.92. Five of the individual items had an item-total correlation value of less than 0.3 after the pilot testing. As recommended from the pilot results the following items (Q19, Q24, Q34, Q40, Q43) were reworded in the P-SEMI before final administration as they presented with an item-total correlation value of less than 0.30 (Cronbach, 1951; Lord & Novick, 1968).

Establishing the individual item-total correlation values for the main study revealed that the correlation values for Q15, Q34 and Q39 (0.29; 0.28; 0.29 respectively), remained below the established 0.30 cut-off value cited in the literature (Oppenheim, 1992) in spite of the fact that they were reworded. However, it appears as if the rewording for Q19, Q24, Q40 and Q43 substantially improved the item's value in the final administration, as these items now

displayed adequate values. In order to ascertain possible reasons for the low correlation values presented for the three items (Q15, Q34, Q39) the content of these items was once again scrutinized in terms of the types of self-efficacy experiences captured by these items. All the items fall within the vicarious learning subset (see 3.5.1.2 for a complete discussion). However, when these three items were compared to the other items falling within this subset, it was noted that there were differences in the format of the wording of these items. The exact wording of the items, together with two other examples of items with acceptable item-total correlation values from this subset, can be viewed in Table 4.1.

Table 4.1. Items with acceptable and unacceptable item-total correlation values.

Items with unacceptable item-total correlations	Items with acceptable item-total correlations
15. I can listen to advice from other people about how I should discipline my child.	5. I can discipline my child as well as any other parent can.
34. I can listen to other people's advice about daily routines for my child.	13. I can get my child to follow a routine (e.g. bedtime) as well as any other parent can
39. I can learn from watching how other parents discipline their children.	24. I can allow my child the freedom to make appropriate decisions independently.

The primary difference between these questions appears to be the degree of learning from others - in Q15, Q34 and Q39, active learning from others is implied, whereas the remaining items are phrases as more of a comparison (comparing personal capabilities to perceptions about others in general). Therefore, one possibility why these three items failed to display adequate item-total values despite having been re-written at the pilot stage, could be that the participants automatically thought of specific examples of parenting behaviour observed in others that they felt was unsuitable as a comparison.

Most performances are evaluated in terms of social criteria, in other words, social comparison features prominently in determining self-efficacy appraisals (Bandura, 1986). According to Steyn and Mynhardt (2007) the extent to which individuals identify with the model and the level of ability the model possesses, has a large impact on self-efficacy perceptions. It is therefore feasible that by not explicitly stating the comparison as other parents *in general*, the wording of Q15, Q34, and Q39 allowed the mothers to consider the behaviour of some models which they considered as unsuitable, which lead them to disregard this information as a source of comparison. This would be especially plausible within the parenting sub-domain of discipline and routines since the discipline strategies that parents use, as well as the limits they set, vary widely (Ballenski & Cook, 1982). It is for these reasons that Q15, Q34, and

Q39 were removed from all further analyses. The corrected Cronbach alpha reliability coefficients for the 40-item P-SEMI and the P-SEMI subscales can be viewed in Table 4.2.

Table 4.2. Item-total correlations and Cronbach alpha reliability coefficients for P-SEMI subscales.

P-SEMI Subscales	Items in each subscale	Item-total correlations	Cronbach alpha values
Promoting communication interaction	4	0.67	0.91
	11	0.72	
	20	0.73	
	21	0.83	
	23	0.66	
	25	0.78	
Providing appropriate activities for learning and development	30	0.74	0.88
	14	0.70	
	19	0.70	
	22	0.61	
	24	0.55	
	27	0.83	
Establishing discipline strategies	29	0.68	0.91
	32	0.67	
	1	0.69	
	5	0.78	
	16	0.77	
	31	0.79	
Facilitating routines	36	0.69	0.82
	40	0.77	
	2	0.61	
	9	0.59	
	10	0.76	
	12	0.50	
Engaging in play	13	0.64	0.83
	43	0.42	
	3	0.50	
	7	0.39	
	26	0.69	
	28	0.68	
Showing affection and empathy	33	0.60	0.80
	35	0.46	
	41	0.78	
	6	0.55	
	8	0.55	
	17	0.46	
	18	0.65	
	37	0.41	
	38	0.70	
	42	0.60	

As alpha values for each of the parenting subscales were between 0.8 and 0.91 it is clear that internal consistency of the measure is established. The P-SEMI therefore has face and content validity and the internal consistency reliability for the measuring instrument has been established.

For the comparison measures used in the study, the internal consistency value for the GSE was 0.92. When computing the internal consistency value for the PSOC item 6 – “*A difficult problem in being a parent is not knowing whether you are doing a good job or a bad one*”- was removed as the item-total correlation value was under 0.3 for this group of participants. Eight of the original 17 items were reversed scored for the PSOC. The final internal consistency value for the PSOC (with item 6 removed) was 0.89. This indicates that these two measures are reliable measures against which the P-SEMI can be correlated.

4.3. Establishing Validity in the Methodological Domain

Within the methodological domain the focus is on the relationships between the research design and the data and the procedures used for data analysis (Brinberg & McGrath, 1982). During this stage the quantitative evaluation of the validity of the measuring instrument is undertaken. Validity can be determined by using a variety of methods, depending on the intended purpose of the measuring instrument (Benson & Clark, 1982; Foxcroft, 2005; Wolfaardt & Roodt, 2005). Sub-aims 4 and 5 pertain to establishing the validity of the P-SEMI in the methodological domain. In these sub-aims construct and differential validity are specifically highlighted. The statistical procedures employed in order verify these forms of validity, as well as the outcomes of these procedures, are described in 4.3.1 and 4.3.2.

