

**A LONGITUDINAL STUDY OF THE OCCUPATIONAL  
ASPIRATIONS AND PERCEPTIONS OF TWELVE TO  
FOURTEEN YEAR-OLD SOUTH AFRICAN CHILDREN**

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Dedicated to Chané and Anika Van Deventer  
who left this world before their occupational  
aspirations could be realised.

I can only imagine what wonderful women they  
would have become.

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## TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iii
LIST OF TABLES	ix
LIST OF FIGURES	xi
SUMMARY	xii
CHAPTER 1: INTRODUCTION	1
CHAPTER 2: THEORETICAL FRAMEWORK	10
Child Development Theory	11
Developmental tasks during adolescence	12
Jean Piaget	13
Piaget's developmental stages	13
Erik Erikson	15
Erikson's psychosocial stages	16
Summary	17
Career Development Theory	18
Donald Super	20
Lifespan, life-space theory	21
Stages of career development	23
Career construction theory	24
Evaluation of Super's theory	25
Linda Gottfredson	26
Development of the self concept and cognitive states	26
Circumscription	29
Compromise	30

Evaluation of Gottfredson's theory	31
Summary	32
Conclusion	34
CHAPTER 3: RESEARCH REVIEW	35
Format of Review	35
Overview of Childhood Career Development Research	36
Summary	41
Overview of Children's Occupational Aspiration Research	42
Systemic Review of Children's Occupational Aspiration Research	44
Individual factors	45
Self-concept and self-efficacy	45
Age	47
Gender	49
Race and Culture	53
Social factors	56
Family	56
Media	59
School	60
Environmental-societal factors	60
Socioeconomic status	61
Summary	63
Overview of Occupational Gender Stereotype Research	64
Summary	67
CHAPTER 4: RESEARCH METHODOLOGY	68
Problem Statement	68

Primary aims of the research	70
Research Method	71
Participants and Sampling	73
Research Measures	76
Biographical Questionnaire	76
Career Awareness Questionnaire (CAQ)	77
Ethical Considerations	80
Informed consent	81
Coercion	81
Confidentiality	82
Feedback	82
Research Procedure	82
Data Coding	85
Realistic type	86
Investigative type	86
Artistic type	86
Social type	87
Enterprising type	87
Conventional type	87
Data Analysis	88
Summary	90
CHAPTER 5: RESULTS	91
Occupational Aspiration Typology over Time	91
Total Sample	91
Girls	96

Boys	98
Occupational Aspiration Status Level over Time	99
Total Sample	99
Girls	104
Boys	105
Occupational aspirations according to Gottfredson's theory	106
Gender Stereotyping of Occupations	110
Extent to which girls gender stereotype occupations	111
Extent to which boys gender stereotype occupations	114
Children's Reflections on their own Career Development	117
Summary	122
CHAPTER 6: DISCUSSION	123
Occupation Aspiration Typology over Time	123
Occupational Aspiration Status Level over Time	132
Gender Stereotyping of Occupations	135
Children's Reflections on their Occupational Aspiration Development	138
Limitations and Recommendations	141
Conclusion	145
REFERENCES	147
APPENDICES	169
Appendix A	169
Appendix B	170
Appendix C	171
Appendix D	172
Appendix E	175

Appendix F	178
Appendix G	182



## LIST OF TABLES

Table 1: Status Codes for Occupations	88
Table 2: Frequency Counts for Occupational Aspiration Typology over Three Years: Total Sample	93
Table 3: Frequency Counts for Intra-individual Occupational Aspiration Typology over Three Years: Total Sample	95
Table 4: Frequency Counts for Occupational Aspiration Typology over Three Years: Girls	97
Table 5: Frequency Counts for Occupational Aspiration Typology over Three Years: Boys	99
Table 6: Frequency Counts for Occupational Aspiration Status Levels over Three Years: Total Sample	101
Table 7: Frequency Counts for Intra-individual Occupational Aspiration Status Level over Three Years: Total Sample	102
Table 8: Frequency Counts for Occupational Aspiration Status Levels over Three Years: Girls	104
Table 9: Frequency Counts for Occupational Aspiration Status Levels over Three Years: Boys	106
Table 10: Frequency Counts of Content Themed Reasons for Occupational Aspirations	108
Table 11: Frequency Counts of Reasons for Occupational Aspirations according to Gottfredson's Stages	109

Table 12: Extent to which Girls Gender Stereotype Occupations for Girls over Three Years	111
Table 13: Extent to which Girls Gender Stereotype Occupations for Boys over Three Years	113
Table 14: Extent to which Boys Gender Stereotype Occupations for Boys over Three Years	115
Table 15: Extent to which Boys Gender Stereotype Occupations for Girls over Three Years	116
Table 16: Frequency Counts of Themed Reasons for Occupational Aspirations: Total Sample and Gender	118
Table 17: Frequency Counts of Themes for Changed Occupational Aspirations: Total Sample and Gender	120
Table 18: Frequency Counts of Occupational Themes for Occupational Aspirations: Total Sample and Gender	121

**LIST OF FIGURES**

Figure 1: The Life Career Rainbow	22
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## SUMMARY

While career development has been acknowledged as a lifelong process, little research attention has been given to the developmental stage of childhood. In addition, there has been a lack of longitudinal research into career development despite consistent calls for research of this nature. The lack of research and theory pertaining to childhood career development prompted the initiation of the current longitudinal project of which the present study forms a part. The longitudinal project was designed to provide information about the occupational aspirations and perceptions of a cohort of South African children from six years of age onwards, with the present study examining the occupational aspiration development of 12 to 14 year old South African children. South African career research to date has focused primarily on adolescent and adult career development. The present longitudinal study aimed to explore and describe possible changes over a three year period in the interest typology, occupational status level and occupational gender stereotypes of the 44 participants. In addition, the study aimed to explore and describe the sample's reflections on their own occupational aspiration development. The results of this study will provide much needed baseline information on the development of South African children's occupational aspirations and will provide useful recommendations for the development of career education programmes.

The present study was contextualised within both child and career development theories. This study was quantitative in nature as it made use of semi-structured interviews and biographical questionnaires to record verbal data which was transposed into nominal data for analysis. The semi-structured interview consisted of four broad areas that included the participants' occupational aspirations, how many occupations they knew about, how much they knew about the identified occupations

and the extent to which they held gender stereotypes regarding fourteen different occupations. The data captured was coded according to Holland's (1985) classification system of interest types. The occupational aspirations identified by participants were also coded according to their status levels. The coded data was then analysed using descriptive statistics in the form of frequency counts and percentages. In addition, content analysis was performed on the participants' reflections on their own career development in order to elicit themes.

Results from the study supported child and career development theories, emphasising childhood as a critical phase of career development. The study found that the majority of children aspired to Social type occupations across all three years of the study and most children consistently aspired to high status occupations. Furthermore, occupational gender stereotyping decreased over time. Lastly, it was found that most children were able to reflect on their career development with the majority attributing changes in their occupational aspirations to changes in their interests.

The present study has provided valuable insight into the occupational aspiration development of a group of South African children, which can be used as a foundation on which to base further research and on which to develop career education programmes.

Key words: career development, gender stereotypes, occupational aspirations, occupational perceptions, children, longitudinal study

## **CHAPTER 1**

### **Introduction**

Rojewski (2007) defines occupational aspirations as an individual's desired aim or objective given ideal conditions. Occupational aspirations are seen as potential choices that assimilate information about individuals and the opportunities available to them (Rojewski, 2005). Super (1990) viewed occupational aspirations as an individual's attempt to implement their self-concept while Gottfredson (2005) defined occupational aspirations as the integration of an individual's assessment of the compatibility and accessibility of an occupation. Occupational aspirations are most often revealed by answers to simple questions such as "what would you like to do or become when you grow up?" Rojewski (2007) emphasises that answers to these simple questions are often stable and accurate predictors of future occupational choice, highlighting the lack of attention given to the process by which occupational aspiration development takes place. Focussing on this process is important when one considers that occupational satisfaction is one of the core aspects of an individual's personal happiness (Sharf, 2006) and occupations constitute a major part of individuals' everyday lives, providing a sense of identity and a source of self evaluation (Bandura, Barbaranelli, Campara, & Pastorelli, 2001). Furthermore, Zunker (2006) highlights the importance of occupational intervention and counselling, noting that occupational decisions impact on all aspects of an individual's life.

Occupational aspiration development takes place across the lifespan and children are exposed from a young age to occupational opportunities through their parents' occupations, the media and other social influences (Sharf, 2006). The literature on career development has acknowledged the importance of the childhood career developmental process (McMahon & Watson, 2008; Schultheiss, 2008; Wahl

& Blackhurst, 2000). Despite this, career development theories have historically neglected childhood (Vondracek, 2001a). For several decades the lack of research and theory on children's career development has been emphasised. A decade ago Gysbers (1996) highlighted various challenges regarding children's career development, some of which included the need for inclusive and consistent career theory and research. Over a decade later McMahon and Watson (2008) report that these challenges remain unaddressed, and thus our understanding of occupational aspiration development in children remains limited. Rojewski (2007) proposes that an understanding of how occupational aspirations develop will provide much needed insight into the process of career development, and Rojewski has thus called for research that examines the dimensionality of occupational aspirations, while Schultheiss (2008) suggests that a revision of career theory would provide a way forward.

Understanding the reasons and the means by which people make occupational decisions and assisting individuals in making these decisions has been the role of career counsellors for over a century (Spokane & Cruza-Guet, 2005). However, the task of assisting individuals, particularly children, in their career development has been limited by the existing lack of theoretical depth in terms of children's occupational aspiration development. In addition, existing theory on children's career development has been based largely on middle-class suburban children (Schultheiss, 2008). The development of occupational aspirations has been explained by several theories, two of the more prominent being Super's (1990) Life-Span/Life-Space Theory and Gottfredson's (1981, 2005) Theory of Circumscription and Compromise. Super (1957) viewed career development as taking place across the lifespan and both his stage model and self-concept theories addressed the childhood years. Gottfredson (1981, 2005) also considered the childhood process of occupational aspiration

development in her four-stage model of circumscription by which children eliminate less acceptable occupational aspirations over time based on perceived internal and external barriers. With theory on children's occupational aspirations being relatively limited Watson and McMahon (2008b) ask whether occupational aspiration development should be explored from the basis of existing theory or whether theory needs to be developed based on research findings. Schultheiss (2008) supports the latter notion, suggesting that the development of new theory would reinvigorate the study of career development. However, Watson and McMahon (2008b) caution that this may further fragment the already disparate research on childhood career development.

An important aspect of studying career development in South Africa is to examine international theory on career development with reference to this country's unique context. Understanding the differences between the career development of South African children and their international counterparts can go a long way towards the development of theories that are relevant to the South African context. To date the lack of theory has meant that South African populations are often described and understood in terms of Western career theories (Stead & Watson, 1998a; Stead & Watson, 2006).

Research on childhood occupational aspiration development has been fragmented and sparse to date, with most research focusing on adolescent and adult career development (Schultheiss, 2008). Existing research has demonstrated that occupational aspirations are stable over time and increasing evidence has shown that occupational aspirations begin to crystallise in childhood (Wahl & Blackhurst, 2000). Vondracek and Kirchner (1974) were among the first to study career development in pre-school children and they emphasised the importance of career research in early



childhood. This was also emphasised by Trice and McClellan (1993) whose findings revealed that children's occupational aspirations provided a basis for their career development in the future. On a similar note, Gottfredson (2002) found that 8 to 12 months after they have been expressed, occupational aspirations could be used to predict occupation-related decisions. Occupational aspiration development is influenced by a number of variables, psychological factors, as well as social and environmental influences, with variables such as gender, race and socioeconomic status receiving particular research attention (Rojewski, 2007). Rojewski's review demonstrated that career researchers have reported mixed findings regarding these variables. In terms of methodology, research reviews have been critical of the dominance of cross-sectional research (Hartung, Porfeli & Vondracek, 2005; Watson & McMahon, 2005) and the need for longitudinal research in the field of career development has consistently been highlighted (Watson & McMahon, 2008b).

Research on children's occupational aspiration development is limited in the South African context (Crause, 2006). The findings of Olivier (2004), Crause (2006) and Hargreaves (2007) have highlighted the need for South African research examining the career development and occupational aspirations of children which can be applied to the development of career awareness programmes that are relevant to the South African context. It is hoped that the present study will produce findings that can facilitate the development of these programmes. South African research on career development has been mostly cross-sectional in nature which, while valuable, does not facilitate an understanding of the process of career development (Hargreaves, 2007). This highlights a need for longitudinal research on career development in the South African context. Several national and international authors have noted the value

of using longitudinal research in the study of career development (Betz, 2001; Crause, 2006; Tracey, 2001; Savickas, 2002b; Watson & McMahon, 2008b).

The methodology adopted in the present study is longitudinal. The lack of research into the career development of children marked the start of the longitudinal project of which this study forms a part. The project was developed with the aim of providing information on the career development of children, with particular emphasis on the development of their occupational aspirations and perceptions. The need for longitudinal research in the South African context is further highlighted by a national research study which found that the occupational aspirations of adolescents appear unrealistic and are not market orientated (Watson, Foxcroft, Horn & Stead, 1997). These findings imply that South African adolescents may experience some difficulty in establishing themselves in a career that would provide financial income and would be suited to their interests and abilities.

Schultheiss (2008) recommends that future research on children's occupational aspiration development should be linked to career education programmes. International reviews to date emphasise the need for school-based career education programmes (Watson & McMahon, 2008b). A primary motivation of the present study, as with previous studies in the current longitudinal study, is to provide valid research that can be used in the development of career education programmes. In the light of this motivation it is important to consider research findings on these programmes. In general, research discriminates between career awareness programmes, which are offered at primary school level, and career education programmes, which are offered at high school level (Hargreaves, 2007). This study makes use of the term career education programmes for both these educational levels. Sharf (2006) suggests that career education programmes should equip children in such

a way that they are able to make suitable choices in high school and at tertiary level. In addition, research has recommended that career education programmes address occupational gender stereotypes, parental influences and the creation of learning environments that provide accurate occupational information (McMahon, Carroll, & Gillies, 2001; McMahon, Gillies, & Carroll, 2000; Wahl & Blackhurst, 2000).

International studies have highlighted the value of studying the career development of children and the importance of career awareness programmes for young children (Isaacson & Brown, 1997; Sharf, 2006). Career education programmes have been found to create a foundation from which children can explore their career options (McMahon, Gillies, & Carroll, 2000; McMahon & Patton, 1997). Research in this regard emphasises the importance of starting career education from a young age. Various authors have noted the importance of broadening the occupational aspirations of children before they enter secondary school, as well as the importance of the primary school years in the career development process (Bigler & Liben, 1999; Furlong & Biggart, 1999; McMahon, Gillies, & Carroll, 2000; McMahon & Patton, 1997). These authors imply that career education programmes that are supported by research are imperative for children from a young age. Sharf (2006) also suggests that effective career education programmes should provide concrete activities and role models that avoid gender-role stereotyping. Research has shown lower levels of gender stereotyping as a result of career education programmes (Bigler & Liben, 1999; McMahon, Gillies, & Carroll, 2000). In terms of gender stereotyping Sharf (2006) suggests that children should be exposed to a variety of occupational activities that are typical of both genders to avoid gender stereotyping of occupations. In this regard, Gottfredson's (2002) theory highlights the importance of providing children with occupational information that is not biased towards any gender.

Despite the success of career education programmes there is still a significant lack of such programmes in South African schools (Crause, 2006). Several factors need to be considered when exploring the relevance of career education programmes in South Africa, first of which is the theoretical underpinnings of such programmes (Hargreaves, 2007). The differences in the structure of education and work in different countries has been shown to influence career development (Kirkpatrick & Mortimer, 2002). This implies that South Africa needs career development theories that are relevant to its social, economic and political context. Another factor that needs to be considered is that of South Africa's current economic climate (Hargreaves, 2007). The majority of South Africans remain unemployed (Stats SA, 2008). This emphasises the importance of career education programmes in equipping children and adolescents for the competitive labour market in which employment is scarce. Previous studies in the current longitudinal project have noted that the introduction of career awareness programmes at an early age could be useful in creating a realistic understanding of South Africa's labour market and employment trends (Dean, 2001). Hargreaves (2007) notes that although economic trends may appear to be beyond the scope of what children need to be taught at a young age, childhood occupational aspirations have been found to pre-empt adolescent and adult career decisions.

The South African context with regard to career education further highlights the need for research and interventions in the domain of children's career development. The South African Department of Education has introduced a new curriculum referred to as Curriculum 21. Several revisions have been made and continue to be made to this curriculum since its introduction. Curriculum 21 introduced a compulsory subject called Life Orientation, which focuses the education of life skills and includes career

education programmes across all grades (Crause, 2006; Hargreaves, 2007). Recent educational policy reform has included career education as an important focus area. However, the introduction of career education programmes has faced several logistical problems (Cox, 2004). Career education programmes have been found to be mostly absent from primary schools and inadequately implemented at high schools (Swartz, 2000). An additional problem noted with the introduction of career education programmes into the South African school curriculum is the sparse research on the career development of South African children, the lack of which calls into question the validity of already existing career education programmes (Cox, 2004; Hargreaves, 2007). This highlights the need for longitudinal research on which to base career education programmes. The present longitudinal study aims to provide research findings that are relevant to the South African context and specifically to the development of career education programmes.

The present study, forms part of a larger longitudinal project and aims to provide baseline information on the career development of 12 to 14 year old South African children, with specific reference to their occupational aspiration and perceptions. The present study aims to explore and describe the changes that may occur over a three year period in terms of these children's occupational aspirations with regard to the aspirations' interest typology, occupational status level and occupational gender stereotypes. This study also aims to explore and describe children's reflections on their own career development. It is hoped that the results of the present study will provide meaningful information that can support the development of career education programmes for South African children.

In the final section of this chapter the contents of this study are briefly outlined. The present chapter introduces the current study and contextualises the research.

Furthermore, an overview of the chapters and their purposes are described below. Chapter 2 examines the child and career developmental theories relevant to the present study. These theories serve as a context in which to investigate the occupational aspirations and perceptions of participants in the present study. Chapter 3 reviews the relevant international and national research with regard to children's career development. This serves as a basis from which to analyse and compare the findings of this study. Chapter 4 explicates the research methodology of the present study, discussing the research design, sampling technique, research measures, research procedure and data analysis used in conducting the research. In addition, ethical issues relevant to the study are also considered. Chapter 5 outlines the results of the study, describing the possible changes over time of occupational aspiration typology, status level and gender stereotypes. Chapter 6 is a discussion chapter which considers the implications of the results chapter, with reference to child and career development theory as well as international and national research. Furthermore, limitations and recommendations for future studies are proposed. The chapter that follows discusses the child and career development theories that are relevant to this study.

## **CHAPTER 2**

### **Theoretical Framework**

This study is conceptualised within the domain of developmental psychology, within which human development is described over the entire lifespan of the individual (Sharf, 2006). Developmental psychology can be defined as a systematic study of the age-related behavioural, cognitive, emotional and personality changes that occur in the individual (Bee & Boyd, 2002) as a result of biological, psychological and environmental influences (Muir & Slater, 2003). The study of human development delineates specific stages of growth and thus facilitates an understanding of what constitutes normal development (Sadock & Sadock, 2003). An understanding of cognitive and social changes that occur across the lifespan provides an explanation for the way in which individuals engage with their social contexts, as well as the means by which they develop their identities, personalities and pathologies (Hook, 2002b). For this reason the present study will contextualise the career development of children within the broader framework of human development.

Career development is seen as a critical component in the overall education of the child (Helwig, 2004) and it occurs within the broader context of human development. Zunker (2006) defines career development as the process of developing beliefs, values, skills, aptitudes, interests, personality characteristics and knowledge of the world of work. Career development occurs over the lifespan of the individual with its primary components being the individual, the environment, and the changes that occur as a result of the interaction of these primary components (Patton & McMahon, 1999, 2006).

For the purposes of this study child development will be conceptualised within the cognitive theory of Jean Piaget (1971, 1977) and the psychosocial theory of Erik

Erikson (1963, 1993). In addition, Super's (1957, 1990; Super, Savickas & Super, 1996) life-span, life space theory and Gottfredson's (1981, 2002) theory of circumscription and compromise will be described with the purpose of gaining specific insight into the career development of children.

At this point it is important to note that for the purposes of this study the present participants will be referred to as children. Child development theory generally refers to children aged between 12 and 14 years as adolescents, however the term children will be used to describe the present participants based on previous career development research. Hartung, Porfeli and Vondracek (2005) define childhood as falling between the ages of 3 and 14 years, noting that there is a particular lack of career development research on children under the age of 14 years. Tracey (2001) makes a similar statement noting that, while there has been an increased recognition of career development occurring across the lifespan, limited attention continues to be given to the career development of children, that is those under the age of 14 years.

### ***Child Development Theory***

Human development refers to the changes that take place in an individual over time as a result of environmental and biological influences (Craig & Baucum, 2002; Muir & Slater, 2003). There are eight commonly identified developmental periods (Craig & Baucum, 2002; Papalia, Olds & Feldman, 2006): prenatal development and childbirth (conception to birth); infancy and toddlerhood (birth to 3 years); early childhood (3 to 6 years); middle childhood (6 to 11 years); and adolescence (11 to 20 years). The children in the present study are between the ages of 12 and 14 years and thus fall into the developmental stage of adolescence according to child development theory.



### *Developmental tasks during adolescence*

Adolescence is viewed as the transitional time between childhood and adulthood (Santrock, 2006). During this time the child undergoes significant physical, intellectual and psychosocial changes (Papalia, Olds & Feldman, 2006). As a result of hormonal changes, physical development is rapid during adolescence and most often involves an increased awareness of body image and a shift in sexual attitude and behaviour (Craig & Baucum, 2002). Research indicates that there are notable developmental changes in the cognitive abilities of children in this stage, including the ability to engage in logical reasoning, abstract thinking and problem solving (Lee & Freire, 2003). Children also become more flexible in their perception and attention, although they are not yet able to take on the complex and diverse cognitive tasks required in adulthood (Lee & Freire, 2003).

On a social and emotional level children in this stage are faced with the challenge of gaining autonomy from their parents and developing their own identities (Craig & Baucum, 2002). They stand on the brink of participation in the adult world, at a stage that involves many possibilities as well as risks (Papalia, Olds & Feldman, 2006). It is within this context that the children in the present study begin to make decisions about their future occupation. For this reason the psychosocial and cognitive changes that occur during adolescence warrant a more detailed examination.

Developmental changes can be explained from varying perspectives, implying that a single developmental theory may only explain limited aspects of child development (Muir & Slater, 2003). Two complementary child development theories will be utilized in order to conceptualise this study within the broader framework of child development. Piaget (1971, 1977) approaches child development from a

cognitive perspective, while Erikson (1963; 1993) focuses on the psychosocial development of children.

### ***Jean Piaget***

The cognitive-development theory of Jean Piaget (1971, 1977) refers to the qualitative changes that transpire in the mental development of children (Papalia, Olds & Feldman, 2006). This cognitive development includes attending, learning, perceiving, thinking and recalling (Sigelman & Rider, 2003). Piaget viewed children as being actively involved in a continuous process of development, a process that involves an ongoing organisation and re-organisation of experiences and information in order to adapt to the outside world (Donald, Lazarus, & Lolwana, 2002). Piaget's (1952) cognitive-developmental theory describes development as an ordered progression of qualitatively distinct stages that increase in complexity over time.

### ***Piaget's developmental stages***

According to Piaget, cognitive development is divided into four stages in an invariant developmental sequence. These stages are universal and every individual will progress through every stage in the same sequential order (Craig & Baucum, 2002). Piaget's use of the term 'stage' facilitates the study and analysis of cognitive development and is not meant to imply that individuals move from one discrete level to the next (Wadsworth, 2004). These stages flow into one another with each new stage growing out of the stage that preceded it (Bee & Boyd, 2002). Hereditary potential and life experience affects the rate at which individuals move through these stages (Wadsworth, 2004). Piaget termed these stages the Sensorimotor Stage (0 to 2 years), the Pre-operational Stage (2 to 7 years), the Concrete Operational Stage (7 to 11 years), and the Formal Operational Stage (12 years to adulthood) (Craig & Baucum, 2002; Donald et al, 2002). For the purposes of this study, the Formal

Operational Stage is the most significant. However, it is possible that some of the children in the present study are still progressing into the Formal Operational Stage and for this reason the Concrete Operational Stage is incorporated into this discussion.

During the *Concrete Operational Stage* children engage in more logical thinking because they are able to attend to multiple facets of a situation (Craig & Baucum, 2002; Papalia, Olds & Feldman, 2006). For instance, during this stage children are able to understand mathematical concepts and are able to generalise learning experiences (Donald et al, 2002). They are also now able to apply mental operations to the solving of concrete problems (Papalia, Olds & Feldman, 2006). As they move out of the Pre-Operational Stage children's thinking becomes more complex, reversible and flexible (Craig & Baucum, 2002). Piaget viewed the most important cognitive operation to be that of reversibility. The term reversibility describes the child's ability to understand that both mental operations and physical actions can be reversed (Bee & Boyd, 2002; Lee & Freire, 2003). In addition, 7 to 11 year old children have an improved understanding of spatial relationships, are able to make more accurate cause and effect judgements (Papalia, Olds & Feldman, 2006), and are able to apply inductive logic. Piaget also proposed that during this stage children can grasp the notion that categories have logical relationships and that objects can belong to more than one category at one time (Bee & Boyd, 2002). Children become less egocentric during this stage and are more aware of others' perspectives (Donald et al, 2002).

When children reach the age of 12 years they enter the most advanced stage of cognition (Craig & Baucum, 2002), the *Formal Operational Stage*, which is characterised by the child being able to think rationally about abstract concepts (Cockcroft, 2002). Children are now able to apply logic and engage in advanced

problem solving skills (Craig & Baucum, 2002). During this stage children make use of metacognitive skills, which means they are now able to think about their own intellectual processes (Cockcroft, 2002). This stage of thinking is characterised by the ability to consider all variables and formulate a solution to a problem, the ability to hypothesise regarding the effect of one variable upon another, and the ability to integrate and separate variables in a logical manner (Cockcroft, 2002; Craig & Baucum, 2002).

During this stage children are able to develop, test and appraise hypotheses (Cockcroft, 2002; Lee & Freire, 2003). This ability is what Piaget refers to as hypothetico-deductive reasoning (Bee & Boyd, 2002; Papalia, Olds & Feldman, 2006). During the Formal Operational Stage the child's social context plays a more significant role and the child is able to think hypothetically (Donald, Lazarus & Lolwana, 2002). Thus the child is able to engage in future planning and is able to integrate the past and present (Craig & Baucum, 2002).

In addition to understanding the cognitive development of the child, further insight into children's development can be gained by exploring Erikson's theory of psychosocial development.

### ***Erik Erikson***

With the exception of Freud, Erik Erikson is the psychoanalytic theorist who has had the most notable influence on the study of human development (Bee & Boyd, 2002). Erikson (1963, 1993) based his theory on the social and cultural aspects of human development, believing that individuals face eight major crises or conflicts during their lives (Craig & Baucum, 2002; Papalia, Olds & Feldman, 2006). Similar to Piaget's theory, Erikson proposed these eight crises as stages of psychosocial development, basing the crises on Freud's psychosexual phases (Craig & Baucum,

2002). Erikson believed that personality arises as a result of the way in which each conflict is resolved (Hook, 2002a). At the heart of Erikson's theory is the acquisition of ego-identity (Sigelman & Rider, 2003).

