The relationship between career decision self-efficacy and self-directed learning amongst female university students: A cross-cultural study

by

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ABSTRACT

The career landscape has undergone considerable change within the past three decades (Hackett, Lent & Greenhaus, 1991; Sharf, 2002). Globalisation, the opening up of markets and rapid technological advances have produced a new world of work. Career choices and career challenges are more numerous and the career decision-making process more complex (Stead & Watson, 2006b). Baruch (2006) suggests that with these changes comes a need to address the preparation of future recruits. According to Super (in Sharf, 2002), individuals between the ages of 18 and 25 are in the career preparation stage, with career decision making as one of its key tasks. In the face of the numerous challenges in the new world of work, students in this career phase are increasingly struggling with indecision. Many students who enter university are undecided and once they are enrolled as a student, they often change their major at some point in their academic career (Reese & Miller, 2006). Self-directedness with regards to learning may potentially contribute to coping with the career demands and general career development, including career decision making. A self-directed learner takes responsibility for his or her own learning and development (Clardy, 2000). The relationship between self-directed learning and career decision making appears to be an under-researched area (Wang, Lo, Xu, Wang, & Porfeli, 2007). Although all new entrants into the world of work are subjected to challenges, women and people of colour appear to be particularly vulnerable. Women, despite various institutionalised efforts to address previous inequities, continue to perceive career barriers and experience subtle discrimination and unfair labour practice (cf. Betz, 2005; Gianakos, 2005; Mafunisa, 2006). These inequities are also evident amongst people of colour (cf. Creed, Patton & Watson, 2002; De Bruin & Bernard-Phera, 2002; Gushue, 2005).

In an effort to make a contribution to addressing the current problems, challenges and areas of neglect both within the field of career psychology and the broader career landscape, the aim of this research was to investigate the relationship between career decision self-efficacy and self-directed learning. The research provides a cross-cultural comparison of black and white women students and is situated within the Social Cognitive Career Theory (Lent, Brown & Hackett, 1994). Two hundred and sixty five
undergraduate university students (211 black; 144 white) completed a biographical questionnaire, the Student Self-Directed Learning Questionnaire (SSDL; De Bruin, 2008) and the Career Decision Self-Efficacy Scale-Short Form (CDSE-SF; Betz, Klein & Taylor, 1996b). Descriptive statistics were used to determine the levels of self-directed learning and career decision self-efficacy in the participants. Both groups of students showed above-average levels of self-directed learning and career decision self-efficacy. There was a significant difference between the SSDL scores of the black and white students, with the black students scoring higher. Pearson product-moment correlation was used to determine the relationship between self-directed learning and career decision self-efficacy. The results revealed a statistically significant and practically meaningful correlation ($r = 0.46; p < 0.0001$) between the two variables. Moderated multiple hierarchical regression analysis was used to determine the influence of race on this relationship. Self-directed learning explained approximately 20% of the variance in self-directed learning. The interaction of self-directed learning and race explained an additional 2.2% of the variance in career decision self-efficacy. This research has implications for career counsellors and academics in their efforts to provide support to students with regard to making career decisions.
CHAPTER 1

OVERVIEW OF STUDY

1.1 Introduction

Rapid and ongoing changes within the career landscape have necessitated that higher education institutions reconsider their contribution to preparing the future recruit for this new context (Mok & Lung, 2005). In this regard, career decision challenges have been highlighted in the literature as an area in need of urgent attention (Cheramie, Sturman & Walsh, 2007; Reese & Miller, 2006). This has been found to be particularly true for women and students of diverse ethnic and racial origin, who, because of their continued exposure to various forms of discrimination and other unique challenges, are considered to be particularly vulnerable (Betz, 1989; Cotter, Hermsen, Ovadia & Vanneman, 2001; Gianakos, 1995). These considerations, together with the fact that these population groups have been under-researched within the field of career psychology (Betz, 2005; De Bruin & De Bruin, 2006; Flores et al., 2006; Leong & Chou, 1994), has directed the focus of this research onto the career preparation stage of black and white women university students. More specifically, the career decision self-efficacy of these individuals is investigated. Self-directed learning is examined as a potential predictor and enhancer of these students’ career decision self-efficacy. This chapter provides the rationale, defines the problem statement and identifies the aims and research questions of this study. The theoretical framework and relevant constructs are defined and an overview of the study concludes the chapter.

1.2 Rationale and problem statement

The career landscape has undergone considerable change within the past three decades (Hackett, Lent & Greenhaus, 1991; Sharf, 2002). Globalisation, the opening up of international markets, rapid technological advances and the shift from a service to a knowledge economy have produced economic, social and political changes. These changes have significantly impacted the world of work and the role, skills and abilities required by the new recruit, entering this terrain (Candy, 1991; Nilsson et al., 2007). Peiperl and Baruch (1997) report that as change becomes a constant, and high levels of job insecurity, multiple careers, greater diversity and increased mobility become the norm, the traditional linear
corporate career is disappearing and workers are having to confront a whole range of new challenges. In this new boundaryless career landscape the responsibility for career development, progress and management is shifting from the organisation to the employee (Cheramie et al., 2007; Sullivan & Arthur, 2006; Watson & Stead, 2006b). This new employee will therefore need to be autonomous, self-initiating, agentic and self-directed. In addition, as technology advances rapidly, the skills and content knowledge of his or her job is expected to become increasingly redundant and obsolete. Guglielmino and Murdick (1997) predict that an individual’s job will change dramatically every five years. To keep pace and competitive, Briscoe and Hall (2006) argue that workers will need to be flexible and capable of continuous learning and development.

In addition, as globalisation opens up international educational and career opportunities, and technological development and innovation lead to increased specialisation, career choices and decisions, have become far more complex (Baruch, 2001, 2006). By way of an example of this increased specialisation, Baruch (2006) notes that Holland’s dictionary of vocations is continuously being updated and currently lists 12000 occupations from which the recruit must choose. With the increase in the complexity of the career decision process in this emerging boundaryless career landscape, Baruch (2004) and Reese and Miller (2006) recommend that urgent attention should be given to the preparation of future recruits for this context: firstly, in terms of assisting them with the career decision challenges they are confronting and secondly, in terms of providing them with the skills to cope with the emerging demands from the new workplace for self-directed, continuous, independent learners.

According to career development theorists such as Super (1980) and Crites (1969, 1976, 1978; see Westbrook, Cutts, Madison, & Arcia, 1980), individuals between the ages of 18 and 25 find themselves in the preparation stage of the career development process. Career decision making is identified as being one of the key tasks of this stage. With their interests more or less crystallised, students who are preparing for entry into the career landscape are engaged in gathering information about the world of work and integrating this with their knowledge of themselves in order to assess their career options (Langley, 1999; Watson & Stead, 2006c). Reese and Miller (2006) report that students in this career phase are increasingly struggling with indecision. They conclude that many more students who enter university are undecided, and that at least half of those who are already attending university, are changing their major at some point in their academic career (Reese & Miller, 2006). These
career decision difficulties appear to be particularly problematic for the previously
disadvantaged population of South Africa. Watson, Foxcroft, Horn and Stead (1997) report
that black South African high school students showed below acceptable scores for their self
knowledge and occupational knowledge for their age group—both essential to successful
career decision making.