4.3.1. Establishing convergent validity

In order to answer sub-aim 4, the P-SEMI should demonstrate construct validity. In this study convergent validity was the chosen method to determine construct validity (Campbell & Fiske, 1959; Wolfaardt & Roodt, 2005). In this method, the newly developed measure (the P-SEMI) was correlated with two accepted, authentic measurement instruments, namely the GSE and PSOC. Because self-efficacy can be operationalized in various forms, the P-SEMI (a task-specific measure of self-efficacy) was compared to both a domain-general measure (the PSOC) and a global self-efficacy measure (GSE). This allowed the correlation between this measure (the P-SEMI) and other valid formulations for self-efficacy measurements to be established. In this manner self-efficacy was measured at each of the existing levels of self-efficacy described in Figure 2.2. A task-specific measure was developed as a representative of domain-specific measure of self-efficacy, as very few domain-specific measures meet the criteria for the development of self-efficacy scales as proposed by Bandura (1997) and de Montigny & Lacharité (2005) as discussed in 2.5. Correlation values were established using the Pearson coefficient of correlation (Pearson's r) in order to measure the correlation (linear

dependence) between two variables (Cohen, Cohen, West & Aiken, 2003). Table 4.3 presents the correlation between the parenting subscales of the self-efficacy measure and to the two comparison measures - the PSOC (subscales and total) and the GSE.

Table 4.3. Pearson correlation coefficients between the P-SEMI, GSE and the PSOC.

P-SEMI Subscales	GSE total (Schwarzer & Jerusalem, 1995)	PSOC total (Gibaud-Wallston & Wandersman, 1978)	PSOC (efficacy subscale) (Gibaud-Wallston & Wandersman, 1978)	PSOC (satisfaction subscale) (Gibaud-Wallston & Wandersman, 1978)
Promoting communication interaction	0.45	0.64	0.59	0.57
Engaging in play	0.54	0.66	0.61	0.60
Facilitating routines	0.51	0.60	0.55	0.54
Providing appropriate activities for learning and development	0.59	0.65	0.65	0.55
Establishing discipline strategies	0.47	0.60	0.56	0.55
Showing affection and empathy	0.38	0.62	0.60	0.54
Total score (P-SEMI)	0.58	0.73	0.69	0.66

Note: all values significant at 5% level ($p < 0.05$)

Correlation coefficients values above 0.50 indicate a moderate linear relationship between the variables (Cohen, et al., 2003; Rogers & Nicewander, 1988). The P-SEMI, therefore, has a moderate correlation to the GSE (0.58) and a strong correlation to the PSOC (0.73 for the overall scale and 0.69 and 0.66 for the subscales) as can be seen in Table 4.3. From this table it is evident that there is a significant correlation between all the measures, when the different areas of parenting are compared separately, as well as when the total scores for each of the measures are computed.

As discussed in 3.5 the P-SEMI is a task-specific self-efficacy measure that assesses functioning in the parenting domain across 6 previously identified parenting sub-domains. It is noted that the P-SEMI has a lower correlation with the GSE (0.60), which is a global measure of self-efficacy, and a slightly stronger correlation to the other parenting self-efficacy measure (the PSOC). Watt and Martin (1994) also found evidence of a significant positive relationship between global and domain-specific evaluations of self-efficacy (a Pearson correlation of 0.56 between results on the global and specific self-efficacy measures). Referring to Figure 2.2, the PSOC, as a domain-general measure, also addresses self-efficacy within the parenting domain while the GSE provides more global self-efficacy information. It would appear that although there is still a moderate correlation between the domain-specific measures of self-efficacy and the global self-efficacy measure, the stronger correlation between the domain-specific (or task-specific, as in this instance) and domain-general measures indicates that the construct of global self-efficacy is to a certain extent, conceptually distinct from the single domain efficacy being investigated here namely parenting self-efficacy. It is the greater conceptual congruence between domain-specific measures (like the P-SEMI) and the domain-general measures (like the PSOC) compared to the overlap of domain-specific measures (the P-SEMI) and global self-efficacy measure (the GSE), which is most likely to impact on the strength of the correlations between the measures observed in this study. In a study of parenting self-efficacy Coleman and Karraker (2000) reported a zero order correlation of 0.48 between the chosen global self-efficacy and domain-specific efficacy measures compared to 0.78 between the chosen domain-specific and the domain-general measure, once again supporting the notion that these measure are designed to asses the construct of self-efficacy at various levels.

It is evident that there is a moderate to strong correlation between the measurements and therefore it can be concluded that convergent validity between these three measures has been established. This implies that the P-SEMI demonstrates construct validity as a self-efficacy measure. It is, however, important to note that while the correlations are high enough to denote that the P-SEMI assesses the same construct as the GSE and the PSOC, the values are not so high as to suggest that the P-SEMI is a duplication of the existing measures. Thus it would appear that there is value in assessing self-efficacy at various levels of analysis as each provides a certain amount of unique information regarding the self-efficacy construct.