### ***Erikson's psychosocial stages***

Erikson's psychosocial stages run sequentially, with each stage being characterised by a significant crisis or conflict. Although each conflict is significant at a particular stage, conflicts can resurface throughout the life of an individual (Sigelman & Rider, 2003). Erikson believed that the acquisition of a healthy personality is dependent on the successful resolution of each developmental crisis (Bee & Boyd, 2002). The eight psychosocial stages proposed by Erikson are: Trust versus mistrust (birth to 1 year); autonomy versus shame and doubt (1 to 3 years); initiative versus guilt (3 to 6 years); industry versus inferiority (6 to 12 years); ego identity versus ego diffusion (12 to 18 years or older); intimacy versus isolation (18 or older to 40 years); generativity versus stagnation (40 to 65 years); and integrity versus despair (65 and older).

Applicable to this study are the fourth and fifth stages of Erikson's theory. The fourth stage occurs between the ages of 6 and 12 years and is known as the stage of *industry versus inferiority* (Craig & Baucum, 2002). During this stage the child begins to master social and academic skills, and is challenged to gain the skills required to function in an adult world (Donald, Lazarus & Lolwana, 2002). To resolve the conflict presented during this stage it is important for the child to feel competent and to experience success in tasks undertaken (Donald, Lazarus & Lolwana, 2002). Children now place emphasis on their own abilities as compared to those of their peers. Experiencing themselves as inferior in comparison to their peers at this stage can be particularly disruptive (Craig & Baucum, 2002). In addition, failure to master

the developmental tasks of this stage will lead to feelings of inferiority (Sigelman & Rider, 2003).

Erikson's fifth stage occurs between the ages of 12 and 20 years and is known as the *identity versus role confusion* stage (Craig & Baucum, 2002). This stage is concerned with adolescents' search for their identity in areas such as career, religion, sexual identity and values (Craig & Baucum, 2002; Sigelman & Rider, 2003). This is a stage of experimentation on both a personal and interpersonal level, the aim of which is to establish a sense of individuality and of self (Bergevin, Bukowski & Miners, 2003). Erikson viewed the search for identity as the main theme of life. This search is thus prevalent in all developmental stages but it is most important during adolescence (Craig & Baucum, 2002). The inability to achieve social and occupational identity will lead to confusion regarding the child's pending role as an adult (Craig & Baucum, 2002).

### *Summary*

While Erikson and Piaget held different theoretical perspectives, their approaches to child development share certain hypotheses and can thus be integrated. During middle childhood children are able to engage in logical thinking and they are beginning to master social and academic skills. Children can apply mental operations to the solving of concrete problems, and their thinking becomes more complex, which is linked to Erikson's theory that children need to feel competent and to experience success in tasks undertaken. During adolescence the search for identity becomes prevalent particularly in areas such as career, religion, sexual identity and values. At this time children are able to think abstractly, apply logic, engage in problem solving skills as well as think hypothetically, all of which contribute to the child's quest to establish an identity within their increasingly important social context.

Piaget and Erikson provide a broad developmental foundation on which to build a theoretical understanding of the participants of this study. However, these theorists do not provide a specific explanation of child career development. For this reason we turn our attention to career developmental theorists. Having considered the nature and progression of the cognitive and psychosocial development relevant to the children in this study, the focus on child development is now narrowed specifically to that of career development as it pertains to the children in the current study.

### ***Career Development Theory***

Career development is understood to be a process by which the individual develops beliefs, values, skills, aptitudes, interests, personality characteristics and knowledge of work (Zunker, 2006). This development is considered a lifespan process (Watson & McMahon, 2008a) and thus takes place within the context of child development.

Career development theories create a context within which we are able to conceptualise and theorise about career choice and behaviour and, in so doing, predict future career choice and behaviour (Watson & Stead, 2006a). Career development has for several years been considered an important component of the child's education. Various theories of children's career development have been proposed (Helwig, 2004), evolving from primarily trait and factor theories to more developmental and lifespan approaches (Watson & Stead, 2006a). Career development theories with a lifespan perspective view career development as an ongoing, lifelong process involving several career-related decisions, rather than a once off occupational choice (Patton & McMahon, 1999, 2006).

Even though greater emphasis has been placed on career development theory, several recent reviews have pointed out the lack of literature pertaining to the career

development of children (Hartung, Porfeli & Vondracek, 2005; Turner & Lapan, 2005; Tracey, 2001; Vondracek, 2001b; Wahl & Blackhurst, 2000; Watson & McMahon, 2005). There remains a limited understanding of the way in which child career development is linked to adult careers (Patton & Skorikov, 2008), despite the finding that career development and occupational aspirations are understood to begin as early as three years of age (Helwig, 2004). Earlier phases of the present longitudinal study have confirmed that children report occupational aspirations from a young age (Dean 2001), thus highlighting the need for research into child career development.

Two theorists who have focussed on child career development are Super and Gottfredson. Their theories will be utilized in order to create a clearer understanding of child career development. Super's (1994; Super, Savickas & Super, 1996) life-span, life-space theory provides a basis within which career development in 12 to 14 year olds can be conceptualised. Savickas (2002a, 2005) has recently reviewed Super's theory, updating it so that it can be effectively applied to multicultural settings. Savickas advances or develops Super's theory by means of social constructionist theory, whereby the concepts he proposes are no longer viewed as realities that predict the future but rather as processes that present various possibilities (Savickas, 2002a, 2005). Savickas' approach is known as career construction theory and it places emphasis on the means by which individuals construct their own careers, paying particular attention to the influence of the social and environmental contexts in which this construction takes place (Savickas, 2002a, 2005). Gottfredson's (1981, 1996, 2002, 2005) theory of circumscription, compromise and self-creation illustrates more specifically how occupational aspirations develop in childhood and adolescence, which is the focal point of the present study. Grounding the proposed research within



an understanding of these two career development theories is critical for the aims of the present study to be accomplished.

At this stage it is important to clarify the use of the terms ‘career’ and ‘occupation’, since the literature often uses these words interchangeably. For the purposes of the present study the term ‘career’ will be used to refer to various developmental tasks and roles that broadly encompass the career path towards adulthood. The term ‘occupation’ is used in reference to the names of specific job titles. This becomes more relevant when applied to the present study, since children are more inclined to aspire to an occupation and not necessarily to the tasks and roles associated with the broader career path (Hargreaves, 2007).

### ***Donald Super***

Super (1994) defines a career as the changing pattern of life roles which increase and decrease in importance depending on the developmental tasks that need to be achieved as well as the ways chosen to accomplish them. Super’s most influential work has been his life-span life-space theory, in which he proposes a stage model of career development (Patton & McMahon, 1999, 2006). It should be noted that Super’s (1990) intention was never to develop a theory as such but rather to join together a set of theoretical segments addressing various aspects of career development, that could be loosely integrated and applied (Savickas, 1997; Super, Savickas, & Super, 1996; Watson & Stead, 2006a). Super’s most significant contribution to the field of career development is considered to be his movement away from viewing career as a one-off occurrence and towards viewing it as an ongoing process (Super, Savickas & Super, 1996; Watson & Stead, 2006a).

### *Lifespan, life-space theory*

A significant focus of Super's theory is that of the self concept which he defines as the integration of genetic characteristics, social roles and the interaction between individuals and their environments (Sharf, 2006; Reardon, Lenz, Sampson & Peterson, 2000). Super developed the notion that occupational aspirations are partly determined by self-concept, which means that individuals will attempt to implement their self concept through the occupation chosen (Langley, 1999; Reardon, et al, 2000; Watson & Stead, 2006a). Career development for Super is the ongoing process of improving the match between the self and environmental factors (Langley, 1999; Watson & Stead, 2006a).

In addition to the concept of self, Super's theory is built on 14 propositions, which have undergone several adaptations over time (Super, Savickas, & Super, 1996; Watson & Stead, 2006a). In recent years the career literature has content themed these propositions. Three of the propositions pay attention to the differential aspect of Super's theory. These propositions focus on individuals' different abilities, values and personalities and the way in which these match with the abilities and personality types required for different occupations. Six of the propositions focus on the self concept. The self concept is defined by interests and abilities, and these interests and abilities change over time, as a result of individuals interacting with their environment. It is also understood that the self concept stabilises over the lifespan. Two propositions focus on career maturity. Career maturity is based on the life stage individuals are in and the extent to which they have progressed through the career developmental tasks that are expected of that stage. The final three propositions centre on satisfaction with life and work, and the factors that contribute to this satisfaction (Super, Savickas, & Super, 1996; Watson & Stead, 2006a).

According to Super (1990, 1994), career is understood as the changing pattern of life roles which adjust in accordance with the developmental tasks that need to be accomplished, as well as the means by which these tasks are achieved. Super (1994) proposes that each life-span stage can be understood within the life-space that it occupies. This notion is demonstrated as a Life Career Rainbow (Super, Savickas, & Super, 1996) (See Figure 1). The Life Career Rainbow illustrates two core features of Super's theory, with the six internal arches representing an individual's life roles while the external arch represents age-related life stage developmental progression (Watson & Stead, 2006a). This model adds value to our understanding of career development because it places emphasis on the way in which individual life roles impact on career decision making (Peterson & González, 2000).

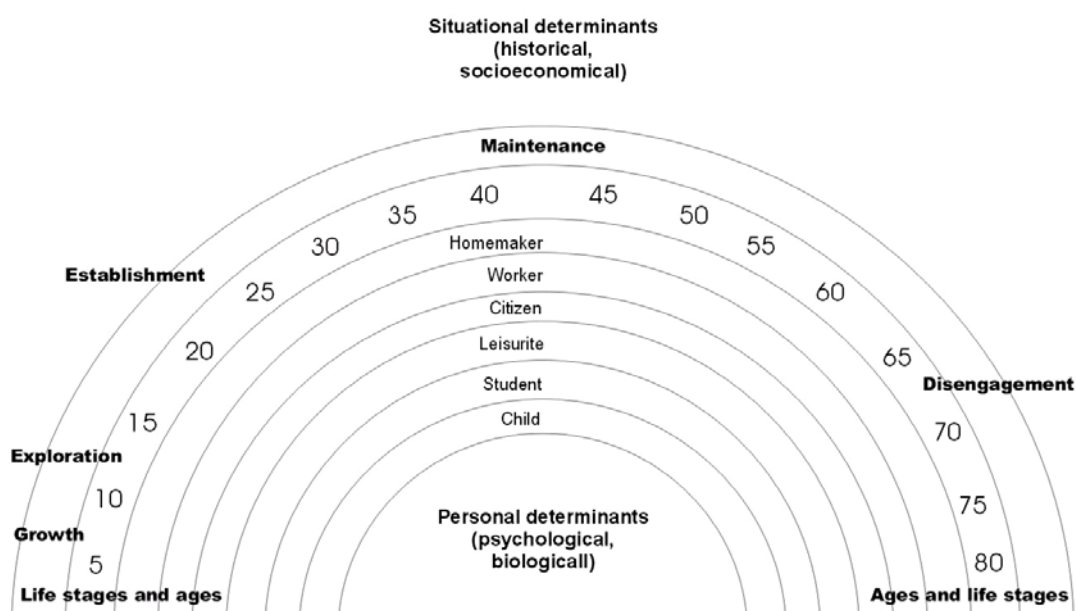


Figure 1: The Life Career Rainbow

Sourced from Super, Savickas & Super, 1996, p.127.

Individuals' lives are structured according to the way in which they arrange core and peripheral life roles. The core life roles include those of homemaker, citizen,

leisurite, worker, student and child (Super, 1990, 1994; Super, Savickas, & Super, 1996). These life roles interact and influence one another, and multiple roles can add value, but they can also overload the life of the individual (Super, Savickas, & Super, 1996). Life roles progress, adapt and change across developmental stages and they will therefore vary in importance at different ages. Super believes that, in order to understand the career development of individuals, we need to recognise the life roles individuals are involved in as well as the level of importance placed on each role (Super, Savickas, & Super, 1996).

### *Stages of career development*

The life-span facet of Super's theory is of particular relevance to this study. Super's approach to lifespan development is one in which development progresses in a linear and predictable way. This progression is not inflexible, but it does occur in a sequence at approximate ages and stages (Super, 1990). In terms of life-span career development, Super (1994) proposes a lifelong process that extends across the entire life-span progressing through five chronological, vocational development stages: Growth or the childhood stage (birth to approximately 14 years), Exploration or the adolescent stage (14 to approximately 25 years), Establishment or the young adult stage (25 to approximately 45 years), Maintenance or the mid-adult stage (45 to approximately 65 years) and Disengagement or the stage of old age (65 years to death) (Sharf, 2006; Super, Savickas, & Super, 1996). Each stage is characterised by a variety of vocational tasks and behaviours that the individual is expected to carry out (Langley, 1999; Watson & Stead, 2006b).

The participants in this study fall into Super's Growth and Exploration stages. This, according to Watson and Stead (2006b), implies that they have to achieve four developmental tasks: becoming concerned about the future, increasing personal

control over one's life, convincing oneself to achieve in school and work, and developing competent work habits and attitudes. The Growth stage is inevitably characterised by much physical and psychological growth and is thus subdivided into the substages of curiosity (0 to 4 years), fantasy (4 to 7 years), interests (7 to 11 years) and capacities (11 to 14 years) (Sharf, 2006). Some participants in this study fall into the capacity substage, which focuses specifically on the development of interests and competencies in activities and play. The present participants are also moving into the Exploration stage. During this stage children are beginning to make definite and clear career decisions. Additional tasks during this stage include the specification and implementation of a career choice (Watson & Stead, 2006b). These stages are likely to contribute to the development of the child's occupational aspirations.

### ***Career construction theory***

Super's theory of career development has been updated by Mark Savickas (2005) whose career construction theory emphasises the importance of individuals reflecting both objectively and subjectively on their career behaviour (Watson & Stead, 2006b). According to this theory, careers are constructed within a social context and career development is viewed in terms of individuals' continuous adaptation to changing circumstances within this social context (Savickas, 2005). Savickas replaces the term *career maturity* with the term *career adaptability*, thus placing emphasis on his belief that "careers do not unfold; they are constructed" (Savickas, 2002a, p. 154). Furthermore, Savickas has introduced the concept of life themes and in doing so has reinforced Super's notion that individuals implement their self concepts in making occupational choices (Savickas, 2005). Savickas has also reframed Super's 14 propositions, adding an additional two which highlight the construct of career adaptability and the ongoing nature of career construction.

Savickas (2002b, 2005) provides a detailed explanation of the role of developmental tasks in career construction and, in so doing, refines some of the developmental tasks proposed by Super. The primary goal of career construction is to move towards a situation in which the self concept is validated by the occupational role chosen (Savickas, 2002a, 2005).

### ***Evaluation of Super's theory***

Super (1990) has highlighted the role of cultural and contextual factors in the process of career development. However there are several features of Super's theory that do not account for cultural variables (Fouad & Arbona, 1994). Langley (1999) highlighted features of Super's theory that are not applicable to the African culture, and emphasised the need to consider socioeconomic, socio-political and familial factors that are important influences in the South African context. An additional criticism levelled against Super is the lack of research that validates certain areas of his theory. In particular, there is a lack of research justifying the expansion of his core propositions (Watson & Stead, 2006b). Some researchers have viewed Super's propositions as a mere summary of a theory which lacks creativity and logical form. Other researchers have felt that Super's theory lacks integration and that its segmented nature makes empirical assessment problematic (Brown, 1996; Herr, 1997). Betz (1994) has levelled criticism at Super's definition of self-concept, pointing out its lack of specificity and highlighting the operational problems with the concept. Despite several criticisms levelled against him, ongoing revision and flexibility has made Super's theory an adaptable one, which has left a lasting impression on the field of career development (Savickas, 1997). The section that follows describes the career development theory of Linda Gottfredson.

### ***Linda Gottfredson***

Similar to Super, Gottfredson (1981, 1996, 2002, 2005) has paid attention to the self concept as it pertains to career development (Sharf, 2006). In addition, her theory attempts to integrate career-related constructs such as developmental stages, the matching of individuals to work settings, and the development of occupational aspirations (Watson & Stead, 2006a). Gottfredson's approach is a combination of trait-factor and developmental theories (Peterson & González, 2000), and is based on the notion that occupational aspirations involve the elimination and narrowing of possible choices based on the individual's personal and social context (Rojewski, 2007). Gottfredson (1981, 1996, 2002, 2005) proposed a life stage theory of career development in childhood and adolescence that highlights the impact of sex roles and prestige on the career decision making process. Her theory diverges from other career development theories in that it focuses on possible barriers that may limit an individual's occupational aspirations and opportunities (Sharf, 2006). These barriers include socioeconomic status, race, gender and intelligence (Watson & Stead, 2006b).

#### ***Development of the self concept and cognitive states***

In her theory, Gottfredson describes four stages of cognitive development that provide a way to perceive oneself in the world (Helwig, 2004; Sharf, 2006). These stages are progressive, meaning that the development of the self concept is dependent on the inclusion of a new factor at each stage. Every new factor incorporated will decrease the amount of occupational options available to the individual (Watson & Stead, 2006a). Furthermore, these stages outline the cognitive development of children, as they advance from simple, concrete cognitions of childhood towards the more complex, abstract cognitions of adolescence and adulthood (Watson & Stead, 2006a).

In the first stage (3 to 5 years), children's primary career developmental orientation is to the size and power differences between themselves and adults. Thus they categorise people in simplistic ways such as big and small and are able to identify observable differences between males and females (Swanson & Gore, 2000). This stage is commonly known as the *orientation to size and power stage* and is characterised by the development of fantasy based occupational aspirations into more reality driven goals (Watson & Stead, 2006a). In the second stage (6 to 8 years), known as the *orientation to sex roles* stage, children become aware of gender role differences and select occupations based on this awareness. Once gender identity or gender constancy is established, sex role stereotypes begin to have a significant influence on the occupations children aspire to (Watson & Stead, 2006a).

In the third stage (9 to 13 years), known as the *orientation to social valuation* stage, children become aware of social class, and status and prestige play a significant role in their occupational aspirations. During the fourth stage (14 years and older), known as the *orientation to internal unique self* stage, children become more introspective, developing greater self awareness and perceptiveness towards others (Gottfredson, 2002; Helwig 2004; Sharf 2006).

Gottfredson's third and fourth stages are of particular relevance to this study. During the third stage children become aware of intellectual and social differences and are sensitive to social evaluation (Gottfredson, 2002). They become aware of the hierarchy of occupations that affects how individuals are viewed by society and they start to form occupational aspirations that correspond to their own social background (Gottfredson, 2002). Occupational aspirations are ranked according to prestige and social status, which is significantly influenced by the children's understanding of social hierarchies and the means by which they are evaluated by their peers and



society (Rojewski, 2007). During this stage children will eliminate occupations that are too low in prestige or too difficult to attain (Swanson & Gore, 2000). Children are also likely to be aware of the types of occupations that their families would not approve of (Sharf, 2006).

During the fourth stage children become introspective and develop a greater sense of self-awareness, as well as perceptiveness with regards to others (Gottfredson, 2002; Sharf, 2006). During this stage occupational aspirations are consistent with the internal unique self of the individual (Gottfredson, 2002; Helwig, 2004). Gottfredson (1981, 2002) makes reference to cognitive maps of occupations; these maps explicate a process by means of which children and adults are able to sort occupations according to major criteria including gender, prestige and field of work (Watson & Stead, 2006a). An additional construct relevant to this stage is that of “social space” which refers to the individual’s perception of where they belong or where they wish to belong in society (Watson & Stead, 2006a). While the first three stages are characterised by the elimination of unacceptable careers, the fourth focuses on the selection of a preferred career out of the remaining alternatives (Swanson & Gore, 2000). As children develop an understanding of their values, abilities, needs and personality they will develop a preference for occupations that meet these criteria (Sharf, 2006). Gottfredson (1996, 2002, 2005) referred to the process in which children limit their social space as circumscription. After this children select less preferred careers for ones that are less compatible but more accessible. This process is known as compromise (Gottfredson, 1996, 2002, 2005). The following section further explicates these two processes.

### *Circumscription*

Circumscription is the process by which children narrow alternative occupations. Gottfredson (1981, 2002) referred to this narrowing as the “zone of acceptable alternatives” in which the individual’s self concept and associated social space are demarcated. As children progress through Gottfredson’s age-related stages mentioned above, they make irreversible eliminations of unacceptable alternatives (Swanson & Gore, 2000). This process is facilitated by comparing one’s self-concept to images of potential occupations and, in so doing, establishing the degree of compatibility between them (Gottfredson, 2005; Rojewski, 2007). Gottfredson (2002) delineates five principles of circumscription: Firstly, as they grow older, children develop an increased capacity to capture and organise complex and abstract information regarding the self and the world. Secondly, the self concept and occupational aspirations develop parallel to one another, each influencing the other as children develop a deeper understanding of both. Thirdly, children begin to comprehend and integrate information about themselves and occupations in an overlapping fashion. Children will develop new insights before they have finished acting on previous ones. Fourthly, children progressively eliminate occupational options as their self concept becomes more complex and clearly defined. Finally, these processes that have been fundamental and gradual are taken for granted and individuals are typically unable to describe them (Gottfredson, 2002).

The theory of circumscription proposes that gender will predict occupational choice from the age of 6 years onwards, and that social class and prestige will predict choices from the age of 9 years onwards (Gottfredson, 1981, 2002; Sharf, 2006). Occupations perceived to be inappropriate to the individual’s sex are eliminated first, after which occupations perceived to be unsuited to the status and prestige of the

individual are eliminated (Gottfredson, 1981). Individuals eliminate occupations that do not fit into their social class and concept of themselves. Occupations that are considered to be below the individual's ability level are also ruled out (Gottfredson, 2002). Gottfredson theorises that high social class serves as an elevator of occupations that are perceived acceptable, while high intellectual ability elevates aspirations by raising the ceiling to what is viewed as possible. In the same way, low social status and poorer intellectual ability will limit or restrict acceptable occupational aspirations (Gottfredson, 2002, 2005).

### *Compromise*

In many cases the occupations individuals aspire to are different to the occupations available to them (Gothard, Mignot, Offer & Ruff, 2001). Compromise refers to the adjustment of alternative career choices based on their inaccessibility, the result of which involves the acceptance of a less preferred alternative (Swanson & Gore, 2000). Three important factors in the process of compromise include gender, prestige, and interests (Swanson & Gore, 2000). Gottfredson (1981, 1996) identifies four principles operating in the process of compromise. Firstly, certain features of the self concept are more important than others and will thus be prioritised when compromising occupational aspirations. When making a career decision individuals are likely to compromise their interests first, then prestige and lastly gender. Secondly, there is a series of potentially acceptable occupations, so the implementation of an occupational choice may not be the optimal choice, but it will be considered a satisfactory one. Thirdly, people will avoid committing to a career choice if the available options are not satisfactory. Lastly, individuals are able to adjust to and accommodate the compromises they have made, with the most accommodations made with regards to the field of work selected, less accommodation

when it comes to prestige and the least flexibility with regard to gender identity (Gothard et al, 2001; Gottfredson, 2002, 2005).

### *Evaluation of Gottfredson's theory*

Gottfredson's theory acknowledges the importance of the self concept in career development (Sharf, 2006). She asserts that career satisfaction is a result of establishing a state of congruence between the self concept and the occupation chosen (Gottfredson, 1996). The significant contribution that Gottfredson has made to the field of career development has been widely acknowledged (Watson & Stead, 2006a). Having said this, much of the criticism levelled against Gottfredson has been with regard to the lack of empirical support for her theory (Watson & Stead, 2006a). Gottfredson has provided consistent support for her theory (Gottfredson, 2005) and, although studies have not always tested her theory, these studies have in general supported her predictions (Sharf, 2006).

In a recent review of children's career development, Watson and McMahon (2005) reported on a number of studies that have provided support for some of Gottfredson's key concepts. Brown (1996) has called attention to the lack of specificity in Gottfredson's core concepts of circumscription and compromise (Watson & Stead, 2006a), describing Gottfredson's explanation of the process that leads to circumscription and compromise as being too general. Sharf (2006) describes Gottfredson's theory as complex because the predictions made are dependent on the degree of compromise and its severity. The complexity of these predictions make testing her theory complicated (Sharf, 2006). An additional criticism levelled against Gottfredson is that she fails to offer an explanation for what individuals do when they do not circumscribe prematurely and when they avoid gender stereotypes (Brown, 1996). Furthermore, Brown (1996) has called for Gottfredson to pay more specific

attention to the factors that influence the development of her primary construct, that of the self-concept. Gottfredson has also been criticised for failing to adequately describe adult career development. Gottfredson has countered this latter criticism by arguing that her theory focuses specifically on children and on a career development phase that is particularly lacking in research and knowledge (Stead & Watson, 2006).

Despite several criticisms levelled against Gottfredson for uncritically applying developmental concepts to careers and failing to keep abreast of current developments in the field (Brown, 1996; Vondracek, Lerner, & Schulenburg, 1986), there has also been research that has supported her theory and its components. In a test of Gottfredson's theory, Henderson, Hesketh and Tuffin (1988) found support for her hypothesis that gender and social class impact on the occupational aspirations of children. Gottfredson's theory was also partially supported by the research conducted by Blanchard and Lichtenberg (2003) who found that university students engaged in a low degree of compromise and placed greater value on interests first, then prestige and then gender. More importantly, studies involved in this longitudinal project have consistently found support for various aspects of Gottfredson's theory. Her theory has also been shown to be useful in the context of South African career research with children (Cox, 2004; Crause, 2006; Dean, 2001; Grobler, 2000; Hargreaves, 2007; Olivier, 2004).

### *Summary*

Career development has, for several years, been considered an important component of the child's education. Theories paying attention to children's career development have evolved from primarily trait and factor theories to more developmental and lifespan approaches. Career development theories with lifespan approaches view career development as an ongoing, lifelong process involving

several career-related decisions rather than a once-off occupational choice. The lifespan approach therefore highlights childhood as being a particularly important and often neglected area of career development. Two career development theories, those of Donald Super and Linda Gottfredson, are employed to provide a sound theoretical base for this study. Super's theory is used to explore the career developmental tasks of children, while Gottfredson's theory provides a more specific understanding of how children's occupational aspirations develop.

Super views career development as occurring across the lifespan and his theory places emphasis on the self concept. Career development is seen as an ongoing process of improving the match between the self and the environment and is thus known as a lifespan, life-space theory. Super proposed five stages of vocational development that occur across the lifespan. The children in the present study fall into Super's Growth and Exploration stages. Major developmental tasks during the Growth stage include increased personal control over one's life, achievement in school and work, and developing competent school and work habits. During the Exploration stage children begin to make definite and clear career decisions. Additional tasks during this stage include the specification and implementation of a career. Super's work has been updated by Savickas' career construction theory.