Further evidence of the existence of career decision challenges amongst students currently
attending higher education institutions, can be deduced from their increased demand for and
usage of career counselling services within the higher education context, both internationally
(Smith, Myers & Hensley, 2002) and within South Africa (Akhurst & Mkhize, 2006; Botha et
al., 2005; Mathabe & Temane, 1992). However, despite the obvious need for interventions to
assist students in their preparation for this new world of work, and with decision making in
particular, Betz (2007) in her review of recent research and trends within vocational
psychology, reports that research efforts in this area have declined significantly over the past
30 years. From the 1980’s when 31 career intervention outcome studies were run between
1976 and 1989, to 11 between 1990 and 1991 and finally, only three were identified between
2000 and 2003 (Reese & Miller, 2006). In addition, Betz (2007) notes that only a small
minority of the interventions being offered currently are informed by empirical findings and
solid theoretical constructs. Bowman (1993) also points out that career intervention research
is particularly sparse amongst ethnic minorities. As part of a broader effort to identify factors
that could address these career decision challenges, this study was initiated to explore the
relationship between self-directed learning and career decision self-efficacy.

Career decision self-efficacy has been selected as an indicator of the individual’s competence
with regard to the tasks involved in successful career decision making within the preparation
phase of career development. Inspired by the work of Albert Bandura (1977a, 1977b, 1977c,
1986, 1997) and career developmental theorist, Crites (1969, 1976, 1978), and developed by
Betz and Hackett (1981), this construct describes individuals’ levels of confidence in their
ability to appraise themselves accurately, to acquire sufficient and accurate occupational
information, to select career goals, make career plans and solve career challenges and
problems. It has received extensive research attention and has been positively correlated with
numerous indices of adaptive and successful career decision making behaviour and career
development (Betz, 2005; Betz, Hammond, & Multon, 2005; Luzzo, 1996). These positive
correlates include high levels of vocational identity (Gushue, Clarke, Pantzer, & Scanlan,
2006; Robbins, 1985), adaptive career beliefs (Luzzo & Day, 1999), career exploratory behaviour (Blustein, 1989; Gushue et al., 2006), career maturity (Creed & Patton, 2003; Luzzo, 1993b, 1995a), declared major (Gloria & Hird, 1999), career decidedness (Creed, Prideaux & Patton, 2005; Kraus & Hughey, 1999; Luzzo, 1993a; Srcis & Walsh, 2001) and a more rational and less dependent style of decision making (Mau, 2000). In addition, career decision self-efficacy has also been inversely related to career indecision (Bergeron & Romano, 1994; Lent & Hackett, 1987; Taylor & Popma, 1990a) and fear of career commitment (Betz & Serling, 1993), and it has been found to play a significant role in career assessment (Betz & Luzzo, 1996).

In this study it is proposed that self-directedness with regard to learning may contribute to coping with the above mentioned career demands, general career development, and specifically career decision making. Self-direction in learning includes both a process and personal component (Brockett & Hiemstra, 1991; Candy, 1991). Knowles (1975, p.18) defines self-directed learning as a process involving individuals in taking “the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes”. A self-directed learner is defined by Brockett and Hiemstra (1991) as someone who takes responsibility for his or her own learning and development. At this stage, self-directed learning has not been linked to the task of career development (Ellinger, 2004). Wang, Lo, Xu, Wang and Porfeli (2007) advise that this is an area that requires attention, especially since self-directed learning has been found to facilitate career development and management within the ever-changing information age and emerging boundaryless career context (Confessore & Kops, 1998; Guglielmino & Murdick, 1997). In their qualitative study of the relationship between job search strategies and self-directed learning, Wang et al. (2007) conclude that self-directed learning facilitates the learning processes that give rise to self-efficacy beliefs regarding the world of work in general, and more specifically, the job search process involved in career construction. Furthermore, as will become apparent in the literature review that follows, individuals with high levels of learner self-directedness and career decision making self-efficacy, appear to share a similar personal orientation. It is thus hypothesised that self-directed learners’ personal orientation facilitates the learning processes that inform the individual’s career decision self-efficacy beliefs.
In addition to its focus on career decision challenges and self-directed learning, this research provides a cross-cultural comparison of black and white women students. The decision to focus on these population groups was motivated by two considerations. Firstly, women and people of colour have been shown to be more vulnerable to the challenges mentioned above, because of the political, economic and social implications of their social identity (Cotter et al., 2001; Gianakos, 1995). Numerous studies have demonstrated that women continue to perceive career barriers and experience subtle discrimination and unfair labour practice as a result of their gender (Betz, 2005; Cotter et al., 2001; Gianakos, 1995; Huang & Sverke, 2007; Mafunisa, 2006; McWhirter, 1997; Williams & Subich, 2006, Wrigley, 2002). Erasmus and Sadler (1999) and Mafunisa (2006) note that women in the South African context remain under-represented in historically male, well paid occupations at managerial and senior levels, and over-represented in traditionally female, low paid and less influential occupations. It is estimated that only 16.8% of South African executive managers and 11.5% of South African directors, are women (April, Dreyer & Blass, 2007). These gender effects extend to the career preparation phase as well. Nagy, Trautwein, Baumert, Koller and Garrett (2006) found that gender continues to moderate the prediction of course selection and performance, both at the secondary and higher education levels. In addition, informal or subtle forms of discrimination such as social isolation, verbal and sexual harassment, an absence of support and exclusion from influential social networks persist (Fitzgerald & Harmon, 2001). Betz (2005) and Baruch (2006) view these forms of discrimination as indications of the continued presence of the “glass ceiling” for women, albeit with a few cracks. The U.S. Federal commission on the “Glass Ceiling” found that not only does this obstacle persist for women, but that for women of colour, the glass ceiling is far less subtle and would more aptly be described as the “concrete wall” (Betz, 2005). Cotter et al. (2001) found that the glass ceiling continues in America and is evident at the level of earnings, authority, and promotions. In South Africa the persistence of these subtle forms of discrimination and inadequate representation of women in positions of influence and authority, despite interventionist strategies on the part of the South African government, have been acknowledged and attributed by some scholars in this field to the fact that racial transformation policies have overshadowed gender issues (Mafunisa, 2006).

These inequities are also evident amongst people of colour, both internationally and within the South African context (Church, Teresa, Rosebrook & Svendre, 1992; Creed, Patton & Watson, 2002; De Bruin & Bernard-Phera, 2002; Eaton, Watson, Foxcroft & Patton, 2004;
Gushue, 2005; Hampton, 2005; Lloyd & Meyer, 2007; Naidoo & May, 2006). Despite institutional reform, the legacy left by the apartheid system continues to compromise the career potential and opportunities of the South African previously disadvantaged population (De Bruin & De Bruin, 2006). The pass rate for completing high school for this population remains half that of their white counterparts (Kahn, 2005). The mean number of years of schooling completed by black South Africans remains low at 6.9 years (Kahn, 2005). According to Patton, Creed and Watson (2003), South African black adolescents continue to perceive significant career barriers, experience high levels of career indecision and an ongoing sense of uncertainty about their future.

The second consideration that led to the decision to conduct a cross-cultural study amongst women students, was the fact that they have been reported to be a highly under-researched group within the career psychology literature (Betz, 2005; Flores et al., 2006; Leong & Chou, 1994). This is despite their expanding contribution to and participation in the global labour market. In the case of women, the U.S.A. labour department statistics estimated that in 2003, 90% of women worked outside of the home at some point in their lives (Betz, 2005). In South Africa it is estimated that between 1960 and 2001, the number of women participating in the formal labour market increased from 23% to 39% (Lloyd & Meyer, 2007). Similarly, as globalisation takes hold and education and employment opportunities open up internationally, the workforce has become far more mobile, resulting in increased diversity. The South African context force has also witnessed a significant shift in the demographic profile of its labour force. As a result of the introduction of the new dispensation in 1994 and with it various policies and legislation, such as the Labour Relations Act No. 66 and the Employment Equity Act of 1998, affirmative action and quota systems have been implemented, leading to a substantial increase in the black workforce (April et al., 2007).