4.3.2. Establishing differential validity

To investigate the P-SEMI's sensitivity in identifying differences between mothers who have different levels of self-efficacy the measure (together with the GSE and PSOC) was administered to two groups of mothers, mothers of children with a disability and mothers of children without a disability, in order to answer sub-aim 5. In establishing differential validity, the theoretical assumption was that mothers of children with disabilities would be more likely to have lower levels of parenting self-efficacy due to the distinctive nature of parenting a child with a disability. There is sufficient literature to suggest that parents of children and infants with disabilities or at risk of disabilities do find certain aspects of care-giving more challenging when compared to parents of typically developing children (Barnes & Adamson-Macedo 2007; Hastings & Brown, 2002; Kendall & Bloomfield, 2005; Pit-ten Cate, et al., 2002; Scheel & Rieckmann, 1998; Wilder, Axelsson, & Granlund, 2004). Greater care-giving responsibilities, additional accommodations to family routines and differences in parent-child interaction patterns are examples of some of these reported differences.

In order to investigate this hypothesis multivariate parametric statistics were used (Mendenhall & Beaver, 1994). An independent t-test was conducted in order to determine if there were any statistically significant differences across any of the parenting sub-domains or for the total score obtained on the P-SEMI and the other measures namely GSE and PSOC. An independent t-test tests the sample or groups of participants which have no relationship to each other (Mendenhall & Beaver, 1994). The null hypothesis put forward was that both groups have equal means for all variables being tested. If the calculated p-value is below the chosen significance level, it is possible to reject the null hypothesis in favour of the alternative hypothesis (which in this instance is that the means for the two groups differ). Table 4.4 presents the mean scores and standard deviation for each of the six parenting sub-domains of the P-SEMI as obtained from the independent t-test. As can be seen in Table 4.4 the overall scores between the two groups are significantly different at the 5% level, which indicates that the alternative hypothesis can be accepted.

Table 4.4. Results of the t-test for the P-SEMI measure.

P-SEMI subscales	Mothers of typically developing children (n=47)		Mothers of children with disabilities n=(32)		t-value	p-value
	Mean	SD	Mean	SD		
Promoting communication interaction	14.28	3.97	17.87	7.45	-3.03	0.0041*
Engaging in play	14.28	4.20	17.87	5.40	-3.33	0.0013*
Providing appropriate activities for learning and development	11.94	3.40	16.56	5.70	-4.11	0.0002*
Establishing discipline strategies	11.19	3.70	14.84	7.16	-2.65	0.0112*
Facilitating routines	10.80	3.46	14.40	4.69	-3.71	0.0005*
Showing affection and empathy	10.23	2.83	11.75	4.17	-1.90	0.0786
Complete P-SEMI scale	71.15	18.38	92.50	28.71	-3.72	0.0005*

Note. *p< 0.05 which indicates significance at the 5% level

From Table 4.4 it is clear that there is a statistically significant difference at a 5 % level on five of the six parenting sub-domains, affection being the only parenting sub-domain subscale for which no significant difference is reported in this data. In a study of parenting efficacy levels of parents who attended parenting programmes compared to those who did not, Kendall and Bloomfield (2005) also reported significant differences in scores for the majority of the parenting sub-domains investigated (seven out of nine sub-domains). In the current study the mean values for both the groups of parents, ranked according to means (low means equates to higher self-efficacy levels) were as follows: showing affection and empathy, facilitating routine, establishing discipline strategies, providing appropriate activities for learning and development, promoting communication interaction and engaging in play. In a follow-up study, Kendall and Bloomfield (2007) reported that affection and emotional availability were the highest means in a group of parents pre-intervention, while means for learning and play fell in the bottom third of the parenting sub-domains during a pre-intervention evaluation. Interestingly, affection and routines were the only two sub-domains of parenting to increase

significantly from the pre-intervention measure to the post-intervention measures of parents attending parenting programmes. Data would therefore suggest that for parents of children with and without disability certain parenting tasks (namely learning, communication and play) are perceived as more complex than others (for example being affectionate or providing routines) (Kendall & Bloomfield, 2005; Kendall & Bloomfield, 2007; Harty, Alant & Uys, 2007).

However, data from this study indicates that the greatest difference between the mean scores for the subsections, across the two groups is for providing appropriate activities for learning and development, closely followed by promoting communication interaction and engaging in play. Again this would indicate that in spite of these being perceived as more complex parenting tasks by both groups of mothers, the group of mothers with children with disabilities perceived themselves as even less competent in these areas. Once again data from Kendall and Bloomfield (2005) and Harty, et al., (2007), would seem to corroborate these findings.

Furthermore, it is interesting to note that the statistically significant difference between the two groups of mothers based on the task-specific measure of parenting self-efficacy is not evident in the measure for global self-efficacy (the GSE). As the two groups are comparable across the most important aspects investigated in this study, it can therefore be assumed that the presence of the disability accounts for this difference in perceptions of parenting self-efficacy. This is further supported by the data that the mothers of children with disabilities do not present with levels of global self-efficacy which are significantly lower statistically compared to the group of mothers of typically developing children. Coleman and Karraker (2000) investigated the relationship between measures that targeted various levels of self-efficacy. Results indicated that both the global and domain-general self-efficacy variables made significantly unique contributions to domain-specific self-efficacy scores. This would seem to suggest that refinement of the construct of parenting self-efficacy and a greater understanding of the processes through which self-efficacy appears to develop has direct implications on the ways in which parenting self-efficacy can be accurately assessed and monitored.