Gottfredson's theory of circumscription and compromise highlights the influence of sex-roles and social prestige on the making of career choices. Her theory focuses on the process by which individuals limit and compromise their career options in order to comply with their expectations of prestige and gender type. Circumscription is the process by which children progress through four chronological stages and, in so doing, progressively limit their range of suitable career options. Compromise is the process through which children compromise or give up preferred

career choices for ones that are less preferred but are more accessible in terms of status and ability. Gottfredson also places the self concept as a central construct of her theory. Gottfredson's third and fourth stages of cognitive development are of particular relevance to this study. The third stage (9 to 13 years) is known as the *orientation to social valuation* stage. During this stage children become aware of social class, and status and prestige play a significant role in their occupational aspirations. During the fourth stage (14 years and older), known as the *orientation to internal unique self* stage, children become more introspective, developing greater self awareness and perceptiveness towards others. Super's lifespan, life-space theory and Gottfredson's theory of circumscription and compromise provide a sound theoretical framework, within which a deeper understanding of the career development of the participants in this study can be achieved.

### ***Conclusion***

The aim of this chapter has been to contextualise the present study within the domain of child development and more specifically within the domain of child career development. The child development theories of Piaget and Erikson and the career development theories of Super and Gottfredson have been described in order to provide a theoretical base from which the occupational aspirations and perceptions of South African children can be explored. Both international and local research into the career development of children has been particularly lacking. For this reason it is important that this study be rooted in the existing theories that pertain to child career development. In order to place the present study in an empirical research context it is important to review the existing research in the field of career psychology as it pertains to this study.

## **CHAPTER 3**

### **Research Review**

This research review contextualises the present study within the existing research that pertains to the career development of children. The chapter provides an overview of international and national research on the career development of children up to the age of 14 years. Where possible an attempt has been made to highlight research pertaining specifically to 12 to 14 year old children, however not all research reviewed has specified the age cohort of the children sampled.

#### ***Format of Review***

The various formats adopted by recent reviews on children's career development have been considered as a guide in integrating and reporting on what Watson and McMahon (2005, 2008b) describe as a fragmented and diverse body of research. Hartung, Porfeli and Vondracek (2005) organised their research review by means of content analysis according to five dominant themes, namely career exploration, career awareness, occupational expectations and aspirations, occupational interests, and career maturity/adaptability. Watson and McMahon (2005) themed the research they reviewed according to a learning perspective and considered factors that influence the process of career development learning. Hargreaves (2007) made use of a Systems Theory Approach (Patton & McMahon, 1999, 2006) as a framework around which she structured her research review on children's occupational aspiration development. Watson and McMahon (2008a) have also recently adopted a Systems Theory Framework as a means of examining career development learning in children.

While content analysis may be a useful way of reviewing the broader literature on children's career development, this review aims to examine more specifically research that is relevant to the present study. Thus, the review will be themed



according to the specific aims of the present study, rather than reflecting themes from established research reviews. This chapter will move from a broad overview of career development research to a more specific review of research on the career development of children. Particular attention will be given to research on children's occupational aspirations and perceptions in terms of interests, occupational gender stereotypes and occupational status level.

Additional factors that have been shown to influence the occupational aspiration development of children will then be reviewed using a Systems Theory approach as a structural framework (Hargreaves, 2007; Patton & McMahon, 1999, 2006; Watson & McMahon, 2008a). This systemic framework is deemed most appropriate as it allows for a specific research focus on factors that impact on children's occupational aspiration development. The Systems Theory approach considers factors that influence career development on various levels. These levels are depicted as increasing concentric circles. The inner circle represents the individual system which is made up of factors such as aptitude, age, gender, race, beliefs, personality, self-concept, interests and world-of-work information. The contextual system surrounds the individual system and incorporates the social system and the environmental-societal system. The social system consists of influences such as family, peers, media, schools, work places and community groups, while the environmental-societal system includes influences such as socioeconomic status, politics, employment trends, geographical location and globalisation.

### ***Overview of Childhood Career Development Research***

This section of the chapter focuses broadly on childhood career development research. Systemic factors that have been found to influence the career development of children are briefly reviewed, after which the focus of the review is further

narrowed to a discussion of career development research pertaining specifically to South African children. Career development theory has had a relatively short history, progressing in recent decades from trait factor theories towards a more developmental perspective (Patton & McMahon, 1999, 2006). Despite the movement towards viewing career development as occurring across the lifespan, there is still limited research on the career development of children under the age of 14 years (Tracey, 2001). Vondracek (2001b) is of the opinion that career psychology has yet to reach its potential as a developmental science and that, consequently, it is vital that research in the field of career psychology covers the entire lifespan.

Even though evidence suggests that career development occurs in childhood (Hartung, Porfeli, & Vondracek, 2008; Vondracek, 2001b), existing career theory and research focuses more on adolescent and adult career issues while neglecting childhood career development issues (Betz, 2001; Schultheiss, 2008; Tracey, 2001; Wahl & Blackhurst, 2000, Watson & McMahon, 2008a, 2008b). This skewed focus has been emphasised by recent research reviews (Guindon & Richmond, 2005; Harrington & Harrigan, 2006; Hartung, Porfeli, & Vondracek, 2005; Watson & McMahon, 2005), with Hartung, Porfeli and Vondracek (2005, 2008) calling for more systematic research on childhood precursors and features of occupational aspirations and career development across the life span.

Research reviews conducted by Hartung, Porfeli and Vondracek (2005) and Watson and McMahon (2005) have led to several speculative conclusions regarding the career development of children (Schultheiss, 2008). Watson and McMahon (2005) reviewed the career development of children using learning as a concept around which to group the relatively fragmented research on children's career development. Of the 76 articles reviewed they noted that 80% of these examined North American

children, thus highlighting the skewed focus of research pertaining to children's career development. Watson and McMahon also noted that, in addition to the lack of attention given to the career development learning of children, intrapersonal and interpersonal factors influencing their career development, as well as environmental and societal influences, have been neglected areas of research. Further, Watson and McMahon (2008a) point out that most research into the career development of children focuses on what is learned rather than how career learning takes place.

Watson and McMahon (2005) identified three issues that have contributed to the fragmented nature of childhood career development literature. Firstly, a cohesive and comprehensive understanding of children's career development learning is limited by the diversity of methodologies and measurements employed. Secondly, there are diverse conceptual and definitional issues that limit our understanding of children's career development. This has occurred as a result of literature identifying career behaviours but failing to establish the process by which these behaviours are learned. In a review of career research, Tien (2007) noted that most research pertaining to career interventions was outcome orientated rather than process orientated. This was identified as a third limitation, since research has placed more focus on career behaviours and has failed to focus on the influences and processes that predict these behaviours (Schultheiss, 2008; Watson & McMahon, 2005).

Hartung, Porfeli and Vondracek (2005) reviewed career research pertaining to 3 to 14 year old children. They organised their research review by means of content analysis according to five dominant themes, namely career exploration, career awareness, occupational expectations and aspirations, occupational interests, and career maturity/adaptability. Hartung, Porfeli and Vondracek concluded that children progress steadily across all these themed areas, thus facilitating the development of

personal identity and a sense of connectedness to their social and interpersonal worlds. Furthermore, they suggested that career development starts significantly earlier in the lifespan than generally expected and they highlighted the impact of childhood vocational learning on future career choices. In addition, they echoed the concerns of Watson and McMahon (2005) in highlighting the emphasis that has been placed on children's occupational knowledge rather than on the process by which they have gained this knowledge.

Several authors have highlighted childhood as an important period in career development (Gottfredson, 1981, 2005; Super, 1957, 1990; Super, Savickas & Super, 1996), and others have demonstrated childhood career development and occupational aspirations to be predictors of adult career choices (Trice, 1991; Trice & McClellan, 1993; Watson & McMahon, 2004). The lack of attention to childhood career development is likely to have detrimental effects on the education and career decisions that adolescents are required to make (Watson & McMahon, 2008a). Of the studies that have explored the career development of children few, if any, have focussed on South African children (Stead & Watson, 2006) or followed a longitudinal design (Hartung, Porfeli, & Vondracek 2005). The call for a greater focus on the career development of children has been made repeatedly over several decades (Patton & Skorikov, 2008), leading Watson and McMahon (2008b) to question why it is that historically identified issues regarding children's career development remain unaddressed. The understanding of how early stages of career development are linked to adult career choices remains significantly limited (Patton & Skorikov, 2008) and there is a substantial need for a theoretical and organisational framework within which children's career development can be researched (Hartung, Porfeli, & Vondracek, 2008; Schultheiss, 2008).

Children's career development is generally understood to be a complex interaction of several variables which include personal characteristics, behaviours and environments (Gysbers, 1996). The way in which children describe occupations has been shown to change as they become older, with younger children focussing on occupations in terms of the behaviours and activities they entail and older children focussing more on interests, aptitudes, and abilities (Borgen & Young, 1982). Research has shown that children's knowledge of occupations becomes increasingly comprehensive and detailed over time (McCallion & Trew, 2000; Seligman, Weinstock & Heflin, 1991) and this supports the notion proposed by career development theory that children become more realistic in their occupational choices as they mature in age (Cox, 2004; Crause, 2006; Hargreaves, 2007; Vondracek & Kirchener, 1974).

Additional confirmation of career development theory can be found in research findings that suggest a higher level of career maturity in girls than in boys (Hartung, Porfeli, & Vondracek, 2005) and increasing career maturity has been found in children as young as third grade (Nelson, 1978). Higher socioeconomic status and parental influences have also been found to correlate positively with career development maturational levels (Hartung, Porfeli, & Vondracek, 2005; Holland, 1981). In addition to a call for more longitudinal research on childhood career development (Hartung, Porfeli, & Vondracek, 2005, 2008; Tracey, 2001), there has also been a call for research that examines issues of diversity in terms of social class and race (Betz, 2001). Lent (2001) noted one of the greatest weaknesses of career psychology is the elevation of certain issues and populations above others. The majority of career development research has focussed on children from the United States, while neglecting other population groups (Watson & McMahon, 2008b;

Whiston & Brecheisen, 2002). Less attention has been given to minority groups and thus the application of career theories to minority populations has been viewed as questionable (Russell, 2001). There has been a lack of focus on contextual and cultural variables in the study of career development (Lent, 2001).

South African research on career development is mostly limited to secondary and tertiary students (Horn, 1995; Stead & Watson, 2006). In addition, much of this research has focussed on white high school learners (De Bruin & Nel, 1996), despite the multicultural context of South Africa being considered an important factor in understanding career development (Stead & Watson, 1998a, 2006). South African career research has focussed predominantly on diagnostic aspects of career counselling, with some emphasis placed on personality, career maturity, and socioeconomic and cultural factors (De Bruin & Nel, 1996). Hargreaves (2007) points out that career psychology in South Africa is still in its formative stages and thus the South African knowledge base on career development behaviour still requires extensive development.

### *Summary*

Despite evidence suggesting that career development occurs in childhood and that career development is a lifespan process, there is an ongoing bias in career research towards adolescent and adult career issues, while neglecting childhood career development issues. In addition, longitudinal research has been called for in order to examine career development across the lifespan and reinvigorate the study of careers.

Furthermore, career research has been limited to specific populations and there have been calls for more research into the cultural variables that may influence career development. Research findings to date are fragmented and research has been largely cross-sectional in nature, focussing primarily on occupational aspirations,

occupational expectations and gender stereotypes. The larger longitudinal study of which the current study is part has substantiated career development theory by highlighting childhood as a crucial time in the career development process and in the development of occupational aspirations and perceptions. We now narrow the focus on career development by shifting our attention to the development of occupational aspirations, which is the focus of the present research.

### ***Overview of Children's Occupational Aspiration Research***

The present study aims to expand the longitudinal research conducted by Cox (2004), Crause (2006), Dean (2001), Hargreaves (2007) and Olivier (2004). In light of the call for more longitudinal research in the field of career psychology, Dean (1998) explored the occupational aspirations and perceptions of pre-school children. Findings were presented both nationally and internationally (Watson, Foxcroft, & Dean, 1999) and have stimulated ongoing research. Dean (2001) examined the current sample at the ages of 5 to 8 years, Cox (2004) from ages 6 to 9 years, Olivier (2004) from ages 8 to 10 years, Crause (2006) from ages 9 to 12 years and Hargreaves (2007) from ages 9 to 13 years.

In general, career development research has focussed predominantly on occupational aspirations for the past three decades (Hartung, Porfeli, & Vondracek, 2005; Sellers, Satcher, & Comas, 1999; Tracey, 2001). The trends in occupational aspiration research are similar to those already discussed in relation to other career research focus areas in that there is a prevailing bias towards research using adolescent and adult participants, with much of this research conducted in the United States (Watson & McMahon, 2008b). Despite this bias, the development of children's occupational aspirations have progressively become a research focus, with researchers investigating topics including the influences of socioeconomic status on children's

occupational aspirations (Sellers, Satcher & Comas, 1999), occupational preferences (Gottfredson, 1981, 1996, 2002; MacKay & Miller, 1982; Siegel, 1973; Stockard & McGee, 1990; Trice, McClellan & Hughes, 1992), parental influences on occupational aspirations (Lavine, 1982; Morrow, 1995), age and gender differences in the development of occupational reasoning (Nelson, 1978), and occupational gender role stereotypes (Archer, 1984; Hageman & Gladding, 1983; Stockard & McGee, 1990).

The aim of several studies has been to confirm childhood career theory with mixed results. The findings of Helwig (2004) and Wahl and Blackhurst (2000) generally provide support for Gottfredson's (1981, 1996, 2002, 2005) theory of circumscription and compromise. In addition, research has supported Gottfredson's concept of occupational sex typing (Tracey, 2001), the effect of social valuation on occupational aspirations (Helwig, 1998a, 2001), and Gottfredson's theory that children's occupational aspirations are likely to become more realistic and less fantasy-based over time (Hartung, Porfeli, & Vondracek, 2005; Helwig, 1998b, 2001; Trice, 1991). The propositions of Gottfredson's (1981, 1996, 2002, 2005) fourth developmental stage of orientation to internal unique self are also supported by research findings. For instance, children's occupational aspirations seem to become progressively more consistent with their values, interests and abilities and, as they mature, children appear to become increasingly aware of environmental obstacles and the availability of opportunities in the pursuit of an occupation (Hartung, Porfeli, & Vondracek, 2005).

Research suggests that children's occupational aspirations become increasingly stable over time (Trice, 1991) and that children may aspire to an occupation based on the popularity or prestige associated with it, with more popular occupations showing



greater stability across age groups (Hartung, Porfeli, & Vondracek, 2005). These findings are consistent with those of the present longitudinal study (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007; Olivier, 2004). As they become older, children have been found to circumscribe their occupational aspirations, using gender role and social valuation as a means of limiting their aspirations (Trice, Hughes, Odom, Woods & McClellan, 1995). A significant amount of research has focussed on Holland's (1985) RIASEC occupational interest typology, with findings suggesting that children's occupational interests change over time (Hartung, Porfeli, & Vondracek, 2005). The RIASEC model becomes increasingly applicable to children as they mature (Tracey & Ward, 1998). In addition, children have been found to develop interests in occupations for which they felt more competent (Tracey, 2001).

On a national level research on children's occupational aspiration development has been limited. The current longitudinal project is the first of its kind to explore South African children's occupational aspiration development. The present study will expand on this longitudinal research by exploring the stability and variability of the occupational aspirations and perceptions of a sample of South African children over a period of three years. To date the results of this longitudinal study have shown childhood to be a critical time for career development and have provided support as well as criticism for career development theory. More specific findings of the present longitudinal project will be reported in the systemic review that follows.

### ***Systemic Review of Children's Occupational Aspiration Research***

Research has shown that children make use of interpersonal and intrapersonal means to explore occupational environments and to develop occupational aspirations and perceptions. Children have been found to limit their career development according to several factors, some of which include gender, socioeconomic status,

family and parental influence, and the influence of the wider community (Hartung, Porfeli, & Vondracek, 2005). The Systems Theory Framework (Patton & McMahon, 1999, 2006) serves as a useful means of integrating and structuring research conducted on the development of occupational aspirations in children.

### ***Individual factors***

The Systems Theory Framework defines the individual system as being made up of various intrapersonal influences some of which include age, gender, health, self-concept, beliefs, personality, values, abilities, skills and race (Patton & McMahon, 1999, 2006). The career literature has increasingly focused on individuals as being central to their career development process and as being personal agents in their occupational choices (Patton & McMahon, 1999, 2006). There are particular individual characteristics that impact on occupational aspirations. These include individual preferences, aptitudes, values, self-concept and feelings of competence (Holland, 1981; Super, Savickas, & Super, 1996). This section of the chapter explores research on individual factors that may influence the occupational aspirations of children. Not all of the variables that make up the individual system of the Systems Theory Framework are described in this section since many of these variables are not related to the aims of the present study. Thus, there is a particular focus on self-concept, self-efficacy, age, gender, race, and culture.

### ***Self-concept and self-efficacy***

Through interacting with their environment children learn about occupations. This interaction has a notable influence on career choices made in later years (Hartung, Porfeli, & Vondracek, 2005). In addition, these interactions have been shown to shape the self-efficacy beliefs of children (Watson & McMahon, 2004). Similarly, in a study of sixth grade children, self-concept was found to be positively

correlated with children's career development (Holland, 1981). Extensive theory has supported the link between interests and competence, thus children are more likely to aspire to vocational activities which they feel competent to complete (Tracey, 2001).

There has been increased research on the influence of perceived self-efficacy on the career choices made by young adults; however, there is limited information as to the means by which children develop a sense of career self-efficacy (Cox, 2004). Bandura, Barbaranelli, Capara and Pastorelli (2001) conducted a longitudinal study in which they examined the socio-cognitive origins of career self-efficacy beliefs and the means by which they impact on children's occupational aspirations. Bandura et al. developed a model of career self-efficacy which proposes that children's perceived self-efficacy and academic orientations shape their perceived efficacy for various types of careers. This in turn affects their occupational aspirations.

In addition, Bandura et al. (2001) established that children's perceived academic, social, and self-regulatory efficacy influences the type of occupational activities for which they perceive themselves to be efficacious. Thus perceived occupational self-efficacy determines the types of occupations that children aspire to as well as those that they disfavour (Bandura et al., 2001). Bandura et al. also highlighted the vital role played by parents and role models in the process of self-concept development and thus the development of occupational aspirations. The influence of role models on the development of children's self-concept is a well-researched focus in the fields of psychology and sociology (Gibson, 2004).

Lapan, Adams, Turner and Hinkelman (2000) investigated the means by which children's occupational aspirations become crystallised and the influence of self-efficacy on this process. Their findings suggest that these concepts are strongly related to children's expectations of current employment trends for men and women.

In addition, career self-efficacy has been found to be a predictor of the gender traditional occupational roles that children aspire to (Bandura et al., 2001).

To date there has been no South African research focussing on children's self-efficacy beliefs as predictors of their occupational aspirations, thus emphasising the need for research in this domain (Cox, 2004). In addition, Crause (2006) emphasises the need for research on the interrelationship between self-concept and occupational aspirations amongst other variables.

The research reviewed in this subsection illustrates the role of the self-concept in the shaping of children's occupational aspirations. Role models and parental figures have been found to be influential in the development of children's self-concepts and thus are seen as predictors of occupational aspirations (Bandura et al., 2001). Role models and parental figures are viewed as social factors according to the Systems Theory Framework and will thus be discussed in greater detail in that subsection of this chapter. The subsection that follows explores two additional intrapersonal factors that influence children's occupational aspirations and perceptions, those of age and gender. This review has consistently highlighted the lack of literature on the career development of children. Within this limited body of research, studies have explored children's occupational aspirations and expectations (Gottfredson, 1981; Helwig, 2001; Phipps, 1995; Stockard & McGee, 1990) in relation to gender role stereotyping (McMahon & Patton, 1997; Trice et al., 1995). These findings have shown age and gender to impact on children's career development in general and their occupation aspiration development in particular.

### *Age*

Childhood is recognised as an important time in which occupational aspirations are increasingly circumscribed, a fact that has critical implications for career

education programmes (Gottfredson, 1981, 1996, 2002, 2005; Trice & King, 1991). As children grow older their thought processes become more complex and abstract (Piaget, 1952, 1971, 1977) thus impacting on the way they think about the world of work. Nelson (1978) found that this maturation of cognitive development impacts on the development of children's occupational aspirations. Children are able to circumscribe their occupational aspirations as they grow older in a developmentally ordered sequence (Gottfredson, 2002, 2005; Trice et al., 1995), a theoretical viewpoint that is supported by the finding of Tremaine and Schau (1979) that older children are more selective in the occupations they aspire to. Similarly, Borgen and Young (1982) examined developmental patterns in children's descriptions of commonly identifiable occupations and found age to be an important factor in children's career development. Their research demonstrated notable differences in the way older and younger children describe occupations.

Within the South African context most research pertaining to the influence of age on occupational aspirations and perceptions appears to focus on adolescent and adult populations, with little research on children. The impact of age as a variable on occupational aspirations and perceptions has been researched throughout the current longitudinal study however (Cox, 2004; Crause, 2006; Dean, 1998, 2001; Hargreaves, 2007; Olivier, 2004). This individual variable has been a consistent focus of the present longitudinal project, with findings demonstrating that children aspire to occupations from an early age (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007; Olivier, 2004). In addition, Grobler (2000) emphasised the influence of cognitive development on the career development process in children, confirming the findings of international studies in finding career awareness to be present at a much earlier age than is proposed by career development theory. Dean (2001) noted that

occupational aspirations and typologies appear to remain stable over time. Further, Hargreaves (2007) found that children's descriptions of their occupational aspirations became more realistic over time. Crause (2006) highlighted the important correlation between childhood occupational aspirations and adult career choices. Based on this finding Hargreaves (2007) proposed that appropriate career education programmes can assist children in making informed and realistic career choices over time, thus facilitating the circumscription process.

The following subsection examines gender as an intrapersonal variable that influences children's occupational aspirations and perceptions.

### ***Gender***

Gender identity is believed to be established by the age of three years (Sadock & Sadock, 2003) and gender has been found to correlate with children's career development in general and with their occupational aspiration development in particular (Helwig, 2004). Of the research that has focussed on children's occupational aspirations, gender differences have been the most consistent research focus (Phipps, 1995; Wahl & Blackhurst, 2000; Watson & McMahon, 2005). A large body of research offers support for the important influence of gender on the occupational aspirations of children of all ages (Hartung, Porfeli, & Vondracek, 2005; Henderson, Hesketh & Tuffin, 1988; Sellers, Satcher, & Comas, 1999; Weiking Franken, 1983), although the results of these studies have failed to present any conclusive findings.

Research on gender differences over recent decades has demonstrated that social forces play an important role in predicting gender differences in children's occupational aspirations (Arap-Maritim, 1984; Gregg & Dobson, 1980; Hammond & Dingley, 1989; Looft, 1971; Watson & McMahon, 2005). In addition, research

confirms that children of all ages hold occupational gender stereotypes (Bobo, Hildreth & Durodoye, 1998; Franken, 1983; Harris & Satter, 1981; Liben, Bigler, & Krogh, 2001; Stockard & McGee, 1990; Stroeher, 1994). Furthermore, research has demonstrated that early social factors and personal preferences related to gender, influence children's later occupational aspirations (Archer, 1989; Goldstein & Oldham, 1979; Lapan & Jingeleski, 1992; Stockard & McGee, 1990). Recent studies have found that children hold stronger gender-typed occupational aspirations from an early age, with boys holding these preferences more rigidly than girls (Helwig, 1998b, 1998c; Trice et al, 1995). Rojewski (2007) reported that research over the past thirty years has consistently noted gender differences in occupational aspirations, however to date this research has been inconclusive in its findings.

In their recent review, Hartung, Porfeli and Vondracek (2005) found that girls typically aspire to female stereotyped occupations while boys aspire to mostly male stereotyped occupations. Research findings show that girls and boys select occupations along gender-specific lines (Furlong & Biggart, 1999; Harris & Satter, 1981; Hartung, Porfeli, & Vondracek, 2005; Hewitt, 1975; Johnson-Riley, 1981; Watson & McMahon, 2005). It has generally been found that boys tend to aspire to more physical and practical occupations while girls prefer more social and artistic occupations (Hartung, Porfeli, & Vondracek, 2005; Helwig, 1998a; Watson & McMahon, 2005). Boys also tend to aspire to fantasised occupations such as a professional athlete for a longer period of time than do girls (Helwig, 1998a).

Gender differences in occupational aspirations appear to develop in early childhood (Hewitt, 1975; Liben, Bigler, & Krogh, 2001; Stockard & McGee, 1990) with girls as early as the age of six or seven years limiting their occupations more than boys of the same age (Looft, 1971). Girls have been found to learn more quickly what

adult statuses are open to their gender which results in the circumscription of their occupational aspirations at an early age (Looft, 1971; McMahon & Patton, 1997). Johnson Riley (1981) and Stroeher (1994) found that girls as young as pre-primary school age aspire to occupations that are traditionally considered female. Girls perceive their occupational opportunities to be limited while boys perceive a wider range of opportunities (Johnson Riley, 1981; Reid & Stephens, 1985). In addition, boys report a greater number and a broader range of occupational aspirations (Looft, 1971; Stockard & McGee, 1990; Vondracek & Kirchner, 1974). These differences can be attributed to the general process of occupational knowledge development and more specifically to gender identity development (Stockard & McGee, 1990).

During the primary school years girls also tend to engage less in career exploration than boys (McMahon & Patton, 1997). Dorr and Lesser (1980) speculate that this may be a result of the way in which children are socialised. Girls appear to trail boys in terms of career development and, paradoxically, they seem to make career decisions at an earlier age, possibly as a result of premature occupational foreclosure. In general, boys hold more gender stereotyped views of occupations and believe that more occupations are suited to men than to women (Hartung, Porfeli, & Vondracek, 2005).

Girls, on the other hand, tend to demonstrate greater gender role flexibility than boys. Thus girls will choose male dominated occupations more than boys will choose female dominated occupations (Raffaele, Mendez, & Crawford, 2002). This may be an indication of the influence of societal norms on the career development of children (Bobo, Hildreth, & Durodoye, 1998; Watson & McMahon, 2005). According to the findings of Stockard and McGee (1990), girls are more likely than boys to prefer occupations that are stereotypical of the opposite gender. Furthermore, their



preference scores for these occupations were found to be higher than those of the boys. Hartung, Porfeli and Vondracek (2005) speculate that this may be a result of traditionally male dominated careers representing higher income and status levels.

The diversity of occupations aspired to by gender groups is a contentious issue in research (Hartung, Porfeli, & Vondracek, 2005). Formative studies have found the diversity and amount of occupations that girls and boys aspire to to increase with age (Hewitt, 1975; Nelson, 1978). Other studies have challenged this notion, however, with some studies even showing the opposite to be true (Arap-Maritim, 1984; Trice, 1991). Research has shown boys to possess more occupational information and more diverse occupational aspirations than girls (Arap-Maritim, 1984; Looft, 1971; McMahon & Patton, 1997; Vondracek & Kirchner, 1974). On the other hand, other research has found no gender differences in terms of occupational aspiration diversity (Bobo, Hildreth, & Durodoye, 1998; Trice & King, 1991), with some research even finding that girls tended to aspire to more diverse occupations than boys (Trice & Rush, 1995). Hartung, Porfeli and Vondracek (2005) conclude that research on gender differences in occupational aspirations lacks cohesiveness, highlighting the need for more research in this domain. Rojewski (2007) reached a similar conclusion in also reporting mixed findings on gender differences in occupational aspirations.