These demographic shifts have not been mirrored within the vocational psychology literature. It was only in the 1980’s with the work of Hackett and Betz (1981) and Betz and Hackett (1981) that women became a subject of study for career psychology scholars. Despite these recent research initiatives, Betz (2005) points out that progress in this regard has been slow, relative to the broader research and theoretical development agenda for vocational psychology. The subpopulation most significantly affected by this neglect is women of colour whose work life remains severely under-researched (Lent & Brown, 2006). Preliminary research in the global arena has demonstrated that women and women of colour are worthy of
focused, dedicated, and further research efforts (Betz, 2005). Firstly, they have been shown to benefit from work outside the home in numerous ways, for example improved psychological and physical wellbeing (Barnett & Hyde, 2001). Secondly, women have also been shown to confront unique challenges within the career arena that are not adequately described by the dominant career theories which have been based almost exclusively on the experiences of white males (Betz, 2005; Gianakos, 1995; Williams & Subich, 2006).

Similarly, Lent (2001) comments that the neglect of the experiences of people of colour within the career field is a continuing, disturbing and significant shortfall in the domain of vocational psychological research and theory building. In addition, Leong (1995) notes that even where attempts have been made to study this population, the majority of samples used have been American students, albeit that they are of another ethnic origin (Lent & Brown, 2006). Blustein (2001) argues that vocational psychology has become increasingly decontextualised, ignoring important cultural, ethnic and social constraints experienced by workers. In a review of internationally based articles over the past 34 years in four professional career journals, Nilsson et al. (2007) report that only 2.4% of articles published during this time span addressed vocational issues in an international context and employed an internationally diverse sample.

Blustein and Ellis (2000) conclude that the neglect of issues of gender and cultural pluralism within career psychology stems largely from the unresolved debate regarding the relevance and applicability of traditional career theories and research. Currently theorists appear to be polarised between two strategies: the etic and emic approaches. The etic approach typically views culture as a nuisance variable (Stead, 2004) and proposes the application of existing traditional career theories, with a focus on generic or universal aspects thereof (Cheatham, 1990). The emic approach involves the origination of new indigenous, culture-specific theories, which address the unique experiences of diverse groups.

Although a number of constructs originating within traditional vocational psychology have been found to have cross-cultural and gender equivalence (Nel, 2006), the etic approach has been criticised for under-representing the unique experiences of diverse population groups and women, and for imposing western, individualistic euro-centric values and beliefs on these subpopulations. It is argued that the traditional career theories espoused by the etic approach have been based almost exclusively on white, male American middle class student samples,
conducted by white male western scholars and describe the typical white, western male middle class career path (Brown & Lavish, 2006; Flores et al., 2006; Leong & Chou, 1994; Leong, Hesketh & Savickas, 1998; Naidoo & May, 2006; Nicholas, Naidoo & Pretorius, 2006; Stead & Watson, 2006a). In addition, the individualist values and themes that inform traditional career models have been found to contrast strongly with the collectivist value system adhered to by many diverse ethnic-racial groups, in ways that significantly impact on career experiences and behaviour (Stebleton, 2007; Young, Marshall & Valach, 2007). The individualist worldview elevates the role of work to the centre of the individual’s life and meaning, and views it as separate from the family (Hartung, 2002; Worthington, Flores & Navarro, 2005). Interpersonal relationships, including those to family, are considered in social/utilitarian terms and subordinate to a preference for self-reliance, personal goal pursuit and self actualisation. Values such as autonomy and competitiveness are esteemed (Triandis et al., 1986). These values and themes differ markedly from the collectivist value system (Cheatham, 1990, 1991), for which the over-riding theme is the subordination of personal goals and needs, to the in-group’s norms, needs and views. Emotional closeness to these in-groups, be they family, community or colleagues, is a primary source of motivation in all contexts, including the world of work. Human life is defined, sustained by and responsible to others within the community. For many racial and ethnic minority groups, membership of a collectivist group is far more important than individual accomplishments (Cook, Heppner & O’Brien, 2002). Career choices are considered in terms of their potential contribution to the group, as opposed to being reflective of the individual’s desire for self expression and actualisation. For example, Stebleton (2007) describes the collectivist orientation of the African person as a personhood for which meaning is centred within the family and community. For these individuals, the “concept of career is relational and socially embedded, with a focus on other” (Stebleton, 2007, p. 295). Socialisation processes are focused on becoming a valued member of the community, and it is the community that helps to shape and define the person. Proponents of the relational perspective in women’s development, such as Gilligan (1982) have also argued for the importance of interdependence as a defining value for women in general, and in career decisions in particular. In this world view duty, obligation and morality govern interpersonal relations and pride is derived from attachment to the group rather than personal success.

Researchers have provided evidence of the implications of these collectivistic mindsets to career behaviour. Within the South African context, Stead and Watson (1998a) suggest that
this group allegiance is evident in the cardinal African belief epitomised in the Xhosa saying “Umuntu Ngumuntu Ngabantu”, which means that a person is only a person through others (Mbigi & Maree, 1995, p. 292). Stead and Watson (1998a) also argue that the use of western values and beliefs such as individualism, have lead to an emphasis on rational and independent career decision making and the nuclear family structure in South African career research. The result of this has been that factors that are prevalent in African cultures have been ignored. Stead (1996) and Kotze (2001) report on the importance of this community orientation to the career behaviour and decision making amongst black South Africans. Watson et al. (1997) also argue for the influence of collectivist values and norms on black adolescent career decision making. They report that these students showed a preference and biased interest in social-type careers, such as nursing and teaching, as evidence for the impact of community values on their career decision making.

Attempting to address these concerns and as an alternative to the emic approach, the etic approach focuses exclusively on what is culturally and gender specific. However, this alternative is still in its infancy and thus far appears to also be plagued by a number of limitations. Currently it is supported by very little research, and that which does exist, tends to over-emphasise between-group differences and neglect within-group variability (Cheatham, 1990). Although unintended, this leads to the perpetuation of stereotypes, and a disregard for the tremendous complexity that characterises human systems (Betz, 2007). Factors such as generational status, acculturation, racial-ethnic identity development, gender role attitudes and immigration patterns, are neglected (Worthington et al., 2005). In addition, Worthington et al. (2005) note that the majority of studies conducted within this framework have failed to control for socio-economic status. Typically they utilise samples that are constituted by either highly educated and affluent college students, or members of impoverished communities of very low socio-economic status and fail to measure or report on the participants’ socio-economic status. The consequence is that race/ethnicity and socio-economic status are confounded.