In terms of sub-aim 5, the task-specific measure does indeed possess discriminant validity and appears to be the formulation of choice in terms of its ability to discriminate between the two groups of mothers as discussed in 4.3.3.

4.3.3. Differential validity across all the self-efficacy measures

In addition to the t-test conducted for the two groups for the P-SEMI, an independent t-test was also conducted for the two groups of mothers for the comparison measures included in this study (the GSE and PSOC). The results of the three measures can be viewed in Table 4.5.

Table 4.5. Results of the t-tests for each of the self-efficacy measures.

Self-efficacy measures	Mothers of typically developing children (n=47)		Mothers of children with disabilities n=(32)		t-value	p-value
	Mean	SD	Mean	SD		
Complete P-SEMI scale	71.15	18.38	92.50	28.71	-3.72	0.0005*
PSOC satisfaction subscale	20.51	6.69	23.21	7.42	-1.66	0.1027
PSOC efficacy subscale	19.72	4.52	21.44	5.92	-1.38	0.1719
Complete PSOC scale	40.23	10.01	44.66	12.49	-1.67	0.1004
GSE scale	22.45	5.92	23.47	8.04	-0.61	0.5417

Note. *p< 0.05 indicated significance at the 5% level

The data presented in Tables 4.4 and 4.5 indicates that no statistical difference was observed between these two groups of participants on the PSOC and GSE, although the means for the group of mothers of children with disabilities are higher than those of the mothers of typically developing children (implying lower self-efficacy scores). There was, however, a statistically significant difference across the two groups for the entire scale P-SEMI (as indicated in 4.3.2). This indicates that this task-specific measure of parenting self-efficacy is indeed sensitive enough to account for differences across these two groups of mothers.

As previously stated, there was no difference for the GSE. The GSE, however, is a global measure therefore it is possible to assume that these parents do not have statistically significantly different levels of global self-efficacy as discussed in 4.3.2. The implications for global self-efficacy is such that it supports the literature which states that global self-efficacy

is said to influence other domains of efficacy only until there is sufficient information gathered in order to make a judgement of competence in that domain (Shelton, 1990). Some self-efficacy researchers prefer to refer to this distinction as judgements of self-efficacy for performance and self-efficacy for learning (Pajares, 1997). When individuals are familiar with the task they rely on judgements of self-efficacy for performance, however judgements of self-efficacy for learning (similar to measure of global self-efficacy) may be relied upon when faced with a novel task. Thus the PSOC may be capturing judgements of self-efficacy for performance, whilst the GSE may be capturing judgements of self-efficacy for learning. The PSOC, however, is a domain-general measure and this would affirm what is written in the literature, namely, that task-specific measures (such as the P-SEMI) may be more sensitive than domain-general measures in terms of assessing parenting self-efficacy (Bandura, 1997; de Montigny & Lacharité, 2005).

From Table 4.5 it is also evident that the group of mothers of children with disabilities has a much larger standard deviation (28.71 versus 18.38) for mean scores obtained on the P-SEMI compared to the group of mothers of typically developing children. This difference between the two groups is not evident on either the PSOC or the GSE means. One possible explanation for this large standard deviation may be due to the construction of the P-SEMI items. The P-SEMI is the only measure which takes into account a variety of influences on self-efficacy (as discussed in 3.5.1). It is possible that the different item formats capture slight variations in judgement of self-efficacy depending on whether vicarious or personal experience is being ascertained. In the group of mothers of children with disabilities, the variation between judgements of their own parenting ability compared to the competence of other mothers is potentially larger, especially if the comparison group is mothers of typically developing children. This could then be translated into a greater range of scores for the group of mothers with children with disabilities, which may result in a larger standard deviation.

From the above it is hypothesized that the operationalization of the parenting sub-domains as stipulated by Bandura (1997) as discussed in 3.5.1 and 4.2.1 is what enables this measure to distinguish clearly between the self-efficacy judgements currently held by each group. The higher a person's level of self-efficacy is, the more likely they will be to remain "task-diagnostic" and search for solutions to the problem, while lower levels of self-efficacy increase the likelihood of an individual becoming "self-diagnostic" which negatively impacts on the possibility of determining successful courses of action (Maddux, 2002). Therefore, in spite of the fact that there are very few task-specific measures of parenting self-efficacy

(Guimond, et al., 2008), it appears as if measuring self-efficacy at a task level allows us to best capture the link between judgements of self-efficacy and the corresponding behaviour or outcomes.

4.4. Establishing Validity in the Substantive Domain

As discussed in 3.4 the third phase of the validation process, namely establishing validity in the substantive domain, can only occur once the data has been analysed and the results are available for interpretation (Brinberg & McGrath, 1982). Sub-aim 6 as stated in 3.2.2 was beginning to collect data relating to the validity of the measure in the substantive domain. From the current data it is clear that the P-SEMI is a theoretically sound measure that possesses face, content, construct and differential validity. This task-specific measure, although moderately correlated with both global (GSE) as well as domain-general measures (PSOC), was the most sensitive to the differences in self-efficacy beliefs between the two groups of mothers used in this study. Furthermore, it was the only measure to statistically differentiate between them. Thus, this measure might be valuable for identifying mothers' perceived strengths and weaknesses across the six parenting sub-domains incorporated in the P-SEMI. It is, however, imperative to acknowledge that the validation of a newly developed measure is almost never completed in a single study alone (Benson & Clark, 1982; Wolfaardt & Roodt, 2005). Data from subsequent studies will need to be systematically compiled as it becomes available in order to substantiate the initial validity demonstrated in this study.