The present longitudinal project has yielded findings that confirm the important role that gender plays in the development of South African children's occupational aspirations (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007; Olivier, 2004). Dean's (2001) results demonstrated that boys tended to be less gender stereotyped than girls and were more likely to select Realistic occupations as they became older, while girls preferred more Social occupations. International studies have yielded similar results (Hartung, Porfeli, & Vondracek, 2005; Helwig, 1998a; Watson &

McMahon, 2005). Other research has demonstrated that from an early age, South African children are aware of gender differences and their own gender identity (Cox, 2004; Dean, 2001; Olivier, 2004). Cox (2004) found that the participants in her study fit Gottfredson's (1981; 1996) stage of orientation to gender roles. More female participants in this study aspired to occupations that were gender appropriate. Crause (2006) and Hargreaves (2007) both noted a decrease in the gender stereotyping of occupations over time, with their participants moving out of Gottfredson's (1981; 1996) stage of orientation to gender roles and into the social valuation stage. Overall gender stereotyping amongst children in this longitudinal research project appears to decrease over time, with boys appearing to be less gender stereotyped than girls (Cox, 2004; Dean, 2001; Olivier, 2004).

The subsection that follows considers the effect of race and culture on the occupational aspirations of children.

### ***Race and Culture***

Race and culture are additional constructs that fit into the individual system of the Systems Theory Framework (Patton & McMahon, 1999, 2006). It is important to distinguish between the construct of race and culture. For the purposes of this review race is understood to imply a group of people that are biologically and genetically similar, while culture is defined as meanings, values and behaviours that are learned and passed down within a society or social grouping (Sadock & Sadock, 2003). Research has shown race to be an important factor influencing the occupational aspirations of children. However, much of the international research in this regard has been confused with research on socioeconomic status (Hartung, Porfeli, & Vondracek, 2005). Thus, few studies have examined race as an independent variable influencing occupational aspiration development. Nonetheless, research has shown

children of minority race groups to aspire to lower status occupations than their majority race group counterparts (Cook, Church, Ajanaku, Shadish, Kim & Cohen, 1996; Griffin & Holder, 1987). Research has also shown black children to have less developed abilities to master the task of projecting themselves into the future than do urban white children (Vondracek & Kirchner, 1974; Bobo, Hildreth, & Durodoye, 1998). Cook et al (1996) caution, however, that results such as these may be significantly influenced by social class.

There has been limited national research that has examined race as an independent variable having an influence on the development of occupational aspirations in South African children. Studies that have examined South African populations have focused mainly on adolescents and adults and have examined black, white and coloured populations<sup>1</sup> (Kuit, 2006; Stead & Watson, 1998b; Watson, 1984). Pohlman (2003) examined a sample of black South African adolescents and found that this group had a less differentiated conception of their future adult occupational role characteristics in comparison to their white counterparts. Furthermore, it was found that black adolescents experience their future career as being predetermined and involving limited opportunities. A South African study using a black adolescent sample demonstrated that most of this participant group aspired to occupations within the helping professions, with few aspiring to occupations within the scientific professions (Watson, Foxcroft, Horn, & Stead, 1997).

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<sup>1</sup> These terms are often understood to denote cultural groups. In the South African context race and culture are often intertwined concepts. For the purposes of this review these terms are used to denote race groups.

Grobler (2000) considered race as a variable in her study on the occupational aspirations of South African children. This study demonstrated that most children, regardless of race, tended to aspire to Social type occupations. However, more than half of the black children in Grobler's sample aspired to Social type occupations while only a third of the white children aspired to Social type occupations. It was also found that more white than black children aspired to Realistic type occupations and that no black children aspired to Artistic type occupations. More black children aspired to Investigative and Fantasy type occupations than white children (Grobler, 2000).

Culture and the context in which a child grows up has been found to be of primary importance in the development of the self-concept and career identity of the child (Watson, 1984). For the most part cultural issues remain sidelined in the career literature (Stead and Watson, 2006). Cox (2004) deems culture to be one of the most powerful social forces influencing the career development of children. Research recognises the role of racial and cultural stereotypes in limiting children's occupational aspirations (Wahl & Blackhurst, 2000), and has highlighted the influence of the status of the dominant culture on children's occupational aspirations (Liben, Bigler, & Krogh, 2001; Stockard & McGee, 1990; Vondracek & Kirchner, 1974). Furthermore, children appear to show greater interest in occupations associated with their own culture (Liben, Bigler, & Krogh, 2001).

On a national level the influence of culture on children's career development is not a well-researched field. Existing studies have focused mostly on adolescents, with research indicating that black adolescents aspire more to social occupations and less to scientific and investigative occupations (Watson, Foxcroft, Horn, & Stead, 1997). Grobler (2000) speculates that this may be linked to the concept of 'ubuntu' or the

humanness concept that is accentuated in black culture. Pohlman (2003) proposes that the occupational aspirations of black South African adolescents have been circumscribed by the social and historical inequalities that existed within the context that they were raised.

Our focus now shifts to the social factors that have been found to influence the occupational aspiration development of children.

### ***Social factors***

Patton and McMahon (1999, 2006) identify family, peers, the media, community groups, the workplace, and educational institutions as being social influences with which the individual interacts. These influences form part of the social system of the Systems Theory Framework (Patton & McMahon, 1999, 2006). The role of these social factors in the career development of children has been more implied than researched (Watson & McMahon, 2005). This section examines the influences of these factors in relation to the aims of the present research.

### ***Family***

Most theory and research points to the family as being the central context in which childhood career development takes place (Hartung, Porfeli, & Vondracek, 2005). Whiston and Keller (2004) found that support, attachment and other family relationship variables have been identified as important means by which parents influence children to reach outcomes including career self-efficacy, decisiveness, commitment and, exploration. Research has found the number of parents (i.e. single versus dual parent families) and the structure of the family to influence children's occupational aspirations (Trice et al, 1995; Whiston & Keller, 2004). The way in which these family of origin factors influence the occupational aspiration development of children is complex and is impacted by family variables such as

parental occupation, attachment, support, and autonomy as well as contextual factors that include race, gender and age (Whiston & Keller, 2004). The means by which children develop occupational gender-types, prestige rankings, occupational knowledge and attitudes is influenced by factors such as parental background, role modelling and family experiences (Hartung, Porfeli, & Vondracek, 2005; Seligman, Weinstock, & Owings, 1988). For instance, in earlier research, Hill (1965) found that family members influenced primary school children's occupational aspirations more so than educational institutions. Similarly, Chown (1958) found parents to be the single most influential factor in children's occupational aspiration development.

Parents are active agents in the career development of their children (Schultheiss, 2008; Young & Friesen, 1992). For instance, it has been established that children tend to aspire to occupations that comply with the expectations of their parents (Helwig, 1998c). In an earlier career theory, Roe (1957) claimed that the parent-child relationship is a possible predictor of whether or not children will aspire to person-orientated types of occupations, which further highlights the active role that parents play in their children's career development. The relationship and communication between children and their parents influences children's career development in that such development is understood to be a joint endeavour between the two (Young, et al., 2006). Children often aspire to the same level or status as their parent's occupational expectations for them. However, they begin to disregard parental expectations as they grow older (Helwig, 1998c).

Trice (1991) found that children's occupational aspirations were often related to those of their parents. Forty-seven percent of the eight-year old children in Trice's study aspired to the same occupation as one of their parents. By the age of 11 years this number had dropped to 16%. Children's occupational aspirations have also been

found to be initially influenced by the occupation of their father, with the mother's occupation becoming more influential in later childhood (Seligman, Weinstock, & Heflin, 1991). Other studies have confirmed that children's occupational aspirations are more influenced by their mother's than their father's occupation (Trice et al, 1995; Trice & Knapp, 1992). This may be attributed to the increase in the number of prestigious occupations that women have entered in recent years. Furthermore, children are more exposed to maternal occupations and therefore possess greater knowledge of these types of occupations (Trice & Knapp, 1992). Whiston and Keller (2004) found that children with mothers in non-traditional occupations tended to evidence less occupational gender stereotypes.

National research has yielded important findings to date. Dean (2001) noted marked inconsistencies between her research findings and Gottfredson's (1981; 1996; 2002; 2005) career development theory. Gottfredson (1981; 1996; 2002; 2005) suggests that pre-school children are primarily influenced by paternal figures. Dean's (2001) findings suggest that the occupational aspirations of 4 to 8 year-old children are affected to an equal extent by both parents. On the other hand, in a sample of 6 to 9 year-old children, Cox (2004) found that the maternal occupation becomes increasingly influential as children grow older, while Olivier (2004) found that children from 8 to 10 years do not generally aspire to their parents' occupations. Dean (2001) and Olivier's (2004) studies suggest that children between the ages of 4 and 10 years identify with key figures in their environment, which is a confirmation of Super's (1994) proposition that children in the Growth stage obtain occupational information from key figures.

Both research and theory confirm the important role that the family plays in influencing the occupational aspiration development of children. Parents have been

shown to have a considerable influence on the occupations their children aspire to. An additional social influence that will now be discussed is that of the media.

### *Media*

The role of the media in the shaping of children's occupational aspirations has received widespread acknowledgement and recognition (McMahon, Carroll, & Gillies, 2001). Despite this, there has been limited research into the influence of media on the career development of children (Stead & Watson, 2006; Watson & McMahon, 2005). Television has been found to be a powerful context in relation to children's occupational aspiration development and thus warrants a greater research focus (Hartung, Porfeli, & Vondracek, 2005). For instance, primary school children recognised that occupations depicted on television were more glamorous and stereotypical than they actually are. In addition, real life occupations were understood to require more personal effort than is shown on television (Wright, Huston, Truglio, Fitch, Smith, & Piemyat, 1995). While children in this latter study were influenced by occupations that were depicted in a socially realistic manner, most children had differentiated conceptions of occupations in the real world and occupations depicted on television (Wright et al., 1995).

Children's books, movies and television have supported the notion that young girls should not aspire to careers that involve high power, status and income (Raffaele Mendez & Crawford, 2002). The media depicts men in the role of power and women in more supportive roles, which has resulted in women being under- represented in certain careers (Raffaele Mendez & Crawford, 2002). Thus the media appears to have a particular, circumscribing influence on the occupational aspirations of girls. To date there is no national research on this issue.



### ***School***

School is considered to play a major role in the career development of children (McMahon, Gillies, & Carroll, 2000) and is mentioned in several career theories including those of Super (1990) and Roe (1957). Research demonstrates that children's occupational aspirations are influenced by school from as early as the primary education level, where career education programmes have proven to be effective (McMahon, Gillies, & Carroll, 2000). McMahon, Gillies and Carroll noted that career education programmes assisted children in establishing a link between school-based activities and the world of work. Schultheiss (2008) highlights the need for children's career development research to include investigations that take place within the school context, especially since children spend most of their working hours in school or engaged in work related to school. In a study on school influence Watson and McMahon (2007) found that the majority of a sample of South African and Australian primary school children were able to make curricular, extra-curricular and general school connections to future occupations that interested them.

In addition to the abovementioned social factors, children's occupational aspirations are further influenced by environmental-societal factors which are discussed in the next section.

### ***Environmental-societal factors***

Factors including geographical location, socioeconomic status, historical trends, employment market, political decisions and globalisation, although at a more macro-systemic level, impact significantly on children's occupational aspirations (Patton & McMahon, 1999; 2006; Stead & Watson, 2006). Watson and McMahon (2005) suggest that these factors are more implied than they are researched. This is particularly the case with South African research. Research has recognised socio-

economic status, geographic location, and economic and political policies as important variables influencing occupational aspirations and perceptions (Cox, 2004; Crause, 2006; Stockhard & McGee, 1990). In addition, Watson and McMahon (2005) highlight environmental-societal influences such as the labour market, social policy and the role of technology. The subsection that follows focuses on research pertaining specifically to socioeconomic status, since this societal factor relates indirectly to the aims of the present study.

### *Socioeconomic status*

Socioeconomic status significantly influences children's occupational aspirations (Gottfredson, 2002, 2005; Hartung, Porfeli, & Vondracek, 2005; Holland, 1981; Stroehrer, 1994). Despite this theoretical recognition, there has been limited research on the influence of socioeconomic status on children's occupational aspirations (Sellers, Satcher, & Comas, 1999). Bobo, Hildreth and Durodoye (1998) hypothesise that socioeconomic status may have a greater influence on children's occupational aspirations than culture, although several researchers have found the influence of culture on occupational aspiration development to be greater than that of socioeconomic status (Bandura et al, 2001; Phipps, 1995; Sellers, Satcher, & Comas, 1999).

Socioeconomic status, prestige and the social class of children's occupational aspirations have all been found to correlate positively with one another (Hartung, Porfeli, & Vondracek, 2005). This correlation is commonly understood to be a result of the opportunities that can be associated with higher socioeconomic status (Furlong & Biggart, 1999; Jordan, 1976). In a study conducted by Phipps (1995), it was found that the most popular occupational aspirations amongst 8 to 11 year-old children were

those of medical doctor, lawyer, architect and veterinarian, all of which can be described as high status occupations.

Several studies have demonstrated the means by which socioeconomic status circumscribes children's occupational aspirations (Holland, 1981; Miller, 1986; Stroeher, 1994). Children of higher socioeconomic status have been found to strive towards more prestigious occupations than children of lower socioeconomic status (Cook et al., 1996) with the latter children both perceiving fewer occupational opportunities available to them (Weinger, 1998) and holding more conservative and gender stereotyped views of occupations (Hageman & Gladding, 1983). This was further confirmed by Stroeher (1994) who found that pre-primary school girls of lower socioeconomic status aspired to more traditional occupations. Children of lower socioeconomic status were also found to possess limited knowledge about occupations (Hageman & Gladding, 1983; Weinger, 1998). Parental beliefs and aspirations have been shown to mediate the influence of socioeconomic status on the occupational aspirations of children (Watson & McMahon, 2005).

Sellers, Satcher, and Comas (1999) have refuted the correlation between socioeconomic status and occupational aspirations, suggesting that children's social class does not play an important role in their occupational aspiration development. This calls into question Gottfredson's (2002, 2005) theoretical stage of social valuation. Research findings suggest that children become increasingly aware of socioeconomic barriers to their occupational aspirations (Cook et al., 1996).

On a national level Dean's (1998) findings established that South African children from 4 to 8 years of age of lower socioeconomic status aspired to more traditional careers. The current study does not examine socioeconomic status as it has been controlled for through ensuring that participants were drawn from a homogenous

socioeconomic status group. As a result of this homogenous participant group, there have been limited findings regarding the role of socio-economic status in the present longitudinal project.

### *Summary*

While significant progress has been made in determining the nature and precursors of occupational aspirations, much remains unidentified. Individual factors including self-esteem, self-efficacy, age, gender, race and culture have been identified as important influences on children's occupational aspiration development, as have social factors which include family, the media and the school. In addition, environmental-societal factors such as socioeconomic status have been found to play an important role in children's occupational aspiration development.

Research findings have demonstrated that children start to develop a self-concept early in their development. This finding has not been emphasised to date and it has important implications as to how children develop occupational aspirations, particularly in light of the theory that such aspirations can be seen as an implementation of the self-concept. The self-concept is further influenced by factors such as age and gender which have been a significant focus of the current longitudinal study. Children's gender-stereotyped beliefs and knowledge about occupations have been found to be notably traditional. There is a need for further research on developmental and gender differences to increase our knowledge of childhood career development and to inform career education programmes.

Social factors such as family and parental modelling have been found to be instrumental in children's career development and in the development of their occupational aspirations. Research suggests, however, that the influence of family and

parental modelling decrease in importance over time. Social influences extend to occupational gender stereotyping, prestige rankings and world of work knowledge.

Environmental-societal factors, in particular socioeconomic status, have been considered to have an important influence on children's occupational aspiration development. Children's occupational aspirations have been found to be strongly influenced by an occupation's status as defined by the dominant culture. Furthermore, there is a strong correlation between socioeconomic status, occupational status level and children's occupational aspirations.

We now turn our attention to research conducted on occupational gender stereotyping.

### ***Overview of Occupational Gender Stereotype Research***

The impact of gender role stereotyping on the occupational aspirations of children remains the most researched area within childhood career development and the correlation between occupational aspirations and gender has been well-established in research (Phipps, 1995; Sellers, Satcher, & Comas, 1999; Tracey, 2001). The majority of research findings suggest that children of all ages hold occupational gender stereotypes (Bobo, Hildreth, & Durodoye, 1998; Johnson Riley, 1981; Liben, Bigler, & Krogh, 2001; Sellers, Satcher, & Comas, 1999; Stroeher, 1994). In a review of research on children's career development, Hartung, Porfeli and Vondracek (2005) examined extensively the research on gender stereotyping of occupations and concluded that most studies report a high degree of gender stereotyping along traditional gender lines. Furlong and Biggart (1999) found that males and females tend to aspire to gender specific occupations and that their ideas about the suitability of occupations for a particular gender develop from a young age and change little over time.

Early social factors and gender stereotypes have additionally been found to play a role in the development of children's occupational aspirations (Lapan & Jingeleski, 1992; Stockard & McGee, 1990). Career development research has shown that children come to understand the cultural gender stereotypes of occupations by the time they have started school (Liben, et al., 2001). In a study conducted by Liben et al the role of gender in children's occupational perceptions about occupational status and children's own occupational aspirations was investigated. In addition, the relationship between children's endorsement of gender stereotypes and their rating of occupational status and interest was studied. The participants, aged between 6 and 12 years, were found to be aware of status differences among occupations. Furthermore, children rated occupations viewed by their culture as masculine, as being higher in status than those viewed as feminine. By middle childhood children appear to hold the perception that occupations performed by men have a higher status than those performed by women. This phenomenon became increasingly prominent as children aged (Liben et al., 2001).

This finding is contradicted by other studies that have shown gender occupational stereotypes to decrease over time (Stockard & McGee, 1990; Super, 1957; Watson & McMahon, 2005), with several studies demonstrating that older children hold less rigid gender occupational stereotypes than when they were younger (Meyer, 1980; Nelson, 1978; Weiking Franken, 1983). Studies examining occupational gender stereotyping over time have found a decrease in stereotypes over the decades (Bobo, Hildreth, & Durodoye, 1998; Helwig, 1998b). Watson and McMahon (2005) attribute this decline in occupational gender stereotyping to changing social norms and the resultant socialisation of children. These shifts may

have changed the nature of occupational gender stereotypes, meaning that children may now hold subtler occupational gender stereotypes.

Gorrel and Shaw (1988) found gender to be a predictor of children's self-efficacy beliefs about their abilities to perform male-dominated or female-dominated occupations. Boys believed to a greater extent than girls that they were able to develop the skills and abilities required for a male-dominated occupation. The reverse was found to be true with regard to female occupations, with girls believing to a greater degree than boys that they would be able to acquire the skills required for a female-dominated occupation. Turner and Lapan (2005) made use of Holland's (1985) occupational typology to examine career development and occupational aspiration development in school-age children and found that certain occupational types were more strongly associated with one gender than the other. More boys were associated with Realistic, Investigative and Enterprising fields while more girls were associated with Social, Artistic and Conventional fields.

Occupational gender stereotypes appear to exist across cultures as illustrated by research conducted on Australian (McMahon, Gilles & Carroll, 2000; McMahon & Patton, 1997), British (Francis, 1996) and Kenyan (Arap-Maritim, 1984) children. Research findings suggest that children from America, Ireland and Kenya all show consistent patterns of gender differences in their occupational aspirations that stem from the dominant culture that these children are exposed to (Arap-Maritim, 1984; Gregg & Dobson, 1980; Hammond & Dingley, 1989). The present longitudinal project has found that children hold occupational gender stereotypes from a young age but that these stereotypes decrease consistently over time (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007).

### *Summary*

The current career literature suggests that children of all ages hold occupational gender stereotypes, and that these stereotypes tend to follow traditional gender lines. Early social factors and gender stereotypes have been found to impact on children's occupational aspirations. Children tend to rate occupations viewed by their culture as masculine as being higher in status than those viewed as feminine. By middle childhood children appear to hold the perception that occupations performed by men have a higher status than those performed by women. Some studies have shown gender stereotypes to decrease over time, while other studies have shown them to increase as children grow older. A decrease in occupational gender stereotypes may be a result of changing social norms and the resultant socialisation of children.

Gender can be a predictor of children's self-efficacy beliefs about their abilities to perform male-dominated or female-dominated occupations. Furthermore, an examination of employment patterns established that certain occupational types were more strongly associated with one gender than the other. Gender stereotypes appear to exist consistently across cultural groups and seem to stem from the culture to which the child is exposed.

This review has set out to provide an overview of research that has focussed on the career development and occupational aspiration development of children. The chapter that follows will describe the specific problem investigated and the methodological considerations pertaining to the current longitudinal study, thus providing a thorough explanation of how this study was conducted.



## **CHAPTER 4**

### **Research Methodology**

It is important that the current study be grounded within the context of the larger ongoing longitudinal research project of which it is a part. The longitudinal research aims to track the development of the occupational aspirations and perceptions of a sample of South African children over a twelve year period, that is, from the commencement of their primary education to the completion of their secondary education. A number of studies have already been completed as part of this ongoing research project (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007; Olivier, 2004). These studies have afforded significant insight into the development of the occupational aspirations in this group of South African children, which is an area of career development that has not received adequate attention to date (Watson & McMahon, 2008a). The present study has attempted to expand on and further explore the career development of children by exploring and describing the occupational aspirations and gender stereotypes of a sample of 12 to 14 year old South African children over a period of three years. This research methodology chapter describes the research problem and the primary aims of the present study. In addition, the research methodology employed in the study is described including a description of the research method used, the sampling technique adopted, as well as an explanation of how participants were selected. Measures used for data collection are also described, after which the research procedure is outlined. Furthermore, ethical considerations are given attention.

### ***Problem Statement***

During its relatively short history, career development theory has evolved from the trait-factor theories of the early 1900s to a more developmental perspective

(Patton & McMahon, 1999). Despite this theoretical shift, research on the childhood dimensions of lifespan career development has been limited and biased towards adolescent and adult developmental stages (Vondracek, 2001a; Watson & McMahon, 2008a), although career literature is beginning to acknowledge the importance of childhood in the career developmental process (Wahl & Blackhurst, 2000). Watson and McMahon (2005) confirmed this skewed developmental focus in a review of children's career development research. Grobler (2000) has also highlighted the lack of baseline information regarding the career development of South African children. Olivier (2004) noted that on an international level research into childhood career development has led to the development of career education programmes that have enhanced the career awareness of children, thus highlighting the need for such research on a national level.

Research creates the possibility to evaluate and modify career theory and career education programmes (Dean, 2001). Limited attention has been given to the practical application of career development in children, particularly with regard to school guidance and career awareness programmes. International studies on children's career development are lacking and the South African population has received even less attention (Olivier, 2004).

The current longitudinal study aims to provide baseline information on the career development of South African school children as a means of addressing this shortfall. Previous studies in this longitudinal research project have substantiated career development theories and have found childhood to be a significant time of occupational aspiration development. Dean (2001) assessed the current sample when they were 4 to 8 years of age, Cox (2004) from the ages of 6 to 9 years, Olivier (2004) between the ages of 8 and 10 years, and Crause (2006) from 9 to 12 years. The latest

study has been that of Hargreaves (2007) who assessed the children from 9 to 13 years of age. The present study is the sixth study in the longitudinal project and assesses the stability and variability of the occupational aspirations and perceptions of a sample of 12 to 14 year old South African children over a three year period in terms of the children's occupational interest typology, occupational status levels, occupational gender stereotypes and occupational gender traditionality. In addition to focussing on the quantitative results of the longitudinal study, this study also included a qualitative analysis, previously introduced by Hargreaves (2007), of the children's occupational aspirations.

The limited national and international research on the career development of children along with the lack of attention given to the practical application of children's career development research, is the context in which the current study attempts to provide much needed baseline data on the career development of South African children.

### ***Primary aims of the research***

The primary aim of this study was to explore and describe the occupational aspirations and perceptions of a group of 12 to 14 year old South African children over a three year period. In particular, this study aimed to:

1. Explore and describe how children's occupational aspirations and perceptions (in terms of their Holland interest typology) may change over a three year period for the sample as a whole, as well as for each gender group separately.
2. Explore and describe how children's occupational aspirations and perceptions (in terms of their occupational status level) may change over a three year period for the sample as a whole, as well as for each gender group separately.

3. Explore and describe how children's occupational perceptions (in terms of gender stereotypes and traditional gender roles) may change over a three year period for the sample as a whole, as well as for each gender group separately.
4. Explore and describe how children reflect on their occupational aspirations and development over the course of this longitudinal study (i.e., over the past 10 years).

### ***Research Method***

The research method serves to provide a structure for the answering of research questions and to control for error in variance (Neuman, 2006). The current study falls within the field of quantitative research in which data collection is relatively structured in order to produce more conclusive research (Struwig & Stead, 2001). In quantitative research, the data collected is presented numerically (Goodwin, 2005). This was the case in the present study in which semi-structured interviews and biographical questionnaires were used to record verbal information and the resultant data was transposed into nominal data for analysis. Reflection questions that formed part of the semi-structured interview were first content analysed and then further analysed using frequency counts. An advantage of quantitative studies is that they allow for the coherent and functional presentation of an array of collected data (Struwig & Stead, 2001). Furthermore, when abstract concepts are quantified, topics that may otherwise be difficult to analyse can be investigated. In addition, data in a statistical and numerical form can be compared in a precise and exact manner (Rubin, Rubin, & Piele, 2005). A disadvantage of the quantitative method is that in depth insight into the research problem may be compromised (Fouché, 1998, Neuman, 2006). In the light of the present study's sample size as well as its longitudinal nature, it was felt that a quantitative method was the best approach.

The present study was non-experimental, involving natural observation and no manipulation of variables (Gravetter & Forzano, 2006). Furthermore, within the framework of quantitative research this study took an exploratory-descriptive approach. The study thus attempted to gain familiarity and insight into a phenomenon, while accurately depicting its characteristics (Neuman, 2006; Struwig & Stead, 2001). Exploratory-descriptive research aims to systematically examine, record and organise observed behaviour or other significant characteristics (Cozby, 2004; Neuman, 2006). In addition, descriptive research attempts to provide a comprehensive and precise depiction of the phenomenon under study (Stuwig & Stead, 2001). Exploratory research aims to extend and clarify ideas while developing more specific questions for future research (Gravetter & Forzano, 2006; Neuman, 2006; Struwig & Stead, 2001). In view of the fact that most South African career research in recent decades has focussed more on adolescents (Horn, 1995; Stead, 1988; Swartz, 2000; Watson, 1984), research in the field of primary school children's career development remains a relatively unexplored domain. Viewed within this context the present study could be described as exploratory.

In addition, the nature of this study is longitudinal, which means that the study examines features of the same individuals over various times as they grow older (Harris, 1998). There is a lack of research on life-span career development and this type of research has been consistently called for (Savickas, 2002b; Silbereinsen, 2002) in order to expand the limited information available regarding the career development of children. Longitudinal research examines features of the same participants at more than one point over a period of time (Graziano & Raulin, 2000; Harris, 1998). Longitudinal research requires that information be collected during at least two time points over a span of at least one year and that the attrition rate should

be low enough to maintain the longitudinal quality of the study (Verdonik & Sherrod, 1984). Both these criteria were met in the present study, that is, the same participants were evaluated on three occasions over a three-year period and the number of participants was large enough for statistical analysis and to maintain the integrity of the longitudinal study. Only those participants who were assessed in all three years covered by the present study were reported on.