It is apparent from the above research that although some aspects of career development are universal, many others are gender and culturally specific challenges. In attending to the career decision challenges of black and white women students in the career preparation stage of their career development, this research attempts to avoid the shortcomings of both the etic or emic approach. It utilises a theoretical framework which adopts a middle ground position (Betz,
The broad theoretical framework that achieves this task is Social Cognitive Career Theory (SCCT; Lent, Brown & Hackett, 1994). SCCT assumes the inherent compatibility of the etic and emic conclusions and attempts to integrate these. Arguing from the SCCT perspective, Lent and Worthington (2000) suggest that gender and cultural validity or generalisability should be an empirical question and not a matter of expert judgment. Rather than the wholesale dismissal of extant career literature, they posit that specific, apparently, more universal career hypotheses and constructs, should be subject to empirical testing amongst diverse population groups. Thus far, SCCT has gathered support for the applicability of a number of its hypotheses and constructs among various international ethnic-racial-cultural diverse samples (cf. Hampton, 2005; Matsui, Ikeda & Ohnishi, 1989; Post-Kammer & Smith, 1986; Stead, Els & Fouad, 2004), women (Hackett & Betz, 1981) and women of colour (Flores & O’Brien, 2002; Gainor & Lent, 1998). In addition, SCCT has recognised the importance of avoiding the cultural uniformity trap (Betz & Fitzgerald, 1987) and empirically examined between-group differences such as racial–ethnic identity (Gainor & Lent, 1998), acculturation (Hardin, Leong & Osipow, 2001) and gender/sex role orientation/roles/stereotypes (Brown, Garavalia, Hines-Fritts & Olson, 2006; Tokar, Thompson, Plaufcan & Williams, 2007). According to the SCCT approach, certain career processes, such as the learning processes which give rise to career development, are universal. However, other areas, such as the specific content of these learning experiences, may be culturally and gender bound. In this framework gender and race-ethnic-cultural-social identity are viewed as both person inputs and in terms of the contextual response they evoke, referred to as contextual/environmental inputs. As contextual variables, gender and race-ethnicity-cultural-social identity effects may serve as background distal variables which, through socialisation and oppression, indirectly influence educational and career outcomes. Alternatively their influence on career decisions is direct, as they act as barriers or supports, which facilitate or impede career decision making. Thus, SCCT can be described as a context rich perspective (Blustein, 1997). It seeks to identify historical, contextual, gender, racial, cultural factors, as well as those factors in the individual’s educational, vocational, relational and psychological world (Blustein, 1997), which shape his or her career experiences, processes and behaviour. It is this explicit incorporation of variables such as race, ethnicity and gender, into models of career development, choice and performance, that has been identified as one of the strengths of SCCT (De Bruin, 1999; Gushue & Whitson, 2006) and which provides the rationale for its inclusion as the theoretical basis of this research.
1.3 Aims of the study

Based on the afore-mentioned rationale and problem statement, the following aims were identified for this study:

1. To determine the levels of self-directed learning and career decision self-efficacy in a group of black and white women university students, and to establish whether the levels differ between these two groups of students.
2. To investigate the relationship between self-directed learning and career decision self-efficacy in a group of black and a group of white students, and whether this relationship differs for the two groups.
3. To examine the predictive relationship that self-directed learning has with career decision self-efficacy.

1.4 Research questions

In view of the aims of this study the following research questions were formulated.

Question 1: What are the levels of self-directed learning and career decision self-efficacy in a group of black and a group of white women university students?

Question 2: Are there differences in the levels of self-directed learning and career decision self-efficacy between a group of black and white women university students?

Question 3: What is the relationship between self-directed learning and career decision self-efficacy in a group of black and a group of white women university students?

Question 4: Is the relationship between self-directed learning and career decision self-efficacy different for black and white women university students?

Question 5: To what extent does self-directed learning predict career decision self-efficacy in a group of black and white women university students?
1.5 Theoretical framework

As mentioned above, this research is situated within Social Cognitive Career Theory (SCCT; Lent et al., 1994). It addresses the roles of environmental and other contextual factors, and considers how these interact with personal characteristics, experiences and career related behaviour (Lent & Brown, 2006; Lent & Hackett, 1987). De Bruin (1999) and Watson and Stead (2006b) attested to SCCT’s relevance in the South African context. They argue that SCCT accounts for racial and gender career patterns, and career development that diverges from the traditional career patterns, described in other structural and development career theories. Betz (2007) has also argued for the value of SCCT’s constructs in providing a framework for addressing previously neglected populations, such as women and ethnic and racial groups.

1.6 Definition of key constructs

1.6.1 Career development and career decision making

Crites’s (1969, 1976, 1978) reworking of Super’s early work and various other career theories describing the career development process, was utilised as the departure point for understanding the preparation stage of career development and career decision tasks. This is because his model of career development forms the basis of the Career Decision Self-Efficacy Scale (Betz, Klein & Taylor, 1996). As explained below, this measure was used to examine the career decision making perceptions of the participants in this research. Crites (1969, 1976, 1978) assumes that career development is a lifelong process. He divides the individual’s lifespan into age related stages, each involving the mastering of age appropriate tasks. Progress through these stages is determined by maturational processes. Crites (1969, 1976, 1978) regards the most important career developments as taking place between the ages of 16 and 25 and identifies career decision making as the key task of this phase. The development of five competencies is deemed essential to effective career decisions during this stage: accurate self-appraisal; sufficient and accurate occupational information, formulation of academic and career goals, adequate planning and an ability to solve problems. These competencies form the basis of the five subscales of the Career Decision Self-Efficacy Scale.
1.6.2 Career decision self-efficacy

Career decision self-efficacy is defined as an individual’s situation-specific belief that she or he can successfully complete the activities and tasks necessary to make an effective career decision (Taylor & Betz, 1983). The competencies informing these perceptions are derived from Crites’ (1969, 1976, 1978) career development model and reflect his notion of career maturity. They include accurate self-appraisal, sufficient and accurate occupational information, formulation of academic and career goals, adequate planning and an ability to solve problems. These beliefs have been reported to be strong indicators of adaptive career behaviour (Betz et al., 2005; Lindley, 2006; Wolfe & Betz, 2004) and adaptive career exploration and outcomes (Betz, 2005; Blustein, 2001). They have also been positively correlated with numerous other career decision variables such as career certainty (Luzzo, 1993a), career commitment (Betz et al., 2005; Chung, 2002; Wang, Jome, Haase & Bruch, 2006), vocational identity (Robbins, 1985) and inversely related to career decision-making difficulties (Amir & Gati, 2006) and career indecision (Bergeron & Romano, 1994; Taylor & Popma, 1990a, 1990b).

1.6.3 Self-directed learning

The construct of self-directed learning has a long history, is multidimensional and complex. The most all encompassing, commonly cited definition of self-direction in learning is that offered by Knowles (1975, p. 18): “individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes”.

More recently and for the purposes of this research, self-directed learning has been conceptualised as having two components: process aspects (which describe this learning as a method) and personal aspects (which describe it as personal orientation to learning). In this research, the Personal Responsibility Orientation model (Brockett & Hiemstra, 1991) is utilised as a theoretical framework for self-directed learning. This model refers to self-directed learning as the instructional dimension of this form of learning, in which the learner assumes primary responsibility for planning, implementing and evaluating the learning process, with or without the input of an educator. This construct represents the process.
dimension of the model and delineates the external characteristics of the instructional process that impact on the individual’s *self-direction in learning*. The term *learner self-direction* refers to the learner’s personal orientation or internal characteristics, which predispose him or her to assume responsibility for learning. An overarching term, *self-direction in learning*, is used to describe both aspects of self-direction in learning, and implies that all self-directed learning experiences are the result of an interaction between process elements and the individual’s personal characteristics.

### 1.6.4 Gender

Gender is viewed as an important person input within the SCCT model and is defined in terms of the socio-cultural constructions ascribed to physical characteristics (Lent et al., 1994).

### 1.6.5 Diverse population groups

The term *racial-ethnic-socio-cultural person inputs* (Cross & Cross, in press, cited in Quintana, 2007), is used to refer to individuals’ shared sense of ancestry, history, tradition, cultural traits as well as the socio-political constructions that are associated with their physical characteristics, such as skin colour, facial features or other hereditary characteristics.