4.5. Summary

Chapter 4 dealt with the presentation, statistical analysis, description and interpretation of the results according to the three domains to be validated as proposed by Brinberg & McGrath (1982). The aim was to demonstrate that the P-SEMI, a task-specific measure of parenting self-efficacy has validity in the conceptual, methodological and substantive domains. This would then demonstrate the measure as a valid and reliable method of assessing parenting self-efficacy beliefs.

Within the conceptual domain, the P-SEMI displayed internal consistency reliability, as well as face and content validity. Within the methodological domain, the P-SEMI demonstrated construct and differential validity. Statistically significant differences between two groups of participants on five of the six subscales of the P-SEMI were recorded. As expected, affection was the only parenting subscale where no significant difference was noted between the two



groups of mothers. No statistically significant differences between the two groups exist on either the GSE or PSOC (the two comparative measures) although there is a moderate correlation between the three measures. This would seem to indicate that although there is a moderate correlation between global, domain-general, and task-specific self-efficacy measures, task-specific measures appear to have the greatest discriminatory power in determining current levels of functioning within the parenting domain across different groups of participants. These results indicate that the P-SEMI is a reliable and valid task-specific parenting self-efficacy measuring instrument. The current results form the foundation on which further research can be conducted in order to verify and augment validity within the substantive domain.

CHAPTER 5

CONCLUSIONS

5.1. Introduction

The aim of this study was to develop and validate a task-specific measure of parenting self-efficacy encompassing the following parenting sub-domains: showing affection and empathy, engaging in play, facilitating routines, establishing discipline strategies, scaffolding learning and development and promoting communication interaction.

In order to achieve this validity was established in the theoretical domain (through the development of the measure and establishing its face validity) as well as in the methodological domain (by establishing internal consistency reliability as well as content, construct and differential validity). These results allow preliminary reliability and validity data to be recorded in the substantive domain. This chapter presents the conclusions that were extrapolated from the data.

5.2. Conclusions Drawn from the Data

Information provided in Figure 5.1 is used to facilitate the discussion regarding the reliability and validity of the P-SEMI. Figure 5.1 presents a possible 3-tiered classification system, as opposed to the 2-tiered system presented in Figure 2.2. This classification system has been proposed based on the results from the current study. Although this classification remains tentative, it provides a framework that can be employed to discuss the conclusions drawn from the data.

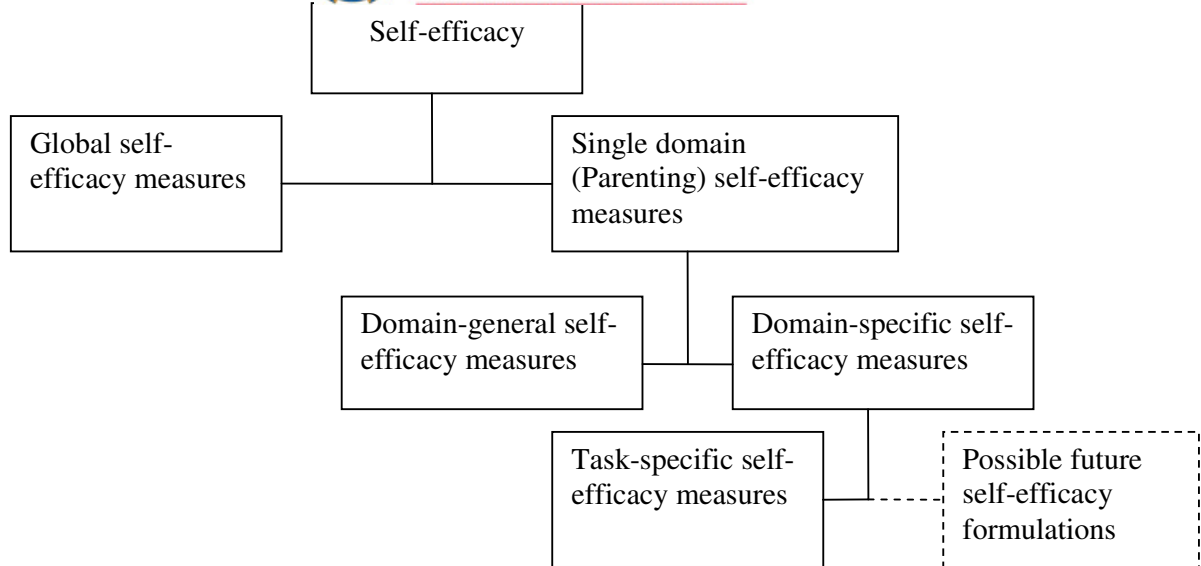


Figure 5.1. Proposed classification of self-efficacy measures according to the construction of the measure.