### *Participants and Sampling*

As previously stated, the aim of this study was to further ongoing longitudinal research aimed at exploring changes in the occupational aspirations and perceptions of a group of South African children over time. Sampling techniques are a means of selecting a small group of individuals from a population in such a way that the researcher is able to draw conclusions about a phenomenon being researched (Gravetter & Forzano, 2006; Graziano & Raulin, 2000; Neuman, 2006). The sample for the present study comprised of previously selected participants from this longitudinal project. The target population for the initial study consisted of pre-primary school children in the Nelson Mandela Metropole. The initial sampling procedure involved a two stage process in which fee paying schools were selected according to a simple random sampling procedure before the children were selected. This procedure implies that all pre-primary schools in the Nelson Mandela Metropole had an equal chance of being selected (McBurney, 2001). A sample of 130 children was obtained during the first year of the study using convenience, non-probability sampling.

The use of a non-probability sampling procedure means that the probability of an element or unit being selected is unknown (Harris, 1998, Struwig & Stead, 2001). An advantage of this approach is that it is practical and inexpensive (Cozby, 2004;

Struwig & Stead, 2001). A disadvantage is that generalisation is likely to become difficult, if not impossible (Sheskin, 2000; Struwig & Stead, 2001). It should however be noted that generalisation will not be of central importance since the approach of this study was exploratory-descriptive (Schonegevel, 1997). This sampling method is additionally advantageous because it is convenient, practical and economical (Gravetter & Forzano, 2006; Graziano & Raulin, 2000; Neuman, 2006). In the case of the larger longitudinal study this approach was initially suitable because it was convenient to interview all children who were attending a particular pre-primary school at the same time. Purposive sampling is useful when the researcher wishes to gain an in-depth understanding, rather than to generalise findings to a larger population group (Neuman, 2006). As a result, this method is appropriate for use in an exploratory descriptive study as the aim is not to generalise findings.

A potential disadvantage of longitudinal research is the attrition rate of participants in later years of the study. This proved to be true for the present study in which the initial sample size of 130 children (between 4 and 6 years of age) decreased in successive years of the study. The attrition rate can be partially attributed to the decision made in the third year of the study to continue assessing only the children who were 6 years of age in the initial assessment, and to no longer assess the other age cohort which included children who were 4 and 5 years of age in the first year of study. At the start of the study the participants were all still attending pre-primary school which made it convenient in terms of available time and financial resources to conduct semi-structured interviews. In successive years, all children who were still available for the study were interviewed thus ensuring an adequate sample size (Cox, 2004).

The sample size will impact directly on the extent to which a researcher can place confidence in the data obtained. A larger sample is more likely to give rise to statistics that are more representative of the population (Harris, 1998; Page & Patton, 1991; Struwig & Stead 2001). The sample for the current study (N=44) is large enough to provide meaningful results. This sample consists of all children who were initially assessed at six years of age and were assessed during all subsequent years. It should be noted that 50 children are currently being interviewed each year; however, some of these children have not been available to be interviewed every single year of the study, which also explains the increased sample size in the present study, compared to the previous two years. As only the children interviewed in all three years under study were included in the current sample, the total number of participants in the present study was 44.

Of the 44 children, 22 were boys and 22 girls. The participants turned 14 years of age in the last year of the present study. At the start of the present study they were in Grade 6 and at the end of the three years they were in Grade 8. These participants were drawn from the initial study and consisted of those children still residing in the Nelson Mandela Metropole and surrounding area who were initially assessed at the age of 6 years. The participants attend 18 different schools, 2 of which lie outside the Nelson Mandela Metropole. To ensure a sufficient sample size, children who were still resident in South Africa and who were willing to continue their participation were interviewed telephonically in successive years (Cox, 2004; Crause, 2006). Over the three years of the present study two participants were interviewed telephonically each year. Since the size of a sample affects the confidence that can be placed in the statistical significance of the data analysed, it was considered important to maintain contact with participants no longer living in the Nelson Mandela Metropole. A larger



sample would produce statistics that are more representative of the actual values in the population (Gravetter & Forzano, 2006). However, this study did not propose to make generalisations about the population at large.

The sample could be viewed as fairly homogenous with regard to socio-economic status (Cox, 2004; Dean, 2001). This statement is based on the fact that the pre-primary and primary schools participating in this study were those where parents paid school fees. Added to this, these schools catered primarily for middle- to upper socio-economic status families (Dean, 2001). The sample consisted of predominantly white, English-speaking children. Although the sample is mostly white, other cultural groups were included in the original study (Dean, 2001). However, culture and home language have not been considered as variables in the original (Dean, 2001), subsequent (Cox, 2004, Crause, 2006, Hargreaves, 2007, Olivier, 2004) or present study.

### ***Research Measures***

Data was collected for the current study through the use of two measures: a biographical questionnaire and the Career Awareness Questionnaire (CAQ). Both measures were administered through a semi-structured interview format. They were designed for use in this longitudinal study and can be found in Appendices A and E respectively.

#### ***Biographical Questionnaire***

A biographical questionnaire was developed by previous researchers as a means of obtaining information on important variables, such as the age and gender of the participants, and whether children had indicated an occupational aspiration to their parents (Cox, 2004; Dean, 2001). This questionnaire, which can be found in Appendix A, has been used throughout the duration of the longitudinal study and is combined

with the consent form in which parents or guardians agreed to their children participating in the study. Items were set out in such a way as to facilitate easy understanding by the parents or guardians as well as to simplify coding for statistical analysis. The biographical questionnaires were matched to the participant's interview schedule in order to collate all the information needed for the data capturing and for use in future studies. Minor amendments were made to the biographical form used in the present study. The categories of age and gender were omitted since this information was already available to the researcher. An additional clause was added to gain consent for participants to be interviewed on video, and provision was made for the participants to consent along with their parents to their own participation. The revised biographical form used in the present study can be found in Appendix B.

### ***Career Awareness Questionnaire (CAQ)***

The Career Awareness Questionnaire is a semi-structured interview schedule developed as a means of eliciting information from participants regarding their occupational aspirations, the number of occupations they know about and their gender stereotypical perceptions of occupations. The CAQ has been the interview schedule used since the onset of the longitudinal project. It has undergone some minor revisions over the years in order to accommodate the cognitive development of the participants. The initial CAQ schedule used can be found in Appendix D, while the CAQ used in subsequent studies is found in Appendix E. The version used by Crause (2006) and Hargreaves (2007) can be found in Appendix F and the revision used in the present study can be found in Appendix G. Dean (2001) suggested that semi-structured interviews were the most appropriate means of gathering data on occupational aspirations and perceptions as the target population for the initial study in this longitudinal research project were mostly preschool children. The semi-

structured interview is an adaptable method of collecting data and it can be used with all age groups including pre-school children who are not yet able to read (Huysamen, 1994).

The use of the semi-structured interview is advantageous for several reasons. Assuming rapport has been established between the interviewer and interviewee, it makes provision for open and frank responses. Furthermore, it allows for the observation of non-verbal cues and the collection of personal information, attitudes, perceptions and values (Gravetter & Forzano, 2006; Struwig & Stead, 2001). The interview is flexible, and its structure can be adjusted according to the requirements of the specific interview. A disadvantage of this method of data collection is that the interviewee's responses may be forced or inhibited and influenced by predetermined questions (Struwig & Stead, 2001). In addition, the initial process of structuring the interview format may be time consuming (Gravetter & Forzano, 2006; Shaffer, 2004). However, it is still deemed the most appropriate method of data collection for this study, as it allows for relatively quick and effective data collection, and it enables the researcher to make direct comparisons between the data obtained from different participants (Shaffer, 2004).

As this research forms part of a larger longitudinal project, the interview schedules used since the onset of the project form the basis of the present study. According to Cox (2004), the questions in the initial semi-structured interview were modelled on research conducted by Nelson (1978) who found that asking children open-ended questions assists in the development of occupational thinking and makes provision for the questioning of the child's reasoning. The format of the initial semi-structured interview (Dean, 2001) has undergone minor changes in subsequent studies in order to account for the chronological development of participants (Cox, 2004;

Olivier, 2004). Crause (2006) made the decision to add an additional question and two follow up questions to the CAQ that required the participants to reflect on their occupational aspirations and development across the years (see Appendix F). These questions have been retained in the ensuing years of the study to make provision for further analysis of the participants' career development. These questions provide valuable information for future research and offer an explanation as to the means by which participants have interpreted and experienced possible changes in their occupational aspirations and perceptions over time. The present study made minor revisions to some of the terminology used in the CAQ, replacing the words "boy" and "girl" with the words "man" and "woman" and the word "grown up" with "adult".

The semi-structured interview consists of five main questions, with supplementary questions that follow on from these questions. The five main questions aid in the exploration of participants' occupational aspirations, the number of occupations they know about, how much they know about the identified occupations, the extent to which they hold gender stereotypical perceptions about certain occupations, and reflections on their own career development. Given that the majority of the sample of children for the present study are currently in Gottfredson's third and fourth stages of occupational development (i.e., orientation to social value and status and orientation to internal unique self), the children's responses to question 1 (c) of the Career Awareness Questionnaire (CAQ) will be content analysed in terms of Gottfredson's criteria for the social evaluation and internal unique self stages of career development. This question asks the children why they would like to pursue the occupation that they have chosen to aspire to. The semi-structured interviews used in the initial study, as well as the revised version used in follow up studies and the present study, can be found in Appendices D, E, F and G respectively.

In order to make sure that participant answers would not be negatively affected by having to speak in their second language, interviews were conducted in either English or Afrikaans. This had been done in previous data collection in this longitudinal study (Cox, 2004; Dean, 2001). Typically most children were interviewed in English with two or three of the participants each year being interviewed in Afrikaans.

### ***Ethical Considerations***

Several researchers have emphasised the importance of ethical practices when conducting research (Craig & Baucum, 2002; Graziano & Raulin, 2000; Oliver, 2003). Researchers are obligated to respect the rights and dignity of research participants and to ensure that they are not harmed in any way. For this reason researchers are required to abide by certain ethical principles and codes of conduct, the goal of which is to ensure that research is carried out in a morally acceptable way (Oliver, 2003; Struwig & Stead, 2001). In the field of psychology, ethical guidelines for research are outlined in the psychology profession's ethical code (Professional Board for Psychology, 2002). The same ethical guidelines that were used by previous researchers in this longitudinal project were employed in the present study (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007; Olivier, 2004). Furthermore, the process stipulated by the code of ethics for research of the Nelson Mandela Metropolitan University for seeking permission was followed. The appropriate education authorities were approached for ethical approval in earlier stages of this research. These procedures have previously been approved by the university's Human Ethics Committee for this longitudinal research project.

### ***Informed consent***

The issue of informed consent receives particular emphasis in the psychology profession's ethical code. Informed consent requires that participants are provided with an accurate perception of the research process, possible risks of participation and what the information gained will be used for. A participant's decision to participate in any study needs to be a free and informed choice (Oliver, 2003; Professional Board of Psychology, 2002). All participants were adequately informed of the process of the study, what participation involved and what would happen to the information they provided. In addition, participants were informed that participation was voluntary and that they could withdraw at any point in the study. Participants were given a contact telephone number for the researcher should any queries have arisen. Permission for the research study was obtained from the Nelson Mandela Metropolitan University, schools, parents and children involved in the study and consent was obtained from the parents of each child participating in the study prior to the interview.

### ***Coercion***

In the context of ethical research coercion refers to forcing or pressurising a member of the population under study to take part in the research. This directly contradicts the individual's right to freedom of participation and to withdraw at any point in the research study (Struwig & Stead, 2001). Participation in the present study was voluntary and parents or children were in no way required to participate. All prospective participants were treated in a respectful manner and their interest and time was acknowledged regardless of their decision to participate. No participants were harmed during this study.

### ***Confidentiality***

Confidentiality refers to the safe keeping of data, where others are denied access to it, and that the data be used solely for the purposes of the study (Oliver, 2003; Professional Board for Psychology, 2002; Struwig & Stead, 2001). In light of the type of information gathered for psychological research, confidentiality of information and participant details are of central importance. Provision for anonymity could not be made in this study because the researcher required the names and contact addresses of all participants in order to send the biographical questionnaires and to post off feedback. However, all data (both written and computerised) was kept locked up or password protected in order to ensure confidentiality. Furthermore, only those individuals directly involved with the research project had access to participant information. One of the objectives of this research is to follow the same children longitudinally, implying that anonymity cannot be guaranteed for the participants. However, confidentiality of all data has been maintained and the results were only used for research purposes.

### ***Feedback***

The provision of feedback helps to ensure that participants remain informed and willing to participate in longitudinal research. This is an important aspect of treating participants with respect. Group feedback was provided to the participating schools and to the participants' parents in the form of a general written report. Previous studies in this longitudinal research project have highlighted the value of such feedback.

### ***Research Procedure***

The present longitudinal study commenced in 1998 when various pre-primary schools in the Nelson Mandela Metropole were contacted, both telephonically and in

writing, in order to determine their willingness to partake in the study (Cox, 2004, Dean, 2001). Both the schools and the parents were offered feedback on the results as an incentive to participate in the study. Letters of confirmation with dates and times, as well as parental consent forms, and biographical questionnaires were then sent to the participating schools. Parents were requested to complete both the consent form as well as the biographical questionnaire and to return these to the school prior to the scheduled interviews. This elicited information regarding the participant's age, gender, contact addresses and telephone numbers in order that the participants could be contacted in subsequent years (Cox, 2004; Crause, 2006; Hargreaves, 2007; Olivier, 2004). In addition, parents were asked not to prepare their children in any way regarding their career thoughts as this would affect the validity of the results (Cox, 2004). The format of the consent form can be found in Appendix A, while the original letter to the parents can be seen in Appendix C. The schools that originally agreed to participate were contacted in subsequent years to confirm their continued willingness to participate in the study, as well as to establish which children were no longer attending these schools and where these children could be located (Cox, 2004, Crause, 2006, Hargreaves, 2007).

The same procedure was followed in the present study with two minor changes. Parental information letters and consent forms (Appendices B and C) were sent directly to parents to ensure a more efficient and higher return rate. In addition, every parent or guardian of the 44 current participants was contacted telephonically to ensure their ongoing participation. Previous studies found that asking parents to return biographical forms to the schools often resulted in delays, with parents consenting but forgetting to send the biographical form to the school. It was therefore decided that



parents could fax these forms directly to the researcher, which resulted in a higher rate of compliance.

The fieldwork and data collection was carried out predominantly by postgraduate psychology students from the Nelson Mandela Metropolitan University. These students were trained in both the semi-structured interview procedure as well as in the capturing of data in order to ensure accuracy and consistency in data collection. The students recorded verbatim the participant's responses in the space provided below each question as can be seen in Appendix G. As with previous years of this study, postgraduate students were selected and evaluated by a team of researchers from the university, with each postgraduate student initially interviewing at least one child under supervision. Once students were evaluated as being competent they were authorised to interview children on their own.

The CAQ interviews take on average 10 to 15 minutes to complete. They were conducted at a time predetermined by the participating schools. The interviews took place outside the classroom in a place relatively free of distractions. In cases where it was not possible to interview the child at school, a time was arranged that was suitable to the parent or guardian for the child to be interviewed at home. As mentioned previously, in cases where participants were no longer residing in the Nelson Mandela Metropole, interviews were conducted telephonically to ensure a lower attrition rate.

In one part of the semi-structured interview (Appendix G) children are asked to reflect on their occupational aspirations throughout the course of this research. Where permission was granted this part of the interview was captured on video in order to provide a richer source of qualitative information regarding the children's experience of their own career development. The CAQ interview data was captured, scored and

linked to the data from previous years. For the purpose of the present study only data pertaining to the 12 to 14 year old participants was coded and analysed. After the completion of this research study, group feedback in the form of a general report was sent to participating schools and parents.

### ***Data Coding***

Data coding refers to the means by which information collected is categorised, assigned numerical values and grouped together in themes to make further analysis possible (Neuman, 2006; Struwig & Stead, 2001). In order to quantify the occupational aspirations of the children, their responses were coded according to Holland's (1985) classification system of occupational interest types (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007; Olivier, 2004). The responses were coded by the researcher. For the three years of the present study, the data coding was checked for accuracy by another researcher involved in the larger study. Holland's theory postulates that each individual's personality can be matched with a specific work environment that involves the same abilities and interests. This is referred to as the person-environment fit paradigm. (Nel, 1999; Watson & Stead, 2006b). Individuals strive to find a suitable work environment suited to their values, skills, competencies and attitudes through the interaction of their personality types and environments (Carney & Wells, 1998).

Holland's theory makes three basic assumptions: that people are able to make rational decisions; that people and environments differ in ways that are reliable, meaningful and consistent; and that increased congruence between the personality and environment type will result in increased success (Carney & Wells, 1998; Watson & Stead, 2006b). Holland (1985) proposes six modal personality types and matching work environments, suggesting that most individuals can be fitted into one of these

six types. According to Holland (1985), individuals' interaction with peers, biological heredity, parents, social class, culture and physical environment leads to the development of certain interests and competencies. As a result of their interests and competencies individuals will develop a preference for a certain occupational type. Holland's occupational types of Realistic, Investigative, Artistic, Social, Enterprising and Conventional can be positioned on a hexagon in fixed positions, forming the acronym RIASEC in a clockwise manner (Nel, 1999; Watson & Stead, 2006b). The six personality types and their matching work environments are briefly described below.

### ***Realistic type***

Realistic people enjoy working with their hands and prefer outdoor work. They tend to be practical, technical and athletic people. They enjoy using equipment, machinery, and tools. They prefer structure and like to work on their own.

### ***Investigative type***

Investigative people are critical thinkers who are rational and logical, often showing an interest in mathematics and science. They prefer to work on their own, possibly in an environment where they can work with facts, do research and try to find solutions to problems.

### ***Artistic type***

Artistic people are creative, spontaneous and introspective. They prefer unstructured and aesthetic environments. In addition, Artistic individuals tend to enjoy being around people, have an appreciation for art in all its forms and are able to communicate well.

***Social type***

Social people are caring, friendly and cooperative, they are interested in other people and they enjoy training, developing, curing, or enlightening others. They tend to be sensitive and communicative and they place great value on the development of good interpersonal relationships.

***Enterprising type***

Enterprising type individuals tend to be ambitious and competitive. They have persuasive and interpersonal skills, are good leaders and are energetic and optimistic. They usually opt for the field of business and management.

***Conventional type***

Conventional type individuals prefer occupations where routine, order and preset instructions are important. Such individuals are usually conscious of finer detail and prefer structured office environments. They enjoy clerical, computational and figure work.

It is important to note that since Holland's typology of occupations was not originally designed for use with children, it has been used in the present study as a means of coding occupations of interest rather than being applied as a theory. This classification system has been successfully adopted in previous years of this longitudinal study to classify and code the occupational aspirations and perceptions of the participants (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007; Olivier, 2004). The rationale for the initial use of this model was based on the fact that most South African occupations have been coded in the South African Dictionary of Occupations (Taljaard & Von Mollendorf, 1987) according to Holland's typological codes.

The information obtained from the interview was coded using a three letter typology code, with the first letter in the code signifying the most important occupational type. This type was used for comparison with previous years of the study and it was only this first letter that has been reported on. Furthermore, the RIASEC model was used to code the status levels of the participants' occupational aspirations, using the status levels presented in the South African Dictionary of Occupations (Taljaard & Von Mollendorf, 1987). These status codes ranged from five, representing an occupation requiring less than high school education, through to one, representing an occupation requiring some form of post-secondary education. These status codes are summarised in Table 1. When participants indicated that they were interested in more than one occupation, only their first aspiration was coded for the purposes of this study.

Table 1

## Status Codes for Occupations

<b>Level</b>	<b>Description of Status</b>
5	Unskilled workers (e.g. primary school or no education)
4	Semi-skilled workers (e.g. grade 8,9 or 10)
3	Skilled workers (e.g. technical college or matric)
2	Middle-level workers (e.g. college diploma – nursing or teaching)
1	High-level workers (e.g. tertiary education such as university or technikon)

***Data Analysis***

Since this study takes an exploratory-descriptive approach, descriptive statistics were used because they allow for the organisation and easy interpretation of the

recorded and observed data (Harris, 1998, Page & Patton, 1991; Sheskin, 2000; Struwig & Stead, 2001). Descriptive statistics are used to organise, simplify and summarise data (Gravetter & Forzano, 2006; Gravetter & Wallnau, 1999).

The aims of the statistical analysis were threefold. Firstly, it provided a description of the occupational aspirations and perceptions of the sample of 44 participants over a three year period. Secondly, it described how these occupational aspirations and perceptions have developed and also how these occupational aspirations and perceptions may have changed in terms of occupational status level. Thirdly, it described the extent to which the sample's gender perceptions, with regard to occupational gender stereotyping and gender traditionality, may have shifted over time.

Data was categorical or nominal in nature. For this reason frequency counts were employed to report on the coded typology and status level of the occupational aspirations according to gender and age. These frequency counts were then converted into percentages, which served to enhance the description and understanding of the data. The children's occupational aspirations and expectations over the three year period were further cross-tabulated with reference to Holland's typology (1985) for occupational and status levels. Thus the typology and status level of children's occupational aspirations were tracked over a three year period. Frequency counts and percentages were used to establish whether any changes had occurred in the occupational gender perceptions of the participants, both in terms of gender stereotyping and gender traditionality.

Content analysis was used to identify themes and to analyse the data extracted from question 1 (c) of the CAQ. Content analysis is understood as a means of examining and analysing written and oral communications in a systematic, objective

and quantitative way to assess specific psychological variables (Aiken, 2000). The content analysis was performed by the researcher and verified by the research supervisor. Themes were extracted and reflected against Gottfredson's criteria for the social evaluation and internal unique self stages of development. This was done since the participants for the present study are currently in Gottfredson's third and fourth stages of occupational development (i.e., orientation to social value and status and orientation to internal unique self).

Lastly, for the purposes of reporting on the fourth aim of the present study, the reflection question of the CAQ was content analysed for each child at the age of 14 years. In doing so themes and trends that children have shown in their occupational aspirations over the entire ten years of the longitudinal study can be discussed. Descriptive statistics were additionally employed to describe the reflections of the children for this particular question.

### *Summary*

The focus of this chapter has been on the research methodology of the present study. The research design, sampling techniques, assessment measures, research procedure and methods for data coding and analysis were specifically delineated. In addition, the demographics of the participants and the method used to obtain consent were explained. Ethical guidelines considered important in the study were also discussed. The findings of the present study and a discussion of these results is presented in the following chapters.

## **CHAPTER 5**

### **Results**

The focus now shifts to the presentation of the results of the current study which explores and describes the possible changes in occupational aspirations and perceptions of a sample of South African children over a three year period. This chapter will be organised according to the specific aims that were outlined in Chapter 4. The chapter begins by reporting on the results of the occupational aspirations and perceptions of the entire sample over the three year period under review. The development of these occupational aspirations over the three years is then described in terms of the aspiration's occupational typology. Furthermore, this chapter describes how the participants' occupational aspirations and perceptions have changed in terms of status level. In addition to describing the participants' development in terms of occupational typology and status level for the sample as a whole, intra-individual changes are also tracked. This chapter also considers the children's occupational aspirations according to Gottfredson's theory. Attention is also given to the means by which the participants' gender perceptions, in terms of occupational gender stereotypes and occupational gender traditionality, have changed over the three years under study. The chapter concludes by reporting on the results of a qualitative analysis of the participants' reflections on the development of their occupational aspirations throughout the course of the research which has been conducted over the past ten years.

#### ***Occupational Aspiration Typology over Time***

##### ***Total Sample***

The initial aim of the current study was to explore and describe possible changes in the occupational aspirations of a group of South African children over the



three year period under study. This section of the results chapter describes the findings for the total sample as well as for the gender groups separately. The results focus specifically on trends that may have developed over the last three years of this longitudinal project. These results are described for the sample as a whole as well as for intra-individual changes that may have occurred from year to year. The results for the entire sample over the three years are described according to Holland's occupational typology classification system (i.e. Realistic, Investigative, Artistic, Social, Enterprising and Conventional). Earlier studies within the longitudinal project made use of an additional fantasy category (Dean, 2001; Olivier, 2004); however this category was discontinued in more recent years as children no longer aspired to fantasy type occupations (Cox, 2004; Crause, 2006; Hargreaves, 2007). Hence the fantasy type category is excluded from the current study, although the use of a "no choice" category has been retained.

Throughout the duration of the present study most children were able identify and name an occupation to which they aspired, with few children unable to articulate an occupational aspiration. Table 2 presents a summary of the frequency counts for the occupational aspirations of the total sample of 44 participants over the three year period. Percentages are provided below the frequency counts.

In terms of Holland's typology, the Social type was found to be the most common occupational aspiration across the three years under study. The popularity of Social type occupations increased when the participants were 13 years old, declining again when they were 14 years old. The increase at age 13 years may be attributed to the large number of boys aspiring to professional sports occupations which are classified as a Social type occupation.

At age 12 years the second most popular occupational aspirations were for Investigative type occupations and the third most popular was for Artistic type occupations. By age 13 years Artistic type occupations were the second most popular and Investigative type occupations were third, although frequency counts do not vary greatly. By age 14 years there is a decline in the popularity of Artistic type occupations and an increase in the popularity of Enterprising type occupations.

Table 2

Frequency Counts for Occupational Aspiration Typology over Three Years: Total Sample

<b>Holland's Typology</b>	<b>Age</b>		
	12 years	13 years	14 years
Realistic	4 (9.09%)	3 (6.82%)	6 (13.64%)
Investigative	14 (31.82%)	7 (15.91%)	7 (15.91%)
Artistic	6 (13.64%)	8 (18.17%)	4 (9.09%)
Social	15 (34.09%)	19 (43.18%)	16 (36.36%)
Enterprising	2 (4.55%)	2 (4.55%)	7 (15.91%)
Conventional	1 (2.26%)	3 (6.82%)	4 (9.09%)
No choice	2 (4.55%)	2 (4.55%)	0 (0%)

Conventional and Enterprising type occupations remained the least popular over time with the exception of the 14 year old participants who showed an increasing

preference for Enterprising type occupations. It should also be noted that the number of children unable to name an occupational aspiration remained consistently low.

At the ages of 12 and 13 years most participants aspired to Social, Investigative and Artistic occupations, with the combined number of participants in these three typologies representing 79.5% of the total sample at age 12 years and 77.1% of the total sample at age 13 years. As mentioned earlier, by age 14 years the Enterprising typology replaced the Artistic typology as the third most popular occupational aspiration, with Social, Investigative and Enterprising aspirations totalling 68.2% of the total sample at age 14 years. In addition, it is worth noting that over 50% of the 44 participants consistently fell into the top two typologies of Social and Investigative types over the three years.