### 1.7 Overview of the study

Chapter 1 provides the rationale, defines the problem statement and identifies the aims and questions of this study. The theoretical framework and relevant constructs are defined and an overview of this study concludes this section.

Chapter 2 presents a detailed account, including both theoretical premises and a review of the literature and research, pertaining to Social Cognitive Career Theory – the theoretical framework for this study. It examines the role of gender and racial-ethnic-cultural identity within the career context as construed by this approach and provides a literature review of career decision self-efficacy. Chapter 3 reviews the theoretical and empirical literature with regard to self-directed learning. The evolution of this construct and literature pertaining to both personal and process aspects are examined. The conceptual model developed by Brockett
and Hiemstra (1991), namely the Personal Responsibility Orientation Model of Self-directed Learning, is also presented.

Chapter 4 provides a description of the research design and method utilised in the research. The findings of the data analysis are reported in Chapter 5. The major findings of the study are discussed in Chapter 6 and linked to the literature presented in the earlier chapters. Finally the implications, recommendations and suggestions for further research are presented.
CHAPTER 2

SOCIAL COGNITIVE CAREER THEORY

2.1 Introduction

Social Cognitive Career Theory (Lent et al., 1994) forms the underlying theoretical framework for this research. This approach to career theorising has been utilised to explain career decision self-efficacy and to provide an understanding of the gender and cross-cultural aspects of this study. Part A of this chapter, presents the origins, constructs and assumptions of this framework. Gender, race, ethnicity and cultural variables are addressed as person inputs and discussed within the framework of the Triadic Model of Reciprocal Causality, a central model with SCCT. Thereafter the three process models delineated by SCCT, which reflect a synthesis of these basic constructs and addresses the key aspects of career development (career interests, career choice and career performance) are described. Part B of this chapter presents a review of the literature on career decision self-efficacy, which represents a domain specific form of self-efficacy beliefs, and which has been consistently found to predict both overall adaptive career behaviour and effective career decision making in particular. Career decision self-efficacy is the dependent variable in this research.

PART A: THE SOCIAL COGNITIVE CAREER THEORY

2.2 Origins of the Social Cognitive Career Theory

In discussing the origins of the Social Cognitive Career Theory (SCCT), it’s relevance to the broader socio-political and economic conditions at the time of its emergence, as well as its evolution within the narrower field of vocational psychology are presented. Stead and Watson (2006a) note that the value of contextualising theories of career behaviour lies in the fact that it provides important reference points for evaluating its relevance and significance, and identifies its contextual influences and limitations.

SCCT is a comprehensive theory of academic and career behaviour (Lent et al., 1994). Key premises of this approach include an emphasis on the role of personal agency and the mutually interactive effects of person, contextual and behavioural variables in the formation
of career interests, choices and career performance. Personal agency is posited to operate through the cognitive mechanisms of self-efficacy beliefs, outcome expectations and goals. These cognitive inferences together with other person variables such as ability, gender and ethnicity, are believed to continuously interact with behavioural outcomes and contextual factors to shape career development and behaviour. The inclusion of a model of reciprocal determinism of causality, an understanding of gender and racial-ethnic-social-cultural identity, as well as the specification of contextual or environmental variables as important mediators or career experiences are considered to be SCCT’s most significant contribution to the progress of vocational psychology (Gainor, 2006).

Prior to the 1980’s career theory was dominated first by the trait-factor approach in the early 1900’s and thereafter by the developmental approach, from the 1950’s to the 1980’s. Trait-factor theory emphasises the role of relatively global, stable and enduring aspects of the person, both across time and situations, in explaining career processes (Lent, 2005). Career behaviours are assumed to be the result of dispositions such as abilities, values and personal characteristics. These dispositions are believed to reflect a combination of genetics and early learning experiences (Lent, 2005). Stead and Watson (1998b) explain that the fit between the person and his or her career is considered a central goal of trait-factor theory and is assumed to lead to career success and satisfaction. Sharf (2002) asserts that, according to this approach, career choice is understood to be a time limited, once off event that is available to everyone, and for which there is one correct career choice for each person, and one correct type of person for each occupation.

Although the trait-factor approach provides important information about what contributes to continuity in the individual’s career path, its focus is limited to an individual’s present career behaviour. With the resurgence of interests in career theorising in the 1950’s, the narrow scope of trait-factor approaches became a source of growing concern and criticism. A new focus on developmental processes emerged within the career domain (Hackett et al., 1991). Developmental theorists took issue with the trait theorists’ view, that career choice is a static, single event in time and with their consequent exclusive focus on the challenges of career choice and entry. Instead, they conceptualised career choice as a process which continues throughout the individual’s life. Stead and Watson (1998a) suggest that the developmental view introduced a more holistic time perspective to career behaviour, in which the individual’s past and future career experiences were also taken into account. These theorists
introduced new constructs such as career stages, developmental tasks, career exploration and career maturity. They proposed that an individual’s career path involves the predictable progression through a series of continuous, sequential, linear, hierarchical and cumulative stages. In each stage, prescribed developmental tasks are confronted and mastered. These challenges provide opportunities to learn about oneself and the world of work and to develop a vocational identity. In this way interests are formed and focused. The individual is able to enter a career and adjust to work and develop in the role of worker (Lent, 2005). Super (1977, p. 295) describes the career path as follows”…it is the course of events which constitute a life; the sequence of occupations and other life roles which combine to express one’s commitment to work in his or her total pattern of self development”.

Both trait-factor and developmental approaches offered important insights, tools and data explaining the mechanisms of continuity and change within the individual’s career experience. However, a single glance at the current career landscape raises many questions about the continued relevance of some of their assumptions. The stability of the career landscape that formed the backdrop for the formulation of the trait-factor approach is increasingly been eroded by numerous changes within the social, political and economic arenas. Fouad and Zao (2000) note that the biggest change in the work environment is the need to cope with change itself. The sequential stage-like unfolding of the individual’s career path, predicted by the developmental theorists, has also been challenged by the appearance of a multidirectional career development process in the new boundaryless career landscape (Briscoe & Hall, 2006). As the economy has progressed first from the industrial, to the service and now to the information age, the career experience and decision-making process has become far more multidimensional and complex, and the very nature of work has changed (Fouad & Zao, 2000). As globalisation comes to characterize all sectors of the economy, bringing with it increased competition and escalating economic pressures, the consequences have been economic recession, downsizing and restructuring (Baruch, 2006). The work environment is becoming increasingly unpredictable and less stable (Reese & Miller, 2006; Sullivan, Carden & Martin, 1998). Secure jobs are giving way to more transitional and temporal positions. Individuals’ career choices have become much more a function of what is available, rather than what is desired or what fits with one’s inherent character (as predicted by trait-factor theories), or stage of career development (as forecast by developmental theorists).
Another trend which continues to impact on the career landscape and which was not directly addressed by the original trait-factor and developmental career theories, is the significant demographic shifts that began taking place in the labour market. Increasingly women and individuals of diverse ethnic origin have been entering the mainstream world of work (Reese & Miller, 2006). These shifts have brought with them a need for greater attention to be paid to the role of contextual factors, as well as raising a number of new issues for consideration, such as cultural sensitivity, sexual harassment, discrimination, cultural barriers and unique gender concerns. In the new global economy the career landscape has become increasingly competitive. Few individuals have the luxury of choice or the opportunity to pursue their interests, especially those individuals who have traditionally held minority status or been previously disadvantaged politically, socially and economically. Numerous barriers resulting from the lingering effects of various historical forms of institutionalised racism and sexism continue to hamper the career development of a large and growing portion of the workforce. Typically their educational opportunities, financial resources, exposure to relevant role models, occupational information and family support have been compromised. By way of example, De Bruin (1999) points out that the experience of an uninterrupted, effective and smooth educational and career development path is highly unlikely for a large proportion of the South African population, who continue to be compromised by a lack of financial resources and exposure to an inadequate educational system.