5.2.1. Implications of the establishment of internal consistency reliability

The P-SEMI possesses sufficient reliability, as evidenced by internal consistency reliability, to state that the items operationalize the six distinct domains distinct parenting sub-domains, as intended. The formulation of the items according to criteria stipulated by Bandura (1997) also taps three of the five sources of self-efficacy information. In this current version, items capturing, personal experiences, vicarious learning and emotional arousal (linked to increasing difficulty of task requirements) were included for each of the six parenting sub-domains. This ensures the reliability of the measure. To date, the P-SEMI remains the only parenting self-efficacy measure constructed in this manner. This specific formulation may be one of the reasons why this measure displays differential validity (which will be discussed under 5.2.2).

5.2.2. Implications of the establishment of validity

In order to establish validity of the constructed measure, the data from the P-SEMI was compared to data obtained from a global self-efficacy measure (the GSE) as well as to a domain-general measure (the PSOC). Measures at each of the category levels proposed in Figure 5.1 were used for the validation procedure in order to better understand the relationship between measures and to obtain a clearer idea of which formulation appears to be the most applicable for ascertaining levels of parenting self-efficacy. A global measure (GSE)

as well as a domain-general measure (PSOC) was used as convergent measures. Ideally, an additional domain-specific measure would have facilitated this comparison. Due to the lack of clarity in the literature regarding the definition and distinction between task-specific and domain-specific formulations, it was difficult to decide on a measure to represent the domain-specific level. A task-specific measure, as defined in this dissertation, operationalizes the construct of parenting self-efficacy in terms of very specific parenting tasks across the specified parenting sub-domains. In addition, this formulation includes items that possess differing levels of task difficulty, as well as items that capture the different sources of efficacy information within each sub-domain. Due to the lack of consensus as to how to construct a task-specific measure, the field lacks sufficient empirical data to facilitate judgements on the ability of value of task-specific formulation of parenting self-efficacy measures from domain-specific measures to differentiate between different levels of self-efficacy.

In the classification system presented in Figure 2.2 the task-specific measures were initially conceptualized as representing the same level as domain-specific measures. A domain-specific measure was not used to establish the construct validity for the P-SEMI. For this reason this constitutes a limitation of the current study and further research may wish to redress this issue. However, results from this study indicate that the task-specific formulation appears to be the only formulation able to differentiate between self-efficacy levels of the two different groups of parents. Other measures formulated using task-specific guidelines, such as the parenting tasks checklist (Sanders & Woolley, 2001) also provide evidence of discriminant validity. On the other hand, data indicating discriminant validity for domain-specific measures such as the SEPTI-TS (Coleman & Karraker, 2003) and the TOPSE (Kendall & Bloomfield, 2007) is currently not available. Thus to date only the task-specific measures have demonstrated the ability to discriminate between different levels of self-efficacy as evidenced amongst the two different groups of parents. This would lend credibility to the presence of a third level in the category depicted in Figure 5.1. As such, task-specific self-efficacy measures should form part of an additional sub-ordinate level category under domain-specific measures.

An alternative hypothesis may also be argued as follows: task-specific measures will become the formulation of choice within specific parenting domain, due to their ability to more accurately differentiate between levels of self-efficacy. As discussed previously, this may be due to the fact that this formulation adheres most closely to the development criteria for self-efficacy stipulated by Bandura (1997). Once sufficient research data was to become available

to substantiate this hypothesis, task-specific formulations may indeed replace the current domain-specific formulation at the second level of the classification system, and the need for a further classification level may become redundant. As evidenced from this discussion, it is necessary to conduct further research, in order to ascertain the appropriateness and value of the structure of the proposed classification system, and also to prove or disprove the hypotheses discussed above. Other formulation options that might form part of the additional sub-ordinate level (as depicted in Figure 5.1) should also be included in such investigation.

The data obtained for convergent and discriminant validity will now be synthesised and the implications thereof highlighted. In terms of convergent validity the level one measure, a global self-efficacy measure (GSE), constructed in agreement with Bandura's criteria, appeared to have a slightly lower correlation with the P-SEMI than the additional domain specific measure (the PSOC). As the global measure does not relate exclusively to one particular domain i.e. parenting, but rather encompasses self-efficacy beliefs pertaining to multiple domains, global measures could therefore incorporate domains where parents feel very competent as well as domains of less competence. Since global self-efficacy judgements are therefore a summation of self-efficacy across all relevant domains in which a person functions, it is possible that global levels of self-efficacy may differ to the level assigned to parenting self-efficacy. This therefore possibly accounts for the lower correlation. When one looks at the means between the two groups on each of the two convergent measures, it becomes clear that the GSE means for two groups only differ very slightly (22.4 versus 23.4) whereas a greater difference between the two groups means on the PSOC (40.2 versus 44.6) exists due to its specific focus on parenting. The PSOC (used as a level two correlate) can be defined as a single-domain measure and therefore only assesses self-efficacy beliefs related to parenting. This domain-general measure exhibits a moderate correlation to the P-SEMI.

An additional issue relates to the universality of the self-efficacy construct. Specific data regarding the applicability of the domain-specific measure of parenting self-efficacy across a variety of cultures is sparse. Parenting norms and standards differ across countries and cultures and thus plausible measurement differences between these two levels may exist (Odom, & Kaul, 2003). According to Oettingen (1999) the types of sources solicited in forming self-efficacy judgements, as well as the value an individual places on these sources is culture specific. Therefore judgements of parenting self-efficacy may be more susceptible to cultural norms and values regarding parenting and disability within the particular culture. On the other hand, Luszczynska, et al., (2005) states that global self-efficacy appears to be

applicable across a variety of different countries and cultures. The measure of global self-efficacy used in this study, the GSE, has been validated in both developing (such as India and Brazil) as well as developed (the UK, USA and Germany) contexts (Luszczynska, et. al., 2005; Scholz, Gutiérrez-Doña, Sud, & Schwarzer, 2002). Global feelings of self-efficacy may, to a certain extent, buffer cultural influences on behaviour. Not only could this account for the difference between scores on the global and task-specific measures of self-efficacy, but it could also account for the lower correlation of the global measure to the P-SEMI compared to the correlation of the P-SEMI and the domain-general measure.