The intra-individual changes in occupational aspirations over the three years were also examined in this section. These changes are summarised in Table 3. As this study has focussed on participants between the ages of 12 and 14 years, the 12 year old data was used as a baseline. The occupational typology that the child aspired to at age 12 years is indicated in the left-hand column of the table. The stability of these occupational aspirations was tracked by indicating intra-individual changes in the ensuing years of the study in the columns moving (by year) to the far right-hand column of the table. For example, two participants were unable to express an occupational aspiration at age 12 years. At age 13 years one of these children aspired to a Social type occupation, while the other was still unable to express an occupational aspiration. At age 14 years the first child continued to aspire to a Social type occupation, while the second child changed from being unable to express an aspiration to aspiring to an Artistic type occupation. The other columns can be read in a similar fashion.

Table 3

Frequency Counts for Intra-individual Occupational Aspiration Typology over Three Years: Total Sample

Age					
12 years		13 years		14 years	
Typology	f	Typology	f	Typology	f
Realistic	4	Realistic	1	Social	1
		Artistic	1	Social	1
		Social	1	Realistic	1
		No Choice	1	Conventional	1
Investigative	14	Realistic	1	Realistic	1
		Investigative	6	Realistic	2
				Investigative	2
		Artistic	2	Social	2
				Artistic	1
		Social	5	Investigative	1
				Realistic	1
				Artistic	1
				Social	2
				Enterprising	1
Artistic	6	Investigative	1	Enterprising	1
		Artistic	4	Investigative	1
				Social	1
		Social	1	Enterprising	2
				Social	1
Social	15	Artistic	1	Enterprising	1
		Social	10	Realistic	1
				Investigative	2
				Artistic	1
				Social	5
		Enterprising	2	Conventional	1
		Conventional	2	Enterprising	1
				Social	1
				Investigative	1
				Conventional	1
Enterprising	2	Realistic	1	Social	1
		Social	1	Enterprising	1
Conventional	1	Conventional	1	Conventional	1
No Choice	2	Social	1	Social	1
		No Choice	1	Artistic	1

Due to the small sample size it was not possible to perform inferential statistics, however several trends were noted. Only 8 of the 44 (i.e. 18.2%) participants aspired to the same typology across the three years of the study, implying that there is little

stability in terms of children aspiring consistently to the same occupational typology over the three year period. This is emphasised by the fact that, while fifteen participants initially aspired to Social type occupations at age 12 years, only a third of these participants continued to aspire to Social type occupations at age 14 years. This is also emphasised by the trends for the Investigative typology where only two of the initial fourteen participants aspiring to Investigative occupations at age 12 years continued to do so by age 14 years. It is interesting to note that the one child who aspired to a Conventional occupation continued to do so throughout the three years of the study. These trends suggest that children's occupational aspirations tend to fluctuate between the ages of 12 and 14 years.

In summary, the results presented in Table 2 suggest that the combined number of children aspiring to Social, Investigative and Artistic type occupations remained stable over the first two years of the study while in the third year Enterprising type occupations replaced Artistic type occupations as the third most popular aspiration. The Social typology proved to be the most popular aspiration across the three years of the study. An examination of intra-individual changes in occupational aspirations evident in Table 3 revealed a lack of consistency in aspirational typology. It would appear that the occupational aspirations of the participants lacked stability over the three years of the study. The section that follows describes changes in occupational aspiration typology in terms of gender groups.

### ***Girls***

The changes in occupational typology over the three years for the sample of girls (n=22) is summarised in Table 4. The frequency counts and percentages are represented according to Holland's typology with an additional "No choice" category for those participants unable to name an occupational aspiration. Intra-individual

changes were not tracked for gender groups due to the small sample sizes involved. The discussion is limited thus to the trends noted in the gender group as a whole over the three years under study.

Table 4

Frequency Counts for Occupational Aspiration Typology over Three Years: Girls

<b>Holland's Typology</b>	<b>Age</b>		
	12 years	13 years	14 years
Realistic	0 (0%)	0 (0%)	1 (4.55%)
Investigative	8 (36.36%)	5 (22.73%)	2 (9.09%)
Artistic	5 (22.72%)	5 (22.72%)	3 (13.64%)
Social	6 (27.27%)	10 (45.45%)	9 (40.90%)
Enterprising	1 (4.55%)	0 (0%)	6 (27.27%)
Conventional	1 (4.55%)	1 (4.55%)	1 (4.55%)
No choice	1 (4.55%)	1 (4.55%)	0 (0%)

Only one girl was unable to express an occupational aspiration in the first two years of the study. By age 14 years all female participants were able to express an occupational aspiration. The popularity of the Social typology remained consistently high, although at age 12 years more girls aspired to Investigative than Social type occupations. Investigative and Artistic occupations remained popular for girls at age 12 and 13 years. By age 14 years the popularity of both these occupations declined

and the Enterprising typology went from being one of the least popular to one of the most popular occupational aspirations. The number of girls aspiring to Conventional type occupations remained consistently low over the three years and Realistic type occupations were the least popular choice across the three years. Having considered the typology changes in occupational aspirations of the girls we now shift our attention to the boys.

### ***Boys***

The frequency counts of occupational aspirations for the sample of boys (n=22) is reported in Table 5. The frequency counts are divided according to Holland's occupational typology with an additional category of "no choice". Percentages are indicated below the frequency counts. Intra-individual changes for each boy were not tracked due to the small sample size.

As with the girls it can be seen in Table 5 that only one boy was unable to express an occupational aspiration in the first two years of the study. By age 14 all male participants were able to express an occupational aspiration. The most popular typology for boys across all three years was the Social type category. In addition, Realistic and Investigative occupations were consistently popular except at age 13 years when more boys aspired to Artistic type occupations than to Investigative type occupations. The number of boys aspiring to Conventional and Enterprising type occupations remained consistently low across the three years of the study, although a steady increase in the popularity of Conventional type occupations is noted.

Table 5

Frequency Counts for Occupational Aspiration Typology over Three Years: Boys

<b>Holland's Typology</b>	<b>Age</b>		
	12 years	13 years	14 years
Realistic	4 (18.18%)	3 (13.64%)	5 (22.72%)
Investigative	6 (27.27%)	2 (9.09%)	5 (22.72%)
Artistic	1 (4.55%)	3 (13.64%)	1 (4.55%)
Social	9 (40.90%)	9 (40.90%)	7 (31.82%)
Enterprising	1 (4.55%)	2 (9.09%)	1 (4.55%)
Conventional	0 (0%)	2 (9.09%)	3 (13.64%)
No choice	1 (4.55%)	1 (4.55%)	0 (0%)

The variability of the results in Table 5 suggest that the boys in this study may have begun to aspire to a greater variety of occupations with increasing age. The next section of the results chapter describes the occupational aspirations of the total sample and gender groups with reference to status levels.

### ***Occupational Aspiration Status Level over Time***

#### ***Total Sample***

The second aim of the current study was to explore and describe possible changes in the participants' occupational aspirations and perceptions over three years in terms of status levels. These results are presented for the sample as a whole as well as for each gender group separately. Occupational aspiration status levels were coded



according to Holland's (1985) status level classification system, which is elaborated on in the methodology chapter. The categories for occupational status level include: high level (for high status or professional occupations), middle level (for middle status or semi-professional occupations), skilled occupations, semi-skilled occupations and unskilled occupations. In addition, a "no choice" category was included for those participants who were unable to express an occupational aspiration and thus could not be assigned an occupational status level.

This section of the results chapter focuses specifically on trends that have developed over the last three years of this longitudinal research project in relation to the sample as a whole, as well as to intra-individual changes. The frequency counts for occupational aspiration status level over the three years for the total sample (N=44) is summarised in Table 6.

Status levels were scored on a five point scale, ranging from unskilled (requiring less than secondary school education) to highly skilled (requiring some form of tertiary education). Most participants in the current study consistently aspired to high status or professional occupations in all three years. As indicated in Table 6, the number of children aspiring to high status occupations has shown a steady increase over the three years. This increase has correlated with a decline in the popularity of semi-skilled, skilled and middle level occupations. Unskilled occupations have proven to be the least popular aspirations across the three years of the study.

Table 6

Frequency Counts for Occupational Aspiration Status Levels over Three Years: Total Sample

Status Level	Age		
	12 years	13 years	14 years
Unskilled	0 (0%)	1 (2.27%)	0 (0%)
Semi-skilled	1 (2.27%)	0 (0%)	0 (0%)
Skilled	1 (2.27%)	1 (2.27%)	0 (0%)
Middle-level	6 (13.64%)	3 (6.82%)	5 (11.36%)
High-level	34 (77.27%)	37 (84.09%)	39 (88.64%)
No Choice	2 (4.55%)	2 (4.55%)	0 (0%)

The majority of the sample aspired to high-level occupations. Even during the first year of the present study, when the popularity of high-level occupations was recorded at its lowest for the three years, there was a large difference between the percentage of participants aspiring to this status category and those aspiring to the second most popular status category of middle-level occupations. This suggests that there is stability in terms of the children's occupational aspirations towards high-level or professional occupations. The middle-level status has consistently remained the second most popular status level category. Together, high and middle level categories accounted for 90.9% of occupational aspirations in the first and second years of the study and for 100% of occupational aspirations in the third year of the study. It is thus evident that the present sample of children have consistently aspired to higher status

occupations and that these status levels have remained stable over the three years of the study.

In addition to tracking the status levels of occupational aspirations for the total sample, intra-individual changes in occupational status levels were tracked beginning with each participant's initial occupational aspiration status level at the age of 12 years. The procedure adopted was similar to the one used to track occupational aspiration typologies described earlier in this chapter. The frequency counts for intra-individual changes in occupational aspiration status level over the three years are summarised in Table 7. As there were no occupational aspirations for unskilled occupations in the first year of the study, this status level category is not recorded in the left-hand column of the table.

Table 7

Frequency Counts for Intra-individual Occupational Aspiration Status Level over Three Years: Total Sample

Age					
12 years		13 years		14 years	
Status Level	f	Status Level	f	Status Level	f
High	34	High	33	High	32
		Unskilled	1	Middle	1
				Middle	1
Middle	6	High	2	High	1
		Middle	3	Middle	1
		Skilled	1	High	1
Skilled	1	No choice	1	Middle	2
Semi-skilled	1	High	1	High	1
No choice	2	No Choice	1	High	1
		High	1	High	1

Thirty five children aspired to the same occupational status level over the three years of the current study. This accounts for 79.5% of the total sample, suggesting a

degree of stability in the status level of occupations aspired to over time. At the age of 12 years two children were unable to name an occupational aspiration and thus could not be coded according to occupational status level. By the age of 13 years only one of these children remained unable to express an occupational choice, while the second child aspired to a high status occupation. At age 14 years both of these children aspired to high status occupations. Only one child has aspired to an unskilled occupation in the second year of the study. Similarly only one child aspired to a semi-skilled occupation in the first year under study and then subsequently aspired to a high status occupation in the following two years of the study. In addition, only one child aspired to a skilled occupation at age 12 years. At age 13 years this child was unable to express an aspiration and at age 14 years this child aspired to a high status occupation.

Six children aspired to middle level occupations at age 12 years. At age 13 years only three of the six children continued to aspire to middle level occupations, while two of these children aspired to high status level occupations and one to a skilled occupation. When these particular children reached 14 years of age there were only two children that consistently aspired to middle level occupations throughout the three years. This suggests that there may be limited stability in the middle status occupational aspiration level.

High status occupations have consistently remained the most popular aspirations over the three years of the current study. At age 12 years 34 of the 44 participants aspired to high status occupations, which accounts for 77.3% of the entire sample. In the following year 33 participants (75%) continued to aspire to high status occupations. At age 14 years 32 of these participants (72.7%) consistently aspired to high status occupations across the three years. This suggests a stability over time in

high status occupational aspirations. In addition, it is noted that fewer children aspired to lower status level occupations with increasing age.

The discussion of the results will now focus on the occupational status levels for each gender group separately. Due to the small sample sizes involved, it was decided not to report on the intra-individual changes of girls' and boys' occupational aspiration status levels.

### ***Girls***

The frequency counts for the occupational aspiration status levels over the three years of this study for the sample of girls (n=22) is summarised in Table 8. A “no choice” category was included to account for a number of girls who were unable to express an occupational aspiration.

Table 8

Frequency Counts for Occupational Aspiration Status Levels over Three Years: Girls

<b>Status Level</b>	<b>Age</b>		
	12 years	13 years	14 years
Unskilled	0 (0%)	1 (4.55%)	0 (0%)
Semi-skilled	0 (0%)	0 (0%)	0 (0%)
Skilled	0 (0%)	0 (0%)	0 (0%)
Middle-level	3 (13.64%)	2 (9.09%)	4 (18.18%)
High-level	18 (81.81%)	18 (81.81%)	18 (81.82%)
No Choice	1 (4.55%)	1 (4.55%)	0 (0%)

At age 12 and 13 years one girl was unable to express an occupational aspiration and consequently could not be coded according to Holland's classification system for status levels. The majority of the female sample has aspired consistently to high status level occupations, with the percentage of girls aspiring to this status level category 81.8% across the three years under study. None of the girls aspired to skilled or semi-skilled occupations throughout the three years and only one girl aspired to an unskilled occupation in the second year of the study. The research discussion now shifts to the sample of boys and their status level occupational aspirations.

### ***Boys***

A summary of the frequency counts for the occupational aspiration status levels for the sample of boys (n=22) over the three year period can be seen in Table 9. In addition to the five categories of Holland's (1985) occupational status levels, a "no choice" category was included.

During the first two years of the study one of the boys did not express an occupational aspiration and thus could not be coded. The high status level was most popular across all three years of the study. An additional trend that is noted is the increasing popularity of high status occupations amongst boys over time in comparison to the more consistent stability of this status level category amongst girls. Fewer boys than girls tended to aspire to middle status level occupations. The unskilled, semi-skilled and skilled categories remained consistently unpopular, with only one boy aspiring to a semi-skilled occupation at age 12 years and only one boy aspiring to a skilled occupation at age 12 and 13 years.

Table 9

Frequency Counts for Occupational Aspiration Status Levels over Three Years: Boys

Status Level	Age		
	12 years	13 years	14 years
Unskilled	0 (0%)	0 (0%)	0 (0%)
Semi-skilled	1 (4.55%)	0 (0%)	0 (0%)
Skilled	1 (4.55%)	1 (4.55%)	0 (0%)
Middle-level	3 (13.63%)	1 (4.55%)	1 (4.55%)
High-level	16 (72.72%)	19 (86.35%)	21 (95.45%)
No Choice	1 (4.55%)	1 (4.55%)	0 (0%)

These results suggest that the occupational status level for boys has remained consistent over time. Similar trends were found for the sample of girls as well as for the sample as a whole. The following section of the results chapter reports on children's occupational aspirations with regards to Gottfredson's two stages, i.e. the stage of orientation to social valuation and the stage of orientation to internal unique self.

#### *Occupational aspirations according to Gottfredson's theory*

Content analysis was used to identify themes and to analyse the answers participants gave to question 1(c) of the CAQ across the three years of the study. It was expected that children between the ages of 12 and 14 years would be in the social valuation stage (9 to 13 years) and moving into the internal unique self stage (14 years and over) of Gottfredson's occupational aspiration development theory. The content

analysis was performed by the researcher and the themes extracted were contrasted against Gottfredson's criteria for the social valuation and internal unique self stages of development. The themes extracted are outlined in Table 10 are: *interests and likes*, e.g. some children stated that their occupational aspiration was something that they had always been interested in; *abilities*, e.g. children aspired to an occupation because they felt it was something they were good at doing; *financial status*, e.g. children stated that they could make a lot of money in certain occupations; *enjoyment and fun*, e.g. children stated that an occupation looked like it would be enjoyable; *plays and enjoys sport*, e.g. children already involved in sports reported the desire to become professional athletes; *wanting to help people*, e.g. children aspiring to occupations such as doctor or teacher attributed their aspiration to their desire to help people; and *wanting to travel*, e.g. some children felt particular occupations would provide them with the opportunity to travel to other countries. Extracting themes and comparing them to Gottfredson's theory assisted the researcher in exploring the reasons provided by the participants for their occupational aspirations and whether these reasons could be linked to an increasing awareness of social class and prestige levels, or to self-awareness and perceptiveness towards others (Gottfredson, 1981, 1996, 2002, 2005). Themes that could be linked to Gottfredson's stage of social valuation include financial status, plays and enjoys sport, and enjoyment and fun. Themes that could be linked to Gottfredson's stage of internal unique self include interests and likes, abilities, wanting to help people and wanting to travel. This is outlined in Table 11.

There were a number of themes identified across the three years with some participants naming reasons for their occupational aspirations that fell into more than one identified theme. As a result, the total frequency counts add up to more than the total number of participants. Frequency counts of the major themes are provided in



Table 10. Across the three years it can be seen that the most frequently named reason for an occupational aspiration was that the aspiration reflected the child's interests and likes. At age 12 years enjoyment and fun, and playing and enjoying sport were the second and third most popular reasons. By age 13 years wanting to help people became a more frequently chosen reason than playing and enjoying sports. At age 14 years wanting to help people was more frequently chosen as a reason than it had been in previous years of the study. At this age abilities and financial reasons showed increasing popularity.

Table 10

Frequency Counts of Content Themed Reasons for Occupational Aspirations

Content Themes	Frequency of responses		
	12 years	13 years	14 years
Interests and Likes	15	19	23
Abilities	6	5	7
Financial Status	4	4	7
Enjoyment and Fun	8	7	3
Plays and Enjoys Sport	7	5	4
Wanting to Help People	5	7	11
Wanting to Travel	0	5	1

Table 11 groups the identified themes under the two stages that the participants currently fall into.

Table 11

Frequency Counts of Reasons for Occupational Aspirations according to Gottfredson's Stages

Orientation to Social Valuation				Orientation to Internal Unique Self			
Content Themes	Frequency of Responses			Content Themes	Frequency of Responses		
	12	13	14		12	13	14
Financial Status	4	4	7	Interests and Likes	15	19	23
Enjoyment and Fun	8	7	3	Abilities	6	5	7
Plays and Enjoys Sport	7	5	4	Wanting to Help People	5	7	11
				Wanting to Travel	0	5	1

During Gottfredson's stage of orientation to social valuation children become aware of intellectual and social differences and are sensitive to social evaluation (Gottfredson, 2002). They become aware of the hierarchy of occupations that affects how individuals are viewed by society and they start to form occupational aspirations that correspond to their own social background (Gottfredson, 2002). During this stage occupational aspirations are ranked according to prestige and social status (Rojewski, 2007). Based on this the themes of *financial status*, *enjoyment and fun*, and *plays and enjoys sport* are considered to be social valuation reasons.

During the orientation to internal unique self stage, adolescents become introspective and develop a greater sense of self-awareness and occupational aspirations are consistent with the internal unique self of the individual (Gottfredson, 2002; Helwig, 2004). A construct relevant to this stage is that of "social space" which refers to the individual's perception of where they belong or where they wish to belong in society (Watson & Stead, 2006a). While the first three stages are

characterised by the elimination of unacceptable careers, the fourth focuses on the selection of a preferred career out of the remaining alternatives (Swanson & Gore, 2000). For this reason the themes that are considered part of Gottfredson's orientation to internal unique self stage are *interest and likes, abilities, wanting to help people* and *wanting to travel*.

### ***Gender Stereotyping of Occupations***

The third aim of the present study was to explore and describe possible changes in occupational perceptions in terms of gender stereotypes and traditional gender roles over the three year period. This section of the results chapter reports on whether or not the children in the present sample hold occupational gender stereotypes and how these stereotypes may change over time. This aim was researched using question 5 of the CAQ in which children were asked whether or not they thought men or women could become any of fourteen different occupations. Their responses were recorded on the interview schedule and then analysed using percentages. The percentages can be seen in Tables 12, 13, 14 and 15. Tables 12 and 13 provide a summary of the gender-stereotyped views held by girls regarding the suitability of occupations for girls and boys respectively. Tables 14 and 15 represent the gender-stereotyped views of the boys in the sample regarding the suitability of fourteen occupations for girls and boys respectively.

All four tables represent data captured over the three years of the present study. The occupations are listed in the far left column of the table in the order presented on the interview schedule. The participants' responses were recorded as "yes", "no", or "unsure". Percentages that are boldfaced indicate the majority of responses for a particular occupation. As previously noted, the interview format was adjusted after Dean's (1998) study to ensure that participants were aware of what each occupation

entailed (Cox, 2004). This adjustment was a consequence of Dean (1998) establishing that some of her 4 to 8 year old participants were responding to questions without any knowledge of the occupation, which may have negatively affected the results of the study. The category of “no occupational information” (NOI) was selected in ensuing years of the study to indicate that the child did not know what the occupation entailed. For all four tables below, there were no recorded responses for the NOI category, indicating that the present older developmental sample has filled the gaps in their occupational knowledge since Dean’s phase of the longitudinal research.

***Extent to which girls gender stereotype occupations***

The percentages reported in Table 12 indicate the extent to which girls gender stereotype occupations for other girls over the three years of the study. Table 13 presents the percentages showing the extent to which girls gender stereotype occupations for boys over the three years under study. It should be noted that all years do not add up to 100% due to rounding off.

Table 12

Extent to which Girls Gender Stereotype Occupations for Girls over Three Years

	<b>12 years</b>			<b>13 years</b>			<b>14 years</b>		
Occupation	Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Fire Fighter	<b>86.4</b>	13.6	0	<b>86.4</b>	13.6	0	<b>90.9</b>	9.1	0
Hairdresser	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Pop Singer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Author	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Doctor	<b>95.5</b>	4.5	0	<b>100</b>	0	0	<b>100</b>	0	0
Chemist	<b>95.5</b>	4.5	0	<b>100</b>	0	0	<b>100</b>	0	0
Nurse	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Police Officer	<b>95.5</b>	4.5	0	<b>100</b>	0	0	<b>95.5</b>	4.5	0
Teacher	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
TV Announcer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Lawyer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Secretary	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Bank Teller	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
President	<b>86.4</b>	13.6	0	<b>90.9</b>	9.1	0	<b>100</b>	0	0

The results presented in Table 12 demonstrate that across the three year period of the present study all the listed occupations were seen as suitable for girls to do, with percentages consistently higher than 50%. Girls appear to become less gender stereotyped over time as the percentages of “yes” responses increased for most occupations.

However some variances were noted. While girls viewed the occupation of a police officer as suitable for girls at age 13 years, some deemed it less suitable at ages 12 and 14 years. The occupations of Hairdresser, Pop Singer, Author, Nurse, Teacher, TV Announcer, Lawyer, Secretary and Bank Teller were seen as suitable for girls across all three years of the study. By age 14 years the girls showed a decrease in gender stereotypical perceptions of what a girl could do, with only the occupations of Fire Fighter (90.9%) and Police Officer (95.5%) measuring below 100%. The largest decrease in stereotypical perceptions was for the occupation of President which increased from 86.6% of girls believing this was a suitable occupation for girls at age 12 years, to 90.9% at 13 years, and to 100% at 14 years. Across all three years of the study there were no girls that indicated a lack of occupational information. The results demonstrate that the majority of girls believed that all occupations were suitable for other girls, with a consistent decrease in gender stereotypical perceptions about occupations over the three years under study.

Table 13 illustrates the extent to which girls stereotype occupations for boys over the three years under study. Girls reported that the occupations of Fire Fighter, Pop Singer, Author, Doctor, Chemist, Police Officer, Teacher, TV Announcer, Lawyer and President were suitable for boys in all three years of the study. A small percentage of girls consistently viewed the occupations of Hairdresser, Nurse, Secretary and Bank Teller as being unsuitable for boys, with gender stereotypical

perceptions increasing in the final two years for the occupations of Nurse and Hairdresser. At age 12 years girls perceived the occupation of Nurse to be particularly unsuitable for boys with only 63.6% of girls deeming this a suitable occupation for boys. At age 12 years the second most unsuitable occupation for boys was that of Secretary. Both these occupations were deemed consistently less suitable for boys by the girls across the three years.

Table 13

Extent to which Girls Gender Stereotype Occupations for Boys over Three Years

Occupation	12 years			13 years			14 years		
	Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Fire Fighter	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Hairdresser	<b>95.5</b>	0	4.5	<b>90.9</b>	9.1	0	<b>95.5</b>	4.5	0
Pop Singer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Author	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Doctor	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Chemist	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Nurse	<b>63.6</b>	31.9	4.5	<b>77.3</b>	22.7	0	<b>86.4</b>	13.6	0
Police Officer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Teacher	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
TV Announcer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Lawyer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Secretary	<b>77.3</b>	22.7	0	<b>81.8</b>	18.2	0	<b>68.2</b>	31.8	0
Bank Teller	<b>90.9</b>	9.1	0	<b>90.9</b>	9.1	0	<b>90.9</b>	9.1	0
President	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0

A notable variance is the increase in gender stereotypical perceptions with regard to the suitability of the occupation of Secretary for boys, with the percentage of girls deeming this a suitable occupation for boys decreasing from 81.8% at age 13 years to 68.2 % at age 14 years. The majority of girls viewed all listed occupations as being suitable for boys with a consistent decrease in gender stereotypical perceptions about occupations over the three years, except for the occupation of Bank Teller which remained consistently the same.

Across all three years of the study, levels of occupational information were consistently high with no girls expressing a lack of information regarding any occupations. In general, these results demonstrate that girls perceived most occupations as being suitable for boys, although there was some uncertainty regarding the occupations of Nurse and Secretary. There was also an overall reduction in gender stereotypical perceptions of occupations across the three years of the study.

***Extent to which boys gender stereotype occupations***

Table 14 provides percentages representing the extent to which the sample of boys (n=22) stereotype occupations for other boys over the three year period. Table 15 shows the percentages that indicate the extent to which the sample of boys gender stereotype occupations for girls over the same three year period. Table 14 demonstrates that boys perceived most occupations to be suitable for boys, with the occupations of Fire Fighter, Author, Doctor, Chemist, Police Officer, TV Announcer, Lawyer and President at the 100% level across all three years under study.

Similar to the sample of girls, however, the boys too expressed uncertainty regarding the suitability of the occupations of Hairdresser, Nurse, Secretary, and Bank Teller for boys. Unlike the girls, boys also expressed uncertainty about the suitability of the occupation of Teacher and that of Pop Singer. At age 12 years boys viewed most occupations as being suitable for their own gender with “yes” responses falling below 80% only for the occupation of Nurse. At age 12 years 31.8% of boys felt that this occupation was not suited to the male gender. At age 13 years we see a slight increase in gender stereotypical perceptions of occupations concerning the suitability of the occupations of Teacher and Bank Teller for other boys. In addition, there was an increase in the number of boys that perceived the occupations of Hairdresser and Secretary as being unsuitable for boys. On the other hand, there is a decrease in the

gender stereotypical perceptions of boys with reference to the occupation of Nurse, with less boys viewing this occupation as unsuitable for their gender group over the three years.