Difficulties in dealing with these demographic shifts were exacerbated by the fact that mainstream career theorising continues to be culture bound and underpinned by Western, Eurocentric, individualistic and patriarchal world views. In this context autonomy and individualism are esteemed and it is assumed that the concerns of men and women are the same. In line with these assumptions, research supporting this theorising continues to be based exclusively on white, male, upper to middle class American college student samples. Thus, the career experiences of women who are confronted with unique challenges, such as role conflict and overload (Harris, 2004; Naidoo & May, 2006) and diverse populations, who may have more collectivist worldviews and be exposed to many more contextual challenges, have remained largely unexplored.

In response to the increasing gap between the map and the territory it is attempting to describe, scholars within the field of vocational psychology began to integrate and synthesise competing theoretical constructs and to consider contextual factors (Stead & Watson, 1998a,
A new emphasis on multiculturalism emerged, which according to reviews conducted by Betz (2007) and Gainor (2006), has shown steady growth, although it continues to remain limited, relative to other areas of research within career development field. In addition, efforts have been made to bring together within a single approach what is known about both stability and change and their interaction within the career domain, viewing these constructs as complementary (Lent, 2005).

Some original theories have been updated, expanded and refined. For example, in extending his concept of career to include all life roles that an individual experiences, and introducing the concept of role salience, Super (1980) accounted for the more complex, multidirectional nature of the individual’s career path (Freeman, 1993; Herr, 1997; Watson & Stead 2006c). Super (1980) has also addressed the work experiences of diverse populations through his International Work Importance Project (Super, Sverko & Super, 1995). In a similar vein, Holland’s trait-factor theory has been updated and refined to give consideration to contextual and demographic factors that influence career choice (Nel, 2006; Sharf, 2002). Considerable research has been conducted amongst these diverse populations to validate his instruments, the nature of interests, and his concept of congruence in diverse cultures.

New theories have also emerged. Gottfredson (1981, 2002) describes how an individual’s occupational aspirations are compromised and circumscribed from early in their lives by intelligence, ability and contextual factors, such as socio-economic status, race and gender. Vondracek, Lerner and Schulenberg (1986) formulated a developmental-contextual model which examines contextual variables such as culture, physical, social and material resources.

In line with these new developments, Lent et al. (1994) have developed a model of career behaviour (SCCT) that both complements existing career theories and provides a theoretical framework for integrating findings and constructs from these theories (Lent & Brown, 1996). Emphasis has shifted from a fit between personality and the work environment, to adaptation to the work context. The linear, stage-like explanations of change have given way to a focus on how specific behaviours are learnt throughout the individual’s lifetime, and the various factors and processes that facilitate or hamper this learning (Lent, 2005). Gender role socialisation processes and socio-cultural influences on behaviour and how these interact with self-efficacy and other socio-cognitive person factors, are explicitly addressed. SCCT has drawn extensively from the work of Bandura (1977a, 1977b, 1977c, 1978a, 1978b, 1982,
1986, 1997), extending his Social Cognitive Theory and constructs to the domain of career theory, and emphasising learning, personal agency and cognitive processes in career development.

The attention given to contextual factors makes SCCT particularly useful for explaining the career behaviour of previously disadvantaged citizens in a country like South Africa. In this context, educational and career opportunities have been structured by external factors, such as racial and gender discriminatory institutional policies (De Bruin, 1999). In addition, numerous studies utilising this theoretical framework have been conducted within the career domain and a sizeable amount of evidence has been accumulated to substantiate its many hypotheses and various models (Betz, 2007; Gainor, 2006).

In the section below, the propositions and assumptions of SCCT which are relevant to this study, are presented and discussed in relation to Bandura’s work. In addition, relevant research findings within the career field that substantiate the SCCT hypotheses, are included.

2.3 The Triadic Model of Reciprocal Causality

Bandura’s Social Cognitive Theory (SCT; 1977a, 1977b, 1977c) has its roots in learning theory and was originally referred to as the Social Learning Theory. The core assumption of SCT is that an individual’s behaviour is the outcome of the continuous reciprocal interaction between the person, his or her behaviour and the environment—a process encapsulated in the Triadic Reciprocal Determinism Model of Causality (Bandura, 1977b). In contrast to other career models, behaviour, which is viewed as distinct from internal and physical characteristics of the person, is considered a co-determinant of career outcomes, and not simply a by-product (Lent et al., 1994). In each situation the individual has a number of behavioural responses from which to choose and this choice is the result of the continuous and reciprocal interaction between person, contextual and behavioural variables.
2.3.1 The person: The first vertex of the Triad of Reciprocal Causality

According to SCCT, person inputs are individual difference variables such as cognitive inferences, personality tendencies, abilities, gender, race/ethnicity and disability/health status (Schaub & Tokar, 2005). The understanding of these individual differences rests on a number of assumptions about human nature, personality, development and motivation.

a) Assumptions about human nature

Lent and Maddux (1997) suggest that SCCT includes elements of Phenomenology, Positivism and Constructivism in its conceptualisation of human nature. Phenomenology is evidenced in the acknowledgment given to subjective impressions, and its rejection of mechanistic models of human behaviour. Positivism is identified in SCCT’s view that behaviour has knowable causes, albeit that they are multiple (Meyer, Moore & Viljoen, 1997). Constructivist leanings are apparent in SCCT’s acknowledgment of the multiplicity of behavioural causes, originating both within the individual and the environment as well as its emphasis on personal agency. The individual is conceptualised as an active agent in his or her own destiny, proactively shaping and influencing his or her experiences and development, albeit within contextual constraints. People are assumed to be capable of self-regulation, by exercising direct control over their own behaviour and choosing or altering environmental conditions, which in turn, influence their own behaviour (Bandura, 1977b). Forethought, anticipation and the active
construction of meanings are highlighted in the individual’s interaction with the environment (Bandura, 1977b; Lent et al., 1994).

b) Assumptions about personality

SCT and SCCT do not specifically theorise about personality. Instead, Lent et al. (1994) consider their view of a self system, which focuses on the dynamic, situation specific and responsive aspects of behaviour, as complementary to insights presented by the trait–factor approaches. Lent (2005, p. 103) explains:

   By focusing on cognitions, behaviour and other factors that, theoretically are relatively malleable and responsive to particular situations and performance domains, SCCT offers an agenda that is complementary to that of trait factor perspective - namely, how people are able to change, develop and regulate their own behaviour.