The data suggests a moderate correlation between the ratings at each of the different levels depicted in Figure 5.1. Therefore comparing the convergent data obtained from the three measures it would appear as though there is a certain amount of overlap in the formulations at each level of Figure 5.1. Each formulation, however, appears to tap a unique aspect of this construct. Coleman and Karraker (2000) also attempted to qualify the relationship between domain-general, global and domain specific measures of parenting self-efficacy and parent's satisfaction with parenting. Results indicated that each of the self-efficacy levels made a unique contribution to the parental reports of parenting satisfaction. They reported that global and domain-specific measures are moderately correlated, yet global self-efficacy appears to be a better predictor of parenting satisfaction than either domain-general or domain-specific measures. In this study, however, only the task-specific formulation in this study appears to be able to discriminate between the self-efficacy levels of two groups of participants and not the global self-efficacy measure. These results would appear to contradict the results obtained by Coleman and Karraker (2000), but their choice of using a domain-specific measure in contrast to a task-specific measure may explain the discrepancy between the results. Once again the question arises as to how the results may have differed had a task-specific measure been used in the place of a domain-specific measure.

The discussion suggests that many unanswered questions still exist regarding the correlation of the different formulations of self-efficacy and how these relate to observable outcomes. Additional research should be conducted in order to clarify the unique contribution that each of the formulations makes towards the understanding of the concept of self-efficacy and its operationalization within various domains, such as parenting.

5.3. Overall Validation of the P-SEMI

This measure displays sufficient reliability and validity within the theoretical and methodological domains. The initial psychometric validity of the P-SEMI has been established in this study. As more research is conducted using the P-SEMI, more evidence will become available in the substantive domain, which will influence subsequent validity judgements. Current evidence suggests, however, that the P-SEMI is a valid and reliable tool which can be used to assess levels of self-efficacy in mothers of young children. The operationalization of the construct of parenting self-efficacy is such that it can be used to provide an in-depth assessment of mothers' levels of functioning across each of the specified parenting sub-domains. In addition, information is provided regarding the three sources of self-efficacy information, namely personal and vicarious experience, as well as emotional arousal within each of the specified parenting sub-domains. Thus this measure, which is unique in its construction, is able to accurately capture parenting self-efficacy beliefs of mothers of young children.

Moreover, while the focus of this research was not to highlight differences between the two groups of participants, it is important to note that results of discriminant validity for this measure indicate that discrepancies do exist between the parenting self-efficacy levels of these two groups of mothers. This would reinforce the importance of incorporating self-efficacy as a valid component of parent training programme within early intervention services for parents of children with disabilities in order to maximise parental feelings of competence.

5.4. Critical Review of the Research

The following critical issues were highlighted as a result of the research and will be used to suggest areas of focus for future research. The following are the most important strengths of the research:

- The fact that the factors impacting on the development of self-efficacy beliefs, together with the criteria for development of self-efficacy scales, have been incorporated into specific parenting sub-domain identified from the literature implies that the construction of this measure is conceptually accurate. As many existing measures have been criticized for lacking conceptual clarity (Jones & Prinz, 2005), this can be seen as one of the strengths of this study.
- The operationalization of these abstract concepts into measurable units also contributes toward promoting the relationship between research and clinical

intervention as the more specific and measurable the unit of assessment is, the more valuable information it yields in terms of intervention planning (Bagnato, Neisworth, & Munson, 1997). Therefore, developing a measure that has relevance in both clinical and research contexts is valuable and as such the P-SEMI has intrinsic value in both clinical and research contexts.

- The operationalization process used in the development of this parenting self-efficacy measure can be repeated in order to develop similar task-specific single-domain self-efficacy measures in the future.
- The formulation of a task-specific measure and the attempt to differentiate it conceptually from domain-specific measures can be seen as a definite strength of this study. A thorough review of the literature from the fields of test validation, parenting, psychology and early intervention made this possible.
- The classification system proposed in this dissertation is an attempt to objectify the challenges in measurement of the concept of self-efficacy. The advantage to this is that the inconsistencies between the fields are identified and a systematic approach to terminology use could be proposed. Finally, it is possible that the proposed classification system will provide a common framework for describing parenting self-efficacy across a variety of contexts. Thus it assists not only in furthering the field of early childhood intervention, but also promotes comparison with research being conducted in related fields such as psychology and nursing.
- The use of unambiguous terminology advances the research which can be conducted within the field and also promotes comparison of research from related fields. Not only does it provide a suggestion for common terminology for describing parenting self-efficacy which assists in deciding on acceptable definitions. It also synthesises what is important in both the parenting, as well as self-efficacy fields.
- The research design was sufficiently rigorous and allowed the internal consistency reliability, as well as initial psychometric validity to be established for the P-SEMI.
- The fact that a task-specific measure was correlated to both a global and domain-general measure provided insights into the possible relationship between these formulations. This study is a first attempt to understand the different formulations of self-efficacy and how these relate to each other and as such it is both a strength and limitation, since it invokes more questions than it answers. Subsequent research might be to look at how these different formulations might link to observable outcomes or behaviour.