Table 14

Extent to which Boys Gender Stereotype Occupations for Boys over Three Years

Occupation	12 years			13 years			14 years		
	Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Fire Fighter	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Hairdresser	<b>95.5</b>	4.5	0	<b>90.9</b>	9.1	0	<b>95.5</b>	4.5	0
Pop Singer	<b>100</b>	0	0	<b>100</b>	0	0	<b>95.5</b>	4.5	0
Author	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Doctor	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Chemist	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Nurse	<b>59.1</b>	31.8	9.1	<b>77.3</b>	22.7	0	<b>81.9</b>	13.6	4.5
Police Officer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Teacher	<b>100</b>	0	0	<b>95.5</b>	4.5	0	<b>100</b>	0	0
TV Announcer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Lawyer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Secretary	<b>81.8</b>	9.1	9.1	<b>68.2</b>	27.3	4.5	<b>90.9</b>	9.1	0
Bank Teller	<b>100</b>	0	0	<b>95.5</b>	4.5	0	<b>95.5</b>	4.5	0
President	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0

In general at age 14 years there is a decrease in the stereotypical perceptions of boys with the exception of the occupation of Pop Singer, which is called into question for the first time across the three years. Other than this boys' gender stereotypical perceptions remained stable as in the case of Bank Teller or decreased with all "yes" answers above the 80% level. None of the boys reported a lack of occupational information. Overall, these results show a high level of gender suitability and limited gender stereotyped views regarding the suitability of most occupations for boys. Boys did however report consistent uncertainty regarding the suitability of the occupations of Nurse and Secretary for other boys across all three years of the study.

Similar results were reported for boys' gender perceptions of occupations for girls. These can be seen in Table 15 which presents the extent to which boys (n=22)



hold gender stereotypical perceptions regarding occupations for girls. This table demonstrates that boys view the majority of listed occupations as being suitable for girls in all three years of the study, with the occupations of Hairdresser, Pop Singer, Author, Chemist, Nurse, Police Officer, Teacher, TV Announcer, Secretary and Bank Teller being consistently recorded at the 100% level. The results show an overall decrease in gender stereotypical perceptions over time with ten out of the twelve occupations recorded at the 100% level in the last year of the study. None of the boys reported a lack of occupational information across all three years of the study.

Table 15

Extent to which Boys Gender Stereotype Occupations for Girls over Three Years

Occupation	12 years			13 years			14 years		
	Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Fire Fighter	<b>81.9</b>	13.6	4.5	<b>81.8</b>	18.2	0	<b>90.9</b>	9.1	0
Hairdresser	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Pop Singer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Author	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Doctor	<b>100</b>	0	0	<b>95.5</b>	4.5	0	<b>100</b>	0	0
Chemist	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Nurse	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Police Officer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Teacher	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
TV Announcer	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Lawyer	<b>100</b>	0	0	<b>95.5</b>	0	4.5	<b>100</b>	0	0
Secretary	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
Bank Teller	<b>100</b>	0	0	<b>100</b>	0	0	<b>100</b>	0	0
President	<b>86.4</b>	13.6	0	<b>81.9</b>	13.6	4.5	<b>90.9</b>	4.5	4.5

At age 12 years, 13.6% of boys viewed the occupations of Fire Fighter and President as being unsuitable for girls, while all other occupations were viewed as suitable for girls by the total sample of boys. At age 13 years, we see a small percentage of boys expressing doubt regarding the suitability of the occupations of Doctor and Lawyer for girls. Furthermore, there was an increase in the number of boys expressing uncertainty as to whether the occupation of President is suitable for

girls. By age 14 years, there was a decrease in the gender stereotyped perceptions of boys with all occupations above the 90% level.

In this final year of the study, boys continued to express some gender reservations, although less than in previous years, regarding the suitability of the occupations of Fire Fighter and President for girls. The results demonstrate an overall reduction in the gender stereotypical perceptions held by boys regarding occupations for girls. There was no lack of occupational knowledge reported across all three years of the study. In the next section of this chapter, the participants' reflections on their own career development over the duration of the longitudinal research project are explored.

### ***Children's Reflections on their own Career Development***

The fourth and final aim of the current study was to explore and describe the participants' reflections on their own career development throughout the course of the longitudinal study, starting when they were 6 years old. This was done by content analysing the responses from the last question of the CAQ, in which children were asked to reflect on the occupations they have aspired to since the age of 6 years. Participants were asked to provide reasons for their occupational aspirations and they were interviewed regarding their thoughts about how their occupational aspirations have changed over time. The interviewer then attempted to identify and clarify with the participants the occupational themes that emerged in their occupational aspirations over the years.

Only the reflections of the 14 year old participants were analysed as this allowed participants to reflect on the entire duration of the study to date. This also ensured that participants could reflect on their occupational aspirations across all of Gottfredson's stages since these participants are currently in Gottfredson's final stage

of orientation to internal unique self. The results are presented on Tables 16, 17 and 18. It is noted that the 14 year old children reflected on the reasons for their occupational aspirations from the perspective of their current developmental age. Thus the reasons they provide for an aspiration reflect their current stage of development and not the stage they were in at the time of aspiring to a particular occupation. In other words, the reason a 14 year old gave for an aspiration held at age 6 will most likely be different from the reason given at age 6. However, it may still be interesting to note the extent to which the current reasons provided reflected particular stages of Gottfredson's theory.

Table 16

Frequency Counts of Themed Reasons for Occupational Aspirations: Total Sample and Gender

	<b>Total Sample</b>	<b>Boys</b>	<b>Girls</b>
<b>Exposure to Occupation through Media</b>	3	1	2
<b>Family Members influence</b>	14	7	7
<b>Childhood Dreams</b>	9	3	6
<b>Personal Abilities</b>	8	4	4
<b>Wanting to Help People</b>	8	1	7
<b>Personal Interests</b>	34	16	18
<b>Economic Security and Wealth</b>	6	4	2

Table 16 presents a summary of the themes from participants' reflections on their own career development, illustrating the reasons for their occupational aspirations. This table differs from the results presented in Table 10 because the 14 year old participants were asked to look back on their aspirations over the past ten

years and to reflect on the reasons they had aspired to these aspirations at the time. These results are presented for the sample as a whole and for girls and boys separately. Totals may add up to more than the number of participants due to several participants providing more than one reason. The children in the study most commonly identified *personal interests* as the reason for aspiring to the occupations that they had over the past ten years. This was evident for the total sample as well as for girls and boys separately. The researcher confirmed Hargreaves' (2007) previous finding that children tended to identify their family members and parents as being influential in their occupational aspirations when they were younger. Table 16 does not reflect the ages at which certain factors were considered more important. However, the influence of family members was found to be the second highest frequency because the participants attributed their occupational aspirations at a younger age to this influence. In addition it was found that children attributed their choices to their childhood dreams when these choices were made under the age of 8 years. In other words the 14 year old participants considered some of their aspirations prior to the age of 8 years to be a result of their childhood dreams or parental influence.

Table 17 is a summary of the themes identified from the participants' reflections on how their occupational aspirations have changed over the last ten years. Themes are presented for the sample as a whole, as well as for boys and girls separately. Totals may add up to more than the total number of participants since some children's responses represented more than one theme.

Table 17

Frequency Counts of Themes for Changed Occupational Aspirations: Total Sample and Gender

	<b>Total Sample</b>	<b>Boys</b>	<b>Girls</b>
<b>Gained Knowledge or Experience</b>	17	6	11
<b>Interests Changed</b>	3	2	1
<b>Increase in Self Awareness</b>	9	2	7
<b>Unsure or Could Not Explain</b>	11	9	2
<b>No Change in Career Thoughts</b>	8	4	4

The majority of children reported that their occupational aspirations had changed over the ten years of the study and most were able to provide an explanation for these changes. However, several participants (n=11) were unable to explain the reasons for the changes in their occupational aspirations. In some cases these children gave reasons for the aspirations they selected rather than explaining how they had changed. This implies that these results should be interpreted with caution since some children may not have understood the reflective question correctly. Furthermore, eight children believed that their occupational thoughts had not changed over the course of the study. This was confirmed in several cases by the fact that some children continued to aspire to the same or similar occupations across all ten years of the study. Most children (n=17) attributed the changes in their occupational aspirations to the knowledge and experience they had gained. The female participants (n=11) in particular identified *gaining knowledge and experience* as the main reason. There was also a larger number of girls (n=9) than boys (n=2) who identified an *increase in self-awareness* as contributing towards the changes in their occupational aspirations. A

larger number of boys (n=9) were unable to explain the reasons for changes in their occupational aspirations.

The themes identified for the participants' occupational aspirations are summarised in Table 18. These themes are presented for the sample as a whole as well as for the boys and girls separately. Once again, some children reported more than one theme implying that the totals may add up to more than the total number of participants.

Table 18

Frequency Counts of Occupational Themes for Occupational Aspirations: Total Sample and Gender

	<b>Total Sample</b>	<b>Boys</b>	<b>Girls</b>
<b>Helping People and Medical</b>	14	6	8
<b>Sports</b>	8	7	1
<b>Business and Services</b>	2	1	1
<b>Science, Engineering and IT</b>	4	4	0
<b>Building and Construction</b>	1	1	0
<b>Wildlife and Animals</b>	5	1	4
<b>Music and Art</b>	8	2	6
<b>No Theme</b>	12	4	8

Themes could be identified for the majority of the participants. However, twelve of the participants expressed such varied occupations over the ten years that no occupational theme could be identified. Most children aspired to occupations involving helping people or occupations in the medical field (n=14). The second most popular occupational themes were for sporting occupations (n=8) and musical and

artistic occupations (n=8), with more boys aspiring to sporting occupations (n=7) and more girls aspiring to musical and artistic occupations (n=6). It is interesting to note that both helping people and sporting occupations fall into Holland's Social typology which was found to be the most popular occupational typology over the three years of the present study as demonstrated in Tables 2, 4 and 5. The least popular occupational theme was for building and construction occupations. These occupations fall into Holland's Realistic typology which was observed to be one of the less popular typologies selected during the present phase of the longitudinal research.

### *Summary*

This chapter has reported on the results of the data from this longitudinal research study over a three year period. The results for the total sample as well as for each gender group have been described according to their occupational aspirations for both typology and status level as well as at an intra-individual level. The gender stereotypical perceptions of the participants were also explored. In the last section of this chapter children's reflections on the development of their occupational aspirations over the length of the longitudinal research were described. These results are discussed in the next chapter, along with a discussion of the limitations of the current study and recommendations for future research.

## CHAPTER 6

### Discussion

The results presented in the previous chapter provide a context for this discussion which aims to describe the development of the occupational aspirations and perceptions of a sample of South African children. This development was examined at a group and an individual level, with attention also given to possible differences between gender groups. Theories of child development explored in Chapter 2 and major research findings discussed in Chapter 3 are integrated into the discussion of these results. In addition to making recommendations for future research, this chapter also highlights some of the limitations of the present study.

This chapter is structured according to the overall aims of the present study. The first section focuses on the interest typology of the children's occupational aspirations over time. The discussion then shifts to the status levels of children's occupational aspirations and their gender stereotypes of occupations. Lastly, the discussion considers the children's reflections on the development of their own occupational aspirations.

#### *Occupation Aspiration Typology over Time*

Childhood is viewed as a crucial time of rapid growth in which children develop social, emotional, cognitive, and physical abilities (Craig & Baucum, 2002). Included in this growth process is the development of occupational aspirations and perceptions. The development of occupational aspirations has been described by child and career development theories. The first aim of this study was to explore and describe the occupational aspirations of the participants in terms of their interest typology over time. These findings will be discussed in relation to relevant child and career development theories, as well as international and national research.



The results of the present study appear to provide some support for both child development and career development theories. Piaget (1971, 1977) suggested that children undergo a process of cognitive development by moving through distinct but interrelated stages. During the course of the study the participants fell into Piaget's *formal operations* stage (12 years of age and older). During this stage children are able to think realistically about the future and are able to form ideals (Cockcroft, 2002; Wood, 1998). They can apply logic and solve both abstract and concrete problems (Craig & Baucum, 2002). This stage is also characterised by the ability to consider possibilities and to contrast reality with what may or may not be (Craig & Baucum, 2002). They can test and appraise hypotheses (Cockcroft, 2002) and engage in future planning (Craig & Baucum, 2002) which is linked to Gottfredson's (1981, 1996, 2002, 2005) theory of circumscription and compromise discussed later on in this section.

The findings of this study are consistent with Piaget's theory. The children were able to apply logical thinking about occupational aspirations, for instance in reflecting on their occupational aspiration development some children attributed changes in their occupational aspirations to the fact that they had become more realistic. The current longitudinal project and the present study have found that children's occupational aspirations become more realistic over time. This is supported by the discontinuation of the fantasy code in recent years of this longitudinal project, since children no longer aspired to fantasy type occupations. International studies support such a perception, concluding that children's occupational aspirations become more realistic and less fantasized as children grow older (Helwig, 1998c, 2001). Porfeli, Hartung and Vondracek (2008) noted that over time children tend to progress from more attractive and sensational occupations, such as that of a professional athlete, towards

more realistic occupational aspirations that are based on their interests and abilities. The findings of the present study appear to offer support thus for Piaget's theory of cognitive development.

Support is also found for Erikson's theory (1963, 1993) which considers the stages of psychosocial development of children. As mentioned in Chapter 2 the participants fell into Erikson's *identity versus role confusion* stage (12 to 20 years) for the duration of the current study. This developmental stage revolves around the individual's search for identity (Craig & Baucum, 2002) in which individuals find their identity through defining themselves in terms of career, religion, sexual identity and values. In this way individuals may determine how they fit into society as well as what the future holds (Hook, 2002b; Sigelman & Rider, 2003). The findings of the present study reveal that children increasingly attributed their occupational choice to their interest and likes. This trend has been evident throughout the longitudinal study, with children demonstrating a growing self-concept awareness from a young age (Hargreaves, 2007). The development of the self-concept is an important part of career development which is expected to continue throughout adolescence (Sharf, 2006, Super, Savickas & Super, 1996). The results of this study offer some support for both national (Cox, 2004; Crause, 2006, Hargreaves, 2007) and international (Hartung, Porfeli, & Vondracek, 2005; Zunker, 2006) research that children develop a self-concept from an early age.

The participants in the present study appear to conform to specific aspects of the child development theories postulated by Piaget and Erikson. This suggests that these theories may be applicable to South African children in general. However, further research on more diverse South African population groups is required before these theories can be applied with any degree of certainty. The finding that children develop

a self-concept from a young age is useful for the development of effective career education programmes in South African schools. Since the development of the self-concept is an integral aspect of career development it should be integrated into school career programmes in order to assist learners in making appropriate and realistic career choices (Hargreaves, 2007).

The findings of the present study also offer support for the theories of Super (1957; 1990; Super, Savickas, & Super, 1996) and Gottfredson (1981, 1996, 2002, 2005), both of whom suggest that career development has its foundation in childhood. Super considers the means by which children choose to follow certain career paths, while Gottfredson considers the process by which unsuitable occupational aspirations are identified and eliminated. Super's theory places the present participants both in the Growth stage (0 to approximately 14 years of age) as well as moving into the Exploration stage (14 years to approximately 25 years of age). During the Growth stage, children are required to achieve four tasks: becoming concerned about the future, increasing personal control over their lives, convincing themselves to achieve in school and work, and developing competent work habits and attitudes (Watson & Stead, 2006b). During this stage the self-concepts of children are also developed through their interaction with adult role models (Sharf, 2006). The substage that the participants fall into is called the capacities substage. This substage is concerned with the development of competencies and interests (Sharf, 2006). The present participants are moving into the Exploration stage in which they will begin to make definite career decisions (Watson & Stead, 2006b). During this stage individuals explore and search for a career direction which they must then translate into studying, training and searching for employment.

Support for Super's theory is evident in the results of the present study. Participants were able to link their occupational aspirations to their concerns about their future and many were able to express the importance of achieving well in school in order to reach those occupations to which they aspired. In most cases children identified significant others such as parents, teachers, or other family members, as influencing their occupational aspirations. Children who fell into Super's Exploration stage were increasingly able to explain what they needed to do in order to attain their occupational aspirations, with a number of children being aware of the studying and training required for their particular occupational aspiration. This further confirms Super's theory regarding the development of the child's self-concept as well as the influence of role models. This finding highlights the important role that can be played by parents, teachers and family members in children's career development. In this regard, the importance of incorporating role models into career education programmes and of educating parents has been noted by several authors (McMahon, Carroll, & Gillies, 2001; Helwig, 2008; McMahon, Gillies, & Carroll, 2000; Sharf, 2006; Wahl & Blackhurst, 2000). The findings of the present study reiterate this notion and highlight the need for the inclusion of parents in career programmes offered in South African schools. Career education programmes would also do well to educate children from 14 years of age and older regarding the training and study requirements of different occupations in order to assist them in the implementation of a career choice.

Gottfredson (1981, 1996, 2002, 2005) proposes four progressive stages by which the self-concept is developed. The present participants fell into the third stage (9 to 13 years) known as the *orientation to social valuation* stage and the start of the fourth stage (14 years and older) known as the *orientation to internal unique self* stage. The fourth stage is characterised by increased introspection and the development of

further self-awareness (Gottfredson, 2002; Sharf, 2006). During this stage it is proposed that children will aspire to an occupation based on their values, abilities, needs and personality (Sharf, 2006). Thus, they will aspire to occupations that are consistent with their internal unique sense of self. As previously mentioned, the participants in the present study have increasingly attributed their occupational aspirations to interests and likes. This provides some support for Gottfredson's theory although it should be noted that interests and likes has been the most consistent reason for occupational choices across the course of the present study i.e. at earlier ages as well. At age 14 years, which marks the starting point of this developmental stage, enjoyment and fun as well as playing and enjoying sport were less frequently identified as reasons for occupational aspirations. This offers support for Gottfredson's theory suggesting that by this stage, children are beginning to circumscribe their occupational aspirations according to their values, abilities and needs, rather than just aspiring to an occupation for the enjoyment thereof. In addition, more of the 14 year old participants attributed their occupational aspirations to their desire to help people. This confirms Gottfredson's notion that children in this stage will aspire to occupations according to their values. The findings of the present study appear to support Gottfredson's theory, although there is some evidence to suggest that the children in the present study may be moving into this stage at an earlier age than is predicted by Gottfredson.

Several studies have noted the stability of occupational aspirations from an early age (Furlong & Biggart, 1999; Hartung, Porfeli, & Vondracek, 2005). Trice and King (1991) found that children as young as pre-primary school level were able to aspire to adult occupations and that their aspirations remained stable over time. Porfeli, Hartung and Vondracek (2008) have also stated that children's occupational

aspirations become increasingly stable as they grow older. While the findings of the present study suggest that the participants were able to aspire to adult occupations, there appeared to be limited stability in terms of their aspiring to the same occupational typology across the three year period. An intra-individual analysis of the present participants' occupational aspirations across the three years revealed a degree of variability. Specifically, occupational aspirations appear to fluctuate between the ages of 12 and 14 years with only a small percentage of children in the present study aspiring to the same typology over the three year period. This finding can be tentatively linked to the career development theories of Super and Gottfredson. During Gottfredson's stage of orientation to internal unique self and Super's Exploration stage children are expected to start making definite career decisions. Thus it is assumed that prior to these developmental stages, children's occupational aspirations are likely to show greater variability. It can be speculated that the present participants' occupational aspirations may become more stable from the age of 14 years onwards.

The popularity of Social type occupations is possibly the most important finding of the present study as well as for previous studies that have formed part of this longitudinal project (Crause, 2006; Hargreaves, 2007). While these findings cannot be confirmed or refuted by child or career development theories (Hargreaves, 2007), they nevertheless offer support for national and international research on occupational aspiration typology. The following paragraphs consider some of the international and national research that is deemed relevant to the present study. In general, the results of the present study seem to suggest that the participants hold similar occupational aspirations to their international counterparts. However, it should be noted that the

present sample is not representative of the greater South African population of 12 to 14 year old children.

The present study found some differences in the occupational aspiration typology of the participants, with some participants tending to aspire to occupations consistent with their gender. This finding is supported by international research (Furlong & Biggart, 1999; Harris & Satter, 1981; Hartung, Porfeli, & Vondracek, 2005; Helwig, 2004; Hewitt, 1975; Johnson Riley, 1981; McMahon & Patton, 1997; Porfeli, Hartung & Vondracek, 2008; Watson & McMahon, 2005). In addition, girls in the present study aspired to more Investigative type occupations earlier on in the study, while in the latter two years of the study they aspired to Artistic and Enterprising type occupations. Boys consistently aspired to more Realistic type occupations than did girls across the three years. International findings suggest that girls tend to aspire to more Artistic, Social and Conventional occupations, while boys aspire to more Realistic, Investigative and Enterprising occupations. (Hartung, Porfeli, & Vondracek, 2005; Helwig, 1998a; Lapan, Adams, Turner, & Hinkelman, 2000; Turner & Lapan, 2005; Watson & McMahon, 2005). This study again provides partial support for international research in its finding that girls tend to aspire to more Social and Artistic type occupations and boys to more Realistic type occupations. Hargreaves (2007) suggests that gender differences in occupational aspirations may be a result of a lack of exposure to different types of occupational information. This implies that children are likely to benefit from school career development programmes that expose them to and inform them of a large variety of career typologies.

The longitudinal project of which the present study forms a part has produced several national findings. An important finding of the present study, as with previous

studies (Cox, 2004; Crause, 2006; Hargreaves, 2007; Dean, 2001; Olivier, 2004), was that most participants were able to aspire to adult occupations across all three years of the study, supporting the belief that career development starts in early childhood (Pofeli, Hartung & Vondracek, 2008). The present study noted an increase in the number of boys aspiring to Realistic occupations however; the increase was not large and the Social typology still remained most popular, with the exception of the first year of the study in which more girls aspired to Investigative than to Social type careers, although the difference was small. National findings provide some support for these trends. Dean (2001) found that most pre-school children aspired to Social type occupations. She noted that, while the girls continued to aspire to Social type occupations, the boys in her study aspired increasingly to Realistic occupations as they grew older. The researchers that followed Dean (2001) found varying degrees of support for this trend (Cox, 2004; Crause, 2006; Olivier, 2004). Hargreaves (2007) found partial support for this trend, noting the popularity of the Social typology, but finding that the popularity of the Realistic typology did not increase for boys. Enterprising and Conventional type occupations were consistently the least popular occupational aspirations across the entire longitudinal project to date (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007; Olivier, 2004). The present study confirms these findings although in the last year of the present study there was an increase in the popularity of the Enterprising typology.

The second aim of the present study was to explore and describe the occupational aspirations and perceptions of the participants in terms of their status level. The following section of this chapter presents a discussion of the findings for this aim.



### *Occupational Aspiration Status Level over Time*

Child development theories provide a framework in which the results of the present study can be interpreted with reference to the status level of the participants' occupational aspirations. During Piaget's (1971, 1977) stage of formal operations, the social context is said to play an important role in the child's cognitive development (Donald, Lazarus & Lolwana, 2002). Erikson (1963, 1993) also highlights the important influence of peers and the social setting during the identity versus role confusion stage (Craig & Baucum, 2002). The majority of participants in the present study aspired consistently to high status occupations. An interpretation of this finding may be that it is a reflection of the social context of the present participants who come from middle to upper socioeconomic status families. Further research on socioeconomic status and its influence on occupational aspirations would be required to confirm such an interpretation. This finding may simply suggest that children in this developmental stage tend to aspire to high status occupations regardless of their socioeconomic status, as a result of the importance placed on the social context.

With reference to career development theories, Gottfredson's (1981, 1996, 2002, 2005) theory of circumscription and compromise is particularly relevant to this section of the discussion chapter, since it emphasises the importance of sex-roles and social prestige. Specific attention is given here to Gottfredson's third stage of orientation to social valuation. Most of the present participants fall into this stage, during which it is expected that they will become aware of social class and the status of different occupations (Sharf, 2006). Prestige plays an important role in occupational aspiration during this stage and occupations are ranked according to their status level (Gottfredson, 2002, 2005). The findings of the present study confirm that participants are currently in the social valuation stage. This is evidenced by the

trend already mentioned that most participants aspired to high status occupations. High status occupations require tertiary education, fall into the category of the professions, tend to result in higher incomes and are viewed as prestigious by most individuals (Hargreaves, 2007). Some of the participants in the present study provided reasons for aspiring to high status occupations that included making money and being considered important, thus highlighting the emphasis placed on social status and prestige.

It was found that an increased number of participants in the last year of the study attributed their choice of occupation to financial status. This increase was not large but this may be an interesting trend to track in future studies. Hargreaves (2007) also noted that a number of children in her study aspired to becoming professional athletes. She considered this finding to be further evidence that her participants fell into the social valuation stage since occupations in sport in South Africa are considered to be prestigious. The present study noted similar findings in this regard. However, it was found that less children aspired to becoming professional athletes in the latter years of the study which may suggest that these participants are moving out of the social valuation stage.

The present study did not find any notable gender differences with regard to the status level of occupational aspirations with most boys and girls aspiring to high status occupations, although there were more boys aspiring to high status occupations in the latter two years of the study. International studies provide varying degrees of support for this finding. Helwig's (1998a) finding that both boys and girls tended to aspire to occupations requiring higher educational levels supports the present findings. In addition, other international research has shown that children are aware of the status differences of different occupations and that most children aspire to high

status occupations (Liben, Bigler & Krogh, 2001). While Trice et al's (1995) finding that girls aspire to mostly high status occupations would be supported by the present research, Phipps' (1995) finding that more girls than boys aspired to higher status occupations is not supported by the present research.

National research, although limited, appears to support the findings of the present study. An intra-individual analysis of occupational status levels revealed that the present participants' aspirations towards high status occupations remained stable across the three years under study. In the earlier years of this longitudinal project, Cox (2004) and Dean (2001) noted some variability in the status levels of the occupations to which their participants aspired. However, both Cox and Dean predicted that children's occupational aspiration status levels would stabilise over time. Crause (2006), Hargreaves (2007) and Olivier (2004) in more recent years of this longitudinal research project found this to be the case, reporting similar findings to those of the present study in this regard. Based on these findings it has been suggested that children may begin to stabilise their occupational aspirations at an early age (Hargreaves, 2007). The present study confirms that this would certainly be the case with regard to the status levels of their occupational aspirations.

Thus previous international and national research, as well as career development theories appear to offer support for the findings of the present study with regard to occupational status level. The role played by social class and prestige is evidenced by the high status occupations to which the present participants aspired. This finding has important implications for career education programmes, since children aspiring to high status occupations will need to be informed regarding the potential barriers to as well as the realistic implications of such aspirations. The next section of the

discussion chapter considers the gender stereotype and gender traditionality perceptions of the participants with regard to their occupational aspirations.

### *Gender Stereotyping of Occupations*

The third aim of the present study was to explore and describe children's occupational perceptions in terms of gender stereotypes over time. The findings of this longitudinal project to date suggest that this group of South African children are aware of gender differences that may influence their occupational aspirations. In addition, earlier studies in this project have found that the influence of gender stereotyping on occupational aspirations becomes less pronounced over time (Hargreaves, 2007). The present study produced similar findings.

Gottfredson's career development theory is deemed most applicable to this section of the discussion chapter as her theory focuses on the means by which children select occupations they consider appropriate for their own gender. In Cox's (2004) study this was found to be the case with children aspiring to occupations traditionally held by their own gender and expressing occupational perceptions that reflected gender stereotypes. The present participants fall into Gottfredson's third and fourth stages, implying that they will have moved past Gottfredson's second stage in which they circumscribe their occupations according to gender. This is true for the present study in which the participants' occupational aspirations and perceptions are shaped more by their orientation to social valuation and internal unique self (third and fourth stages) than by gender perceptions (second stage). The results of the present study demonstrate a decrease over time in gender stereotypical perceptions with regard to occupations.