Recently, researchers utilising the SCCT framework have begun to consider the role of personality in relation to various socio-cognitive mechanisms (Borgen & Betz, 2008). In these instances personality has been defined as a non-cognitive dispositional attribute, which is an aspect of the person inputs in the triad of reciprocal determinism. It predates and contributes to the formation of self-efficacy beliefs and other cognitive mechanisms and processes of personal agency. Costa and McCrae’s (1992) Five Factor model of personality has been used to measure personality in this framework. Initial findings indicate moderate relationships between the Big Five factors and self-efficacy for Holland's RIASEC occupational themes (Betz, Harmon & Borgen, 1996; Hartman & Betz, 2007; Schaub & Tokar, 2005). Support is also provided for Lent et al.’s (1994) proposition that self-efficacy mediates the relationship between personality and interests (Nauta, 2004).

c) Assumptions about development

SCT and by way of extension SCCT, do not offer a model of development in which broad developmental stages are delineated and early psychodynamic experiences are emphasised (Lent, 2005). Neither do they provide a description of the developmental processes of change resulting from the interaction between genetic and environmental factors (Meyer et al., 1997). Instead, SCCT proposes what Lent et al. (1994) describe as a cognitive, constructivist
approach to developmental theorising. Development is conceptualised as a lifelong process that is influenced primarily by what is going on in the present. The mastery of specific mechanisms of personal agency, the formation of career interests and the selection of a career path are the focus of this process. Learning experiences mediated by cognitive abilities and processes are posited as the means by which these key developmental tasks are mastered. In addition, these activities are contextualised within the broad socio-cultural environment, which plays a significant role in shaping, enhancing, facilitating or inhibiting, interrupting and hampering career progress.

d) Assumptions about motivation

Bandura (1977a), whose work on which this approach is based, defines motivation as concerned with the activation and persistence of behaviour. He rejects the notion that human behaviour is driven by needs and unconscious impulses on the basis that behaviour is too complex to be reduced to a single explanation, and that these needs and drives are more likely to be the product of behaviour, rather than its cause. In addition, Bandura (1977a, 1977b) argues that an exclusive focus on internal causes of behaviour is unable to explain situation-specific behaviour, which is the focus of SCCT. He also rejects exclusively environmental explanations for motivation on the basis that they fail to explain the continuity in the individual’s behaviour (Bandura, 1977a, 1977b).

Instead, Bandura (1977a, 1977b) posits that to a large extent, individuals—in interaction with their environment and their behaviour—determine their own motivation, and that their cognitive capacity to represent future consequences in thought, plays a key role in this process. These anticipated valued outcomes of an action serve to motivate individuals to engage in their current behaviour so as to attain future results (Bandura & Adams, 1977). Another cognitively based source of motivation identified by Bandura, Adams and Beyer (1977) takes the form of goal setting and self-evaluative reactions. Based on previous performance accomplishments, individuals set standards for their own behaviour and evaluate themselves against these standards. Any perceived negative discrepancies between their performance standards and their current performance generates dissatisfaction, which then motivates the individual to take corrective actions. In this way, people create self-inducements to persist in their efforts until their performance matches their self-prescribed standards (Bandura, 1986). Thus, both the anticipated satisfaction of desired accomplishments and the
negative appraisals of insufficient performance provide incentives and motivate action (Bandura, 1977a, 1977b).

2.3.1.1 The self system and its components

As mentioned above, Bandura (1978b) proposes the existence of a self-system which operates as the “command centre” for the individual’s behavioural responses. It is constituted by cognitive and affective structures and includes certain primary cognitive abilities, which make the operation of this command centre possible (Lent & Brown, 1996). The SCCT model focuses on two key cognitive structures as constituting the command centre of behaviour: the mechanisms of personal agency and the individual’s self-regulatory capacity.

Personal agency is defined as the extent to which the individual takes responsibility for and ownership of the task at hand. It is comprised of three beliefs structures: self-efficacy beliefs, outcome expectations and goals. Self-regulation is understood as the learner’s ability to regulate his or her own behaviour, particularly his or her learning experiences. It includes both self-reinforcement and self-punishment as the mechanisms through which self-reinforcement is achieved (Meyer et al., 1997).

The cognitive structures of self-efficacy, outcome expectations and goals, which inform the individual’s personal agency, are acquired through four types of learning experiences or sources of self-efficacy information: performance accomplishments, vicarious learning, social persuasion and emotional arousal. These learning experiences are powered by the individual’s cognitive abilities to symbolise, have forethought, learn vicariously from others, and to engage in self-reflection, and are strongly influenced by the individual’s self-regulatory capacity.
A description of the mechanisms of personal agency, their origins in the four types of learning experiences and the individual’s self-regulatory capacity is presented in the following section.

a) **Mechanism of personal agency of the self system**

Betz and Hackett (1987) describe personal agency as the tendency of individuals to initiate and direct their own behaviour rather than simply react to the environment. They relate the term agency to pro-action, assertiveness and persistence, and note that agency is expressed through self assertion, self-expansion and the desire for mastery. Bandura (1986) identifies three primary cognitive mechanisms which enable this personal agency, namely self-efficacy expectations, outcome expectations and goals, all of which are considered to be the result of cumulative learning experiences (Sullivan & Mahalik, 2000). Each of these mechanisms not only interacts with the other in complex, reciprocal ways, but they also interact in mutually influencing ways, with environmental and behavioural variables to produce behaviour (Williams & Subich, 2006).
i. Self-efficacy expectancies of personal agency

Self-efficacy expectancies describe beliefs or expectancies that individuals hold about their competencies with respect to the behaviours necessary in a particular domain (Betz & Voyten, 1997). Betz and Hackett (1987, 2006) note that this concept has generated extensive empirical research within the broader psychological research domain. Fairly recently it was introduced into the domain of vocational psychology by Hackett and Betz (1981) and Betz and Hackett (1981), and applied to the understanding of women’s career choice and development. Within the vocational domain, these cognitive expectancies are collectively referred to by the generic construct of career self-efficacy (Lent & Hackett, 1987), which is defined as one’s subjective impressions of one’s ability to perform career relevant activities or occupational tasks (Donnay & Borgen, 1999). Since the construct of self-efficacy expectancies was introduced into the career landscape, it has been applied to many areas of academic and career development with a wide range of populations and groups (Betz & Hackett, 2006). Numerous authors consider it to be the most powerful and pervasive of the agentic variables. In addition, research within the vocational field has found self-efficacy expectancies to be predictive of an individual’s academic and career interests (Betz & Schifano, 2000; Rottinghaus, Lindley, Green, & Borgen, 2002), choices (Niles & Sowa, 1992; Sullivan & Mahalik, 2000; Taylor & Betz, 1983) and performance (Betz & Borgen, 2000; Betz & Hackett, 1986; Hackett, Betz, Casas & Rocha-Singh, 1992; Multon, Brown & Lent, 1991). In her most recent review, Betz (2007) concludes that self-efficacy has proven to be as useful a construct in the career context, as it is in the broader psychological domain.

An individual’s self-efficacy beliefs are assumed to vary along three dimensions: magnitude, generality and strength (Lent et al., 1994). The magnitude of the self-efficacy expectations refers to the level of difficulty the individual feels capable of attaining. Generality is the degree to which expectations of personal efficacy can be generalised to other behavioural domains. The strength describes the durability of efficacy expectations in the face of disconfirming or dissuading experiences.

Self-efficacy has mostly been studied as a domain-specific cognition, with research demonstrating that when self-efficacy beliefs closely correspond to the task with which they are compared, their predictive value is enhanced (Pajares, 1996). The domain specificity of self-efficacy beliefs was also demonstrated by Smith and Fouad (1999) and Lent, Brown,
Schmidt et al. (2003b) in the subjects of college maths and science, and science and engineering, respectively. Fouad, Smith and Zao (2002) found evidence in the subjects of English, art and social studies and Larson and Borgen (2006) verified the domain specificity of self-efficacy with regard to Holland’s occupational themes.