The following can be viewed as limitations of the current research:

- The fact that the newly developed task-specific measure was not correlated with any existing domain-specific measures can be viewed as a definite delimitation of the current study. Due to the vague distinctions between the definition and development of the domain specific and task-specific measures, it was not initially clear that the formulations differed sufficiently to merit the inclusion of both formulations in the current research. Future research might, however, compare task-specific and domain-specific measures' ability to differentiate between different levels of self-efficacy.
- The participant number (n=79) is a small sample size for survey research. This limitation means that the results obtained from administering the P-SEMI and other measures (GSE and PSOC) may not be easily generalized to other contexts or populations.
- An additional delimitation is that the birth order and number of children in a family were not controlled for in this study.
- A criticism levelled at other research studies using existing measures is that the sample is very homogenized and consists of predominantly Caucasian mothers from middle class backgrounds. Despite the fact that this study is conducted in Africa, and although these criteria were not specifically part of the selection criteria for this study, the same could be said of the current sample. Future research should include a more heterogeneous sample.
- Finally the P-SEMI is currently only validated on mothers due to the literature which states that parenting self-efficacy may be affected by parental gender. This implies that fathers' responses on this measure have yet to be established. This delimitation needs to be addressed in future research.

5.5. Recommendations for Further Research and Service Delivery

Recommendations for future research follows based on points highlighted in 5.4:

- The P-SEMI has clinical value, as it can be used to provide in depth assessment of parents levels of functioning across each of the specified parenting sub-domains.
- Exploratory factor analysis should be conducted on the P-SEMI in order to extract underlying factors in the structure of the scale.
- A further step would obviously be to establish the value of using the P-SEMI as a pre- and post-intervention measure for those parents enrolled in an early childhood intervention programme, which aims to increase parent's level of competence.

- A further area for future research would be to expand parenting tasks covered in the P-SEMI to be applicable to parent's school-aged children by including sub-domains such as nurturing academic achievement, providing access to recreational activities, as well as promoting physical and emotional well-being.
- In addition to this information regarding the way fathers would respond to the P-SEMI needs to be investigated as the P-SEMI was completed exclusively by mothers in the current study. Research has indicated (Hastings & Brown, 2002; Johnston & Mash, 1989) that there may be differences in the impact of self-efficacy on performance and actions for fathers compared to mothers.
- The choice of existing measures against which to validate the P-SEMI has been justified but, as stated previously, it may have been useful to include a domain-specific measure in addition to a domain-general measure as comparative measure. Future research may investigate differential validity of domain-specific versus task-specific measures of self-efficacy.
- Additional task-specific measures need to be developed within the parenting domain in order to define the format of task-specific measures and to refine the operationalization of parenting self-efficacy at this level.
- It is postulated that the large standard deviation obtained on the P-SEMI is due to the inclusion of different item formats. Future research may also determine if significant differences exist between judgements obtained from each of the 3 item formats included in the P-SEMI or similarly developed parenting self-efficacy measures.
- The nature of parenting self-efficacy has primarily been established among predominantly developed or western cultures. Specific data regarding the applicability of the domain-specific measure of parenting self-efficacy across a variety of cultures is sparse. This is a limitation because, as Bandura (1977) states, culture plays an important part in the way successful and unsuccessful attempts are filtered, as well as the degree of importance you place on your own unique abilities. In the African culture, the concept of "Ubuntu" – "I am because we are", may substantially alter how successful experiences are perceived and processed, and which will ultimately impact on the concept of self-efficacy (Broodryk, 2006; Mpofu, 1994). Further research needs, therefore, to be conducted to understand how cultures with a more collective identity and alternative cultural parenting norms, approach the construct of parenting self-efficacy. The applicability of the P-SEMI as an assessment tool needs to be determined with relevance for these specific populations.

- Finally research is required in order to substantiate the classification system proposed in this dissertation and clarify the relationships between sub-ordinate levels (domain-specific measures) of this system. The relative value in differentiating levels of parenting self-efficacy of both the domain-specific and task-specific formulation needs to be investigated.

5.6. Conclusion

Numerous formulations of self-efficacy measures have been proposed and used in the parenting literature. In the development of this particular measure, not only have issues surrounding the operationalization of the construct of parent self-efficacy been investigated, but challenges in the conceptualization of the construct have also been highlighted. The P-SEMI was developed from a theoretical understanding of both parenting and self-efficacy domains. It has also been sufficiently validated in order to make it a measuring instrument with applicability to the clinical or service delivery component of the field of early intervention. It is suggested that the P-SEMI may be used to further develop the research agenda of the field of parenting self-efficacy.

5.7. Summary

This chapter presents and defends conclusions drawn from the data. It also highlights the clinical and research implications of this research against the proposed classification system for measures used in assessing parenting self-efficacy (Figure 5.1). An evaluation of the research clearly states that although valuable contributions were made, especially with regard to theoretical understanding and the operationalization of the parenting self-efficacy construct, a number of unresolved issues remain that need to be addressed in future research.