Some differences were noted between the male and female participants in the present study. The majority of girls became less gender stereotyped regarding

occupations viewed as suitable for themselves, thus becoming more accepting of male dominated occupations as suitable for themselves. Most girls also regarded the majority of occupations as being suitable for boys, although traditional female occupations (for example, secretary and nurse) were still viewed by a minority of girls as being unsuitable. Contrary to the present findings, there was an increased number of girls in the last year of the study viewing the occupation of secretary as being unsuitable for boys.

A small number of boys also viewed the occupations of secretary and nurse as being unsuitable for themselves. However, a steady decrease in these perceptions was noted. In addition, a steady decrease was noted in boys' gender stereotypical views related to occupations that they deemed suitable for girls. In general, both boys and girls became progressively less stereotyped in their occupational gender perceptions as they grow older. Previous studies in the present longitudinal project have similarly found that children become less gender stereotyped in their occupational perceptions over time (Cox, 2004; Dean, 2001; Crause, 2006; Olivier, 2004).

International research provides some support for the findings of the present study. Research that has examined children's occupational aspirations over time has found that gender stereotyping with regard to occupations has decreased in recent decades (Bobo, Hildreth, & Durodoye, 1998, Gregg & Dobson, 1980, Helwig, 1998b). Furthermore, studies that have focussed on children's career development, paying specific attention to gender stereotyping of occupations, report trends of greater gender stereotyping along traditional occupational gender lines (Furlong & Biggart, 1999; Harris & Satter, 1981; Hartung, Porfeli, & Vondracek, 2005; Hewitt, 1975; Johnson Riley, 1981; McMahon & Patton, 1997; Watson & McMahon, 2005). In a research review Rojewski (2007) states that research on gender differences in

occupational aspirations has been inconclusive to date. In general, research reports on mixed findings with regard to gender differences, with McMahon and Patton (1997) finding that preadolescent girls aspired to a more limited range of occupations than boys. Contrary to this, other studies have found that girls show greater gender flexibility than boys and are willing to consider on non-traditional gender roles (Bobo, Hildreth, & Durodoye, 1998; Raffaele Mendez & Crawford, 2002; Watson & McMahon, 2005). Several decades of research has reported female's occupational aspirations as equivalent to or greater than their male peers (Rojewski, 2007).

While international studies have reported mixed findings, previous studies in this longitudinal project have found girls to be more gender stereotyped than boys (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007). Hargreaves (2007) considered the implications of this trend to be of concern as it would mean that girls are likely to circumscribe their occupations at an early age. This trend may account for the lack of girls working in scientific, technological, engineering and mathematical occupations (Denmark, 1999; Jones, Howe, & Rua, 2000; Shapka & Keating, 2003). The present study found girls to be more gender stereotyped than boys although such differences were not large. A more important finding of the present study was the general decline in the gender stereotyping of occupations. Much research has found that children of all ages tend to gender stereotype occupations (Bobo, Hildreth, & Durodoye, 1998; Franken, 1983; Harris & Satter, 1981; Liben, Bigler, & Krogh, 2001; Stockard & McGee, 1990; Stroeher, 1994). However, the present study, along with previous studies in this longitudinal study, has noted a consistent decrease in the extent to which these children hold gender stereotyped views.

In terms of gender traditionality the present research found that both boys and girls viewed traditionally female dominated occupations (i.e. nurse and secretary) as being unsuitable occupations for boys. To a lesser extent boys and girls viewed traditionally male occupations as being unsuitable for girls. These gender traditional perceptions decreased over the three years of the present study. Olivier (2004) found that children hold gender traditional perceptions regarding certain occupations and queried the influence of society on these perceptions. Olivier considered the possibility of children's occupational perceptions being formed by what they see in society, suggesting that gender traditionality evident in the South African labour market results from occupational perceptions being formed early in childhood. The section that follows considers participants' reflections on their own career development.

### ***Children's Reflections on their Occupational Aspiration Development***

The fourth and final aim of the present study was to explore and describe the children's reflections on their own occupational aspiration development. The reflection question was added to the Career Awareness Questionnaire (CAQ) in 2004 and it has served as a further means of gaining insight into how children experience their own occupational aspiration development.

The themes extracted from a content analysis of the participants' reflections demonstrate their developing cognitive skills and are supported by Piaget's (1971, 1977) theory. During Piaget's *formal operational* stage children develop metacognitive skills which enable them to reflect on their own intellectual processes (Cockcroft, 2002). The findings of this study appear to confirm that the participants are in this stage of cognitive development in that the 14 year old participants were

able to reflect on the thought processes that had led to the occupational aspirations they had made over the course of the longitudinal study.

The present study also supports Erikson's (1963, 1993) theory. The current participants are moving out of Erikson's *industry versus inferiority* stage (6 to 11 years) and into the *identity versus role confusion* stage (12 to 20 years). During the latter stage children are in the process of establishing their identities in different domains. The main theme of this stage is experimentation, during which children strive to establish a sense of individuality and of self (Bergevin, Bukowski & Miners, 2003). In the present study this search for identity may be reflected in some of the trends noted in the results chapter. For instance, most children attributed the reasons for their occupational aspirations to their personal interests. Most children also felt that their occupational aspirations had changed over the years because they had gained knowledge and experience. It is speculated that the search for knowledge and experience is an example of the means by which children search for and establish their identities. An increase in self-knowledge was also one of the more popular reasons that participants identified. It is noted that, while the children in the present study aspire to high status careers, they do not offer reasons for their aspirations that fit Gottfredson's (1981, 1996, 2002, 2005) orientation to social valuation stage. It would appear that their reasons are more linked to the orientation to internal unique self stage, which implies that the children in the present study may be moving into the fourth stage earlier than has been proposed by Gottfredson.

This finding has important implications for career education since it suggests that children's occupational aspirations are influenced by the knowledge and experience that they gain. Career education programmes for children in this developmental stage should include exposure to a large variety of experiences and



information. They should also incorporate more complex cognitive activities and experiences since the children in the present study seem to conform to Piaget's (1971, 1977) formal operational stage.

The 14 year old children in the present study reflected on their reasons for the occupations that they aspired to over the past ten years. The children were considered to be reflecting on their reasons from the perspective of their current age and developmental stage. In other words, their reflections on why they chose a particular occupation at the age of 6 years may not be the same as the reason that was provided when they were 6 years old. However, it was noted that the present participants did attribute some of their earlier occupational aspirations to the influence of their family members. This is consistent with Erikson's theory which suggests that family members are influential in the child's life at a young age. However, as they grow older, children's peers become more influential. This is supported by international research which noted the decrease in familial influences and the increase in peer influences on children's occupational aspirations over time (Seligman, Weinstock, & Heflin, 1991). The present study found a similar decrease in familial influences as the participants grew older. None of the present participants attributed their occupational aspirations to the influence of their peers. While peers may indirectly influence occupational aspirations (i.e. in terms of status and gender stereotypes), the present study finds limited support for the increasing influence of peers.

Hartung, Porfeli and Vondracek (2005) reviewed recent career literature and found that children's occupational aspirations became increasingly consistent with their skills, values and interests over time. In addition, it was found that children become more aware of environmental obstructions to their occupational aspirations. The present study offers some support for these findings. The current participants

were able to identify the reasons for their occupational aspirations as being increasingly consistent with their interests and abilities, with most participants attributing their choice of occupational aspiration to their interests and likes. Further, most of the 14 year old participants attributed changes in their aspirations to changes in their interests and to the fact that they had become more realistic over time, thus becoming more aware of environmental obstacles. For example, many of the participants aspiring to become professional athletes recognised the high level of skill required for these occupations as a limitation. In light of these findings, career education programmes could usefully incorporate activities and experiences that develop the interests and abilities of children, thus providing them with a wider range of occupations to aspire to. In addition, they could offer greater knowledge so as to stimulate a realistic circumscription process. The final section of this discussion chapter focuses on the limitations of the current study as well as recommendations for future research.

### ***Limitations and Recommendations***

This study has explored and described the possible changes in the occupational aspirations and perceptions of a sample of 12 to 14 year old South African children. However, there are limitations to the study that should be considered. In terms of the research methodology, a quantitative approach while useful also restricted and limited the present study further, within the domain of quantitative research, an exploratory-descriptive research design was adopted. This design does not allow for the collection of definitive answers and it does not allow for the control of extraneous variables (Neuman, 2006). In the present study extraneous variables that could not be accounted for included the influence of parental guidance or possible preparation of children prior to interviews. In addition, the researcher could not control the ability of

interviewers to establish rapport with participants. Previous studies in this longitudinal project have consistently recognised these extraneous variables (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007; Olivier, 2004). As with such previous studies, attempts were made in the present study to minimise the effects of these variables. This was done by asking parents not to prepare their children and interviewers were trained and assessed prior to conducting interviews.

Furthermore, Hargreaves (2007) noted that the act of asking participants about their occupational aspirations was likely to impact on their answers over time. Since participants were asked to reflect on their aspirations they were possibly given an advantage of being able to consider their occupational thinking over time, more so than the general population. Hargreaves however noted that this did not constitute a major limitation since the purpose of the study was not to generalise findings to the larger population.

Generalisability of the present results was not possible for various reasons. The use of non-probability, purposive sampling restricts the present study in that findings cannot be generalised to the general South African population, thus reducing the external validity of the present study. The generalisability of the present study was further limited by a sample that consisted mostly of middle and upper income socioeconomic families. Due to the nature of longitudinal studies this limitation cannot be addressed in this longitudinal project. However, future South African studies of this nature should take into account this limitation. A possible advantage of this limitation is that such a homogeneous socioeconomic sample allows for comparison with international research findings in that much of such research has been conducted on children of a similar background.

While longitudinal studies have been called for as a means of reinvigorating the study of career development (Betz, 2001; Savickas, 2002b), research of this nature poses certain limitations. This longitudinal project has been restricted by its complexity as well as its high cost implications. Other researchers in the larger study have also acknowledged these limitations (Cox, 2004; Crause, 2006; Dean, 2001; Hargreaves, 2007; Olivier, 2004). An additional limitation of longitudinal research that has far greater implications is that of the attrition rate of the sample. The continuation of this longitudinal project will depend on the stability of its sample size. Hargreaves (2007) has hypothesised that the present participants' developmental stage, along with the impact of peer pressure, may affect their decision to participate in the study. Some participants also reported becoming tired of responding to the same questions every year. Future researchers may need to take some of these concerns into consideration.

A smaller sample size may demand methodological changes to the current process of data collection, with the study taking on a more qualitative approach in the future. Hargreaves (2007) echoes this proposal and Crause (2006) suggests that the data collection process be altered through the incorporation of unstructured interviews. Furthermore, Crause suggested that the data collection process be adjusted according to Super's life-span life-space theory in which the client is recognised as an active agent in their own career development (Super, Savickas, & Super, 1996). A similar notion is outlined by Savickas's (1997; 2002b, 2005) career construction theory in which individuals are seen to construct their own career identity and therefore play an important part in their own career development.

There are possible limitations to the CAQ. While items of the CAQ reflected previous research with children, nevertheless a limitation of the study is that the CAQ

was not validated by experts in the field. An additional methodological limitation is found in the reflection question of the CAQ in which children are asked to reflect on the reasons for their occupational aspirations over the past ten years. In many cases it was noted that the children reflected on their reasons from the perspective of their current age and developmental stage, rather than on why they aspired to a particular aspiration at the time. As stated previously, it was found that the reason given for why they chose a particular occupation at the age of 6 years was not the same as the reason that was provided when they were 6 years old. It is recommended that future studies ask children if they can recall why they aspired to each occupation at the time. However, it will still need to be taken into account that the participants are looking back from the perspective of their current age and developmental stage.

As previously noted, the present study has also been limited by its failure to consider factors such as race and socioeconomic status. These factors could not be examined within the scope of the current longitudinal project. Future recommendations are made in this regard in order to make it possible to generalise these findings to the greater South African population. Hargreaves (2007) suggests that children of lower socio-economic status, and children from black, indian and coloured racial groups be included in studies such as this one. Schultheiss (2008) emphasises the importance of focusing career development research on diverse socio-economic and racial groups. The inclusion of these groups will increase the generalisability of the study, since the sample will be more representative of the South African population. However, it is important to note that the nature of longitudinal research requires that the researcher stays with the sample of origin.

Recommendations are also made with regard to the South African education system. Cox (2004) discussed the learning area of Life Skills/Life Orientation which

is now a compulsory school subject. Concern regarding the validity of this learning field has been raised because of the lack of research conducted prior to its implementation. Along with the larger longitudinal project, the present study hopes to provide baseline information that can be used in the development of appropriate career education programmes within the Life Skills/Life Orientation subject field. It is recommended that future studies continue to build on this baseline information.

### *Conclusion*

The present study has endeavoured to explore the occupational aspiration development of South African children between the ages of 12 and 14 years. Researchers have consistently emphasised the lack of research into the career development of children (Watson & McMahon, 2005, 2008b). The need for longitudinal research on children in this regard has been deemed vital in order to gain a meaningful understanding of their career development (Watson & McMahon, 2008b; Helwig, 2008; Tracey & Sodano, 2008). In addition, the lack of research attention given to South African children has meant that Western theories have been applied indiscriminately to South African children (Stead & Watson, 2006).

Although the results of the present study cannot be generalised to the wider South African population, the findings can be usefully applied to populations similar to the one in the present study. This longitudinal project consists of a homogenous sample of boys and girls who have been followed over the past ten years. The goal of the researchers involved in this project has been to follow these children until they have completed high school. Should the attrition rate remain stable in future years, this study should provide valuable baseline information on which further research can be conducted and on which career education programmes can be based.

As previously highlighted, it is important that career education programmes are based on research. Schultheiss (2008) proposes that research into the career development of children should be linked to the educational curriculum. The present study has found some support for extant child and career development theories. Based on its findings this study has provided some recommendations for career education programmes. As with previous decades (Vondracek, & Kirchner, 1974), research into the career development of children continues to lag behind (McMahon & Watson, 2008). It is hoped that the present study, along with the greater longitudinal project of which it is a part, will stimulate further research in the field of children's career development which could stimulate the development of career interventions as well as new developmental theories.

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## APPENDICES

### Appendix A

#### Biographical Information & Consent Form

(Administered at the start of the larger longitudinal project)

Name of Child: \_\_\_\_\_ Age: \_\_\_\_\_

School: \_\_\_\_\_ Gender: \_\_\_\_\_

Parent's Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact telephone numbers: \_\_\_\_\_ (home) \_\_\_\_\_ (work)

#### Father's/ Male Custodian's occupation

a) Place of employment

\_\_\_\_\_

b) What type of work do you do?

\_\_\_\_\_

#### Mother's/ Female Custodian's occupation

c) Place of employment

\_\_\_\_\_

d) What type of work do you do?

\_\_\_\_\_

Has your child expressed an interest in a particular occupation during the last year?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, what occupation? \_\_\_\_\_

I hereby grant permission for my child to take part in a career awareness study conducted by postgraduate students in the Psychology Department of the Nelson Mandela Metropolitan University.

\_\_\_\_\_

**SIGNATURE OF THE PARENT**

ALL INFORMATION SUPPLIED WILL BE TREATED AS BEING STRICTLY  
CONFIDENTIAL.

## Appendix B

### Biographical Information & Consent Form

Name of Child: \_\_\_\_\_

School: \_\_\_\_\_

Parent's Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact telephone numbers: \_\_\_\_\_ (home) \_\_\_\_\_ (work)

#### Father's/ Male Custodian's occupation

a) Place of employment

\_\_\_\_\_

b) What type of work do you do?

\_\_\_\_\_

#### Mother's/ Female Custodian's occupation

c) Place of employment

\_\_\_\_\_

d) What type of work do you do?

\_\_\_\_\_

Has your child expressed an interest in a particular occupation during the last year?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, what occupation? \_\_\_\_\_

I hereby grant permission for my child to take part in a career awareness study conducted by postgraduate students in the Psychology Department of the Nelson Mandela Metropolitan University.

\_\_\_\_\_  
**SIGNATURE OF THE PARENT**

\_\_\_\_\_  
**SIGNATURE OF THE PARTICIPANT**

In addition, I give permission for my child to participate in a short video in which he/she will be asked to reflect on his/her occupational aspirations over the past ten years.

\_\_\_\_\_  
**SIGNATURE OF THE PARENT**

\_\_\_\_\_  
**SIGNATURE OF THE PARTICIPANT**

ALL INFORMATION SUPPLIED WILL BE TREATED AS BEING STRICTLY  
CONFIDENTIAL.

## **Appendix C**

### **Parent's Letter**

Dear Sir/Madam

For the past few years your child has been part of a study that is investigating the career awareness and aspirations of children in the Nelson Mandela Metropole.

Although the results of the study have not yet been finalized, the research has attracted much national as well as international interest. Interim results of the study, which have involved your child, have been presented at congresses both locally and abroad.

Due to the continued interest in this research on South African children, we would like to continue to explore the career aspirations and perceptions of this same group of children over a number of years. We would very much like your child to continue to be part of this study.

The study would entail us contacting you annually in order to interview your child about their career aspirations and perceptions. Interviews may be conducted at your child's school, if permitted, or in your home at your convenience. The length of the interview would be approximately 15 minutes.

If you are willing for your child to take part in this study, please be so kind as to complete the attached form and return it to us as soon as possible. You can post it to the psychology department at the university or fax it to (041) 583 5324. Without your assistance, this research would not be possible and your help in this regard is greatly appreciated. Please note that all information supplied will be treated as strictly confidential.

If you have any queries, please do not hesitate to contact us on (041) 504 2330.

Yours sincerely

**Carrie Hunter**

Prof. M. B. Watson  
**SUPERVISOR**

Prof. C. D. Foxcroft  
**CO-SUPERVISOR**



## Appendix D

### Career Awareness Questionnaire For Children

(Initial Interview Format)

Child's name: ..... Age:..... School:.....

What would you like to be when you grow up?

.....

1. Please draw a picture of what you would like to be when you grow up.

Tell me about your picture.

What have you drawn?

What does a ..... do?

.....

Why would you like to be a .....?

.....

Do you know what you have to do to become a .....?

.....

Who first told you about a .....?

Where did you first see a .....?

2. What other types of work that grown ups do, do you know about?

a) .....

What does a ..... do? .....

Where does a ..... work? .....

How do you become a .....?

What else do you know about a .....

b) .....

What does a ..... do? .....

Where does a ..... work? .....

How do you become a .....? .....

What else do you know about a ..... ..

c) .....

What does a ..... do? .....

Where does a ..... work? .....

How do you become a .....? .....

What else do you know about a ..... ..

What type of work could boys/girls do? (opposite gender)

.....

PLEASE TURN OVER

4. (Before every question, first ask the child whether he/she knows what it is)

	<b>Knows what it is. Yes/No</b>	<b>Yes</b>	<b>No</b>	<b>Don't Know</b>
Could a boy be a soldier when he is big?				
Could a girl be a soldier when she is big?				
Could a boy be a president when he is big?				
Could a girl be a president when she is big?				
Could a boy be a nurse when he is big?				
Could a girl be a nurse when she is big?				
Could a boy be a fireman when he is big?				
Could a girl be a fireman when she is big?				
Could a boy drive a truck when he is big?				
Could a girl drive a truck when she is big?				
Could a boy be a teacher when he is big?				
Could a girl be a teacher when she is big?				
Could a boy be a policeman when he is big?				
Could a girl be a policeman when she is big?				
Could a boy be a vet when he is big?				
Could a girl be a vet when she is big?				
Could a boy be a singer when he is big?				
Could a girl be a singer when she is big?				

## Appendix E

### Career Awareness Questionnaire For Children

(Revised Interview Format)

Child's name: ..... Age:..... School:.....

1. a) What would you like to be when you grow up?

.....

b) What does a ..... do?

.....

c) Why would you like to be a .....?

.....

d) Do you know what you have to do to become a .....?

.....

e) Who first told you about a .....? .....

f) Where did you first see a .....? .....

g) What would make it easy for you to become a .....?

.....

h) What would make it difficult for you to become a .....?

.....

2. Other than a ..... (from Question 1), what else would you like to be when you grow up?

.....

.....

3. Can you name other types of jobs grown ups do?

.....

.....

.....

4. a) What are some jobs you think women can do?

.....

.....

b) What are some jobs you think women cannot do?

.....

.....

.....

c) What are some jobs you think men can do?

.....

.....

.....

d) What are some jobs you think men cannot do?

.....

.....

.....

e) What are some jobs you think both men and women can do?

.....

.....

.....

PLEASE TURN OVER

5. (Before every question, first ask the child if he/she knows what it is).

	<b>Knows what it is. Yes/No</b>	<b>Yes</b>	<b>No</b>	<b>Don't Know</b>
Could a boy be a fire-fighter when he is big?				
Could a girl be a fire-fighter when she is big?				
Could a boy be a hairdresser when he is big?				
Could a girl be a hairdresser when she is big?				
Could a boy be a pop singer when he is big?				
Could a girl be a pop singer when she is big?				
Could a boy be an author (write stories / books) when he is big?				
Could a girl be an author (write stories / books) when she is big?				
Could a boy be a doctor when he is big?				
Could a girl be a doctor when she is big?				
Could a boy be a chemist when he is big?				
Could a girl be a chemist when she is big?				
Could a boy be a nurse when he is big?				
Could a girl be a nurse when she is big?				
Could a boy be a police officer when he is big?				
Could a girl be a police officer when she is big?				
Could a boy be a teacher when he is big?				
Could a girl be a teacher when she is big?				
Could a boy be a TV announcer when he is big?				
Could a girl be a TV announcer when she is big?				
Could a boy be a lawyer when he is big?				
Could a girl be a lawyer when she is big?				
Could a boy be a secretary when he is big?				
Could a girl be a secretary when she is big?				
Could a boy be a bank teller when he is big?				
Could a girl be a bank teller when she is big?				
Could a boy be a president when he is big?				
Could a girl be a president when she is big?				

## Appendix F

### Career Awareness Questionnaire For Children

(As revised by Crause, 2006)

Child's name: ..... Age:..... School:.....

1. a) What would you like to be when you grow up?

.....

b) What does a ..... do?

.....

c) Why would you like to be a .....?

.....

d) Do you know what you have to do to become a .....?

.....

e) Who first told you about a .....?

f) Where did you first see a .....?

g) What would make it easy for you to become a .....?

.....

h) What would make it difficult for you to become a .....?

.....

2. Other than a ..... (from Question 1), what else would you like to be when you grow up?

.....

.....

3. Can you name other types of jobs grown ups do?

.....

.....

.....

4. a) What are some jobs you think women can do?

.....

.....

b) What are some jobs you think women cannot do?

.....

.....

.....

c) What are some jobs you think men can do?

.....

.....

.....

d) What are some jobs you think men cannot do?

.....

.....

.....

e) What are some jobs you think both men and women can do?

.....

.....

.....

PLEASE TURN OVER



5. (Before every question, first ask the child if he/she knows what it is).

	<b>Knows what it is. Yes/No</b>	<b>Yes</b>	<b>No</b>	<b>Don't Know</b>
Could a boy be a fire-fighter when he is big?				
Could a girl be a fire-fighter when she is big?				
Could a boy be a hairdresser when he is big?				
Could a girl be a hairdresser when she is big?				
Could a boy be a pop singer when he is big?				
Could a girl be a pop singer when she is big?				
Could a boy be an author (write stories / books) when he is big?				
Could a girl be an author (write stories / books) when she is big?				
Could a boy be a doctor when he is big?				
Could a girl be a doctor when she is big?				
Could a boy be a chemist when he is big?				
Could a girl be a chemist when she is big?				
Could a boy be a nurse when he is big?				
Could a girl be a nurse when she is big?				
Could a boy be a police officer when he is big?				
Could a girl be a police officer when she is big?				
Could a boy be a teacher when he is big?				
Could a girl be a teacher when she is big?				
Could a boy be a TV announcer when he is big?				
Could a girl be a TV announcer when she is big?				
Could a boy be a lawyer when he is big?				
Could a girl be a lawyer when she is big?				
Could a boy be a secretary when he is big?				
Could a girl be a secretary when she is big?				
Could a boy be a bank teller when she is big?				
Could a girl be a bank teller when she is big?				
Could a boy be a president when he is big?				
Could a girl be a president when she is big?				

<i>Occupational Choice</i>								
1998	1999	2000	2001	2002	2003	2004	2005	2006

Over the last seven years we have been talking to you about careers that you have been thinking about. Now here is a chance to look back at the careers you have thought about and to discuss them.

i) What do you think the reasons were for choosing each of these careers?

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ii) Have your career thoughts changed over the last few years? ☐ Yes ☐ No

If yes, how have your career thoughts changed?

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---

If no, how have your career thoughts stayed the same?

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If the examiner can identify a theme, e.g. an interest in animals, all medical professions, art as a theme, etc., clarify with the child if this is accurate.

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Ask if the child would to participate in the making of a short movie exploring their career aspiration development. ☐ Yes ☐ No

## Appendix G

### Career Awareness Questionnaire for children

(Revised version used in present study)

Child's name: ..... Age:..... School:.....

1. a) What would you like to be when you grow up?

.....

b) What does a ..... do?

.....

c) Why would you like to be a .....?

.....

d) Do you know what you have to do to become a .....?

.....

e) Who first told you about a .....?

.....

f) Where did you first see a .....?

.....

g) What would make it easy for you to become a .....?

.....

h) What would make it difficult for you to become a .....?

.....

2. Other than a ..... (from Question 1), what else would you like to be when you grow up?

.....

.....

3. Can you name other types of jobs grown ups do?

.....

.....

.....

4. a) What are some jobs you think women can do?

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b) What are some jobs you think women cannot do?

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c) What are some jobs you think men can do?

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d) What are some jobs you think men cannot do?

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e) What are some jobs you think both men and women can do?

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PLEASE TURN OVER

6. (Before every question, first ask the child if he/she knows what it is).

	Knows what it is Y/N	Yes	No	Don't know
Could a man be a fire-fighter?				
Could a woman be a fire-fighter?				
Could a man be a hairdresser?				
Could a woman be a hairdresser?				
Could a man be a pop singer?				
Could a woman be a pop singer?				
Could a man be an author (write stories/books)?				
Could a woman be an author (write stories/books)?				
Could a man be a doctor?				
Could a woman be a doctor?				
Could a man be a chemist?				
Could a woman be a chemist?				
Could a man be a nurse?				
Could a woman be a nurse?				
Could a man be a police officer?				
Could a woman be a police officer?				
Could a man be a teacher?				
Could a woman be a teacher?				
Could a man be a TV announcer?				
Could a woman be a TV announcer?				
Could a man be a lawyer?				
Could a woman be a lawyer?				
Could a man be a secretary?				
Could a woman be a secretary?				
Could a man be a bank teller?				
Could a woman be a bank teller?				
Could a man be a president?				
Could a woman be a president?				

Over the last ten years we have been talking to you about careers that you have been thinking about. Now here is a chance to look back at the careers you have thought about and to discuss them.

<b><i>Occupational Aspirations</i></b>									
1998	1999	2000	2001	2002	2003	2004	2005	2006	2007

i) What do you think the reasons were for choosing each of these careers?

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ii) Have your careers thoughts changed over the last few years? ☐ YES ☐ NO

If yes, how have your career thoughts changed?

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If no, how have your career thoughts stayed the same?

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Can you see anything common or shared across all these careers?

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If the examiner can identify a theme, e.g. an interest in animals, all medical professions, art as a theme, etc., clarify with the child if this is accurate.

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