Lent and Brown (1996) note that self-efficacy expectancies have often been confused with other self-referent beliefs within the literature, specifically self-concept, self-esteem and locus of control. They explain that differences between these constructs are evident in a number of areas. Firstly, the domain specificity of self-efficacy beliefs distinguishes it from other self-referent beliefs such as self-concept, self-esteem and locus of control. While these concepts also reflect subjective assessments of oneself, unlike self-efficacy beliefs, they are conceptualised at a more global level of the self-system. Firstly Betz (2001) explains that individuals’ self-concept describe their impressions of their behavioural, affective and cognitive aspects of their self. Self-efficacy may be only one of the cognitive inferences constituting individuals’ self-concept. For example, they may have high self-efficacy expectations with regard to their maths achievement, but may simultaneously have an overall negative self-concept, which they base on more global assessments of their overall functioning in the world.

Similarly, individuals’ levels of self-esteem reflect their subjective impressions of their overall self-worth, and refers to the affective, evaluative aspects of self-concept. Self-efficacy judgements may or may not contribute to these perceptions of self-worth, depending on the criteria on which individuals base their evaluations. Individuals who regard themselves as highly efficacious at any given activity, may simultaneously not derive self-esteem from this activity. The converse may also be true—individuals may experience an overall sense of self worth, without feeling efficacious at a particular task.

Internal locus of control is another related construct that is often confused with self-efficacy expectations (Betz, 2001). According to Rotter (1966), locus of control identifies individuals’ judgements regarding whether control for their life experiences lies within them or within the realm of chance, fate or is external to them. As with self-esteem and self-concept, these cognitive beliefs or inferences tend to be generalised across a variety of situations, unlike self-efficacy evaluations, which have been shown to be typically domain specific. For example, Bandura (1977b) states that individuals may show strong internal locus of control in general,
but believe they have low skill levels in certain areas, which would lead to low efficacy perceptions on those tasks.

Although self-efficacy beliefs generally lose their predictive power the more generalised the task, Bandura, Adams, Hardy and Howells (1989) report that on certain occasions, under very specific conditions, self-efficacy expectations may be more generalised. These conditions include situations when the skills required to accomplish a dissimilar activity are co-developed, when differing tasks require similar skills and when commonalities are cognitively structured across activities. Self-regulatory skills may for example enable students to generalise their self-efficacy beliefs and improve their performance across varied academic activities (Meyer et al., 1997).

Bandura (1977a) identified four sources of learning experiences, and various forms of learning and reinforcement processes through which self-efficacy beliefs are initially learnt and subsequently modified. These sources include performance accomplishments, vicarious learning experiences, social persuasion or encouragement and the individual’s own state of emotional arousal. Bandura et al. (1997) note that these various efficacy experiences contribute differentially to the individual’s sense of personal mastery, with the distance from the individual’s personal experiential base being a determining factor. Bandura (1986) also makes reference to self-regulated learning processes, which include various forms of reinforcement, and are considered critical to the learning process. These sources of learning are thought to originate in one’s family of origin and to be influenced by background variables (such as gender, ethnicity and socio-economic status) and the nature and quality of educational opportunities (Betz, 2004).

**Performance accomplishments:** Bandura (1977b) asserts that when people learn through direct experience, their behaviour changes as a result of them performing the behaviour. This source of personal agency is considered to have the most powerful effects on self-efficacy beliefs, because it is based on authentic mastery experiences (Bandura et al., 1977; Lent et al., 1994). The superior influence of performance accomplishments has been verified in a number of studies (cf. Matsui, Matsui & Ohnishi, 1990; Sullivan & Mahalik, 2000; Williams & Subich, 2006).
Other factors influencing the impact of this source of self-efficacy information are related to the task, the individual’s attribution style and dispositional affect. In relation to the task, Bandura (1980) lists the difficulty level of the skills to be acquired, the variability of the opportunities for enacting the task, the amount of effort expended, the extent of external aid received and the temporal pattern of successes and failures as potential moderators of self-efficacy derived in this manner. Pajares (1996) explains that individuals’ causal attributions about the success or failure of their actions are presumed to influence their subsequent performance expectancies. For example, problematic attribution styles (such as attributing successes to external factors and failures to ability, rather than unusual situational variables or chance) may inhibit the potentially positive effects of performance accomplishments on self-efficacy and outcome expectancies (Meyer et al., 1997). Lent et al. (1994) have also speculated about the influence of dispositional affect, suggesting that tendencies to experience negative or positive affect might influence the way in which people process efficacy-relevant information.

In terms of the role played by contextual factors in moderating the impact of performance experience, De Bruin (1999) provides the example of the poorly equipped education system in rural South Africa, and its impact on this underprivileged population in subjects like science. As a result of the legacy left by the apartheid system, many of the schools in underprivileged rural areas remain severely under-resourced. Without scientific equipment for experiments, a laboratory and well qualified science teachers, no opportunities are provided for the child to master any of the skills required in this domain and so to acquire self-efficacy beliefs in this regard. A similar pattern is evident amongst women with regard to traditionally male occupations (Betz & Borgen, 2000). Their under-representation in these fields has also been attributed to limited access to opportunities for performance accomplishments in these areas.

**Vicarious experiences:** Although performance accomplishments are the most powerful sources of self-efficacy, opportunities for enacting mastery experiences are often limited. Bandura (1977b) explains that since much behaviour is far too complex, dangerous or removed from the individual’s natural instinctive responses, learning most often takes the form of observational learning and is derived from vicarious experiences. Witnessing others engage with a task or challenge and eventually succeed, can create expectations in observers that they too should be able to achieve some improvements in performance if they intensify and persist in their efforts (Bandura et al., 1977). Hoffner et al. (2006) found that role models
are a key source of work-related self-efficacy information for economically disadvantaged adolescents, especially those living in urban areas.

Exposure to various sources of vicarious learning is not enough for learning to be possible. The observer needs to pay attention to the model and thereafter retain the information to eventually reproduce the observed behaviour (Bandura, 1986). At any point along this chain of events, various other person, contextual and behavioural variables interact in mutually influencing ways to facilitate or hinder the individual’s progress. Factors relating to the observer, the modelled behaviour, the model, the consequences experienced by the model and the observer’s existing level of self-efficacy have also been mentioned as potentially intervening variables in the relationship between vicarious sources of self-efficacy and self-efficacy beliefs (Lent & Brown, 1996). These variables, along with Bandura’s (1986) notion of self-reinforcement explain why observers do not indiscriminately model all the behaviour they witness.

Another essential mediating factor noted by Bandura (1977c) and Betz (2004) is the extent to which the observer identifies with the model. Identification is usually facilitated by similarities between the model and the observer in terms of age, gender, ethnicity, status, capability and other personal characteristics (Bandura, 1977c). Leong and Serafica (2001) point to the centrality of the ethnicity of the role model, especially for those who have endured chronic experiences of ethnocentricism, racism, discrimination and prejudice. In these instances a sense of cultural mistrust may become a central component of the observer’s cultural identity and make the use of cross-cultural role models completely inappropriate. Betz (2004) suggests that this aspect of shared identity between the model and the observer is particularly important when the behaviour being modelled is considered non-traditional. However, as De Bruin (1999) notes that in many instances, because of the occurrence of discriminatory practises, these models are often in short supply. In addition, those who do exist are often previously exiled individuals who, although they share the same ethnicity/race, are likely to have experienced very different opportunities in their countries of exile. Hackett and Byars (1996) suggest that for a role model to have influence, he or she needs to have shared similar background experiences, especially where these background experiences have involved political, economic and social struggles and barriers.
The nature of the modelled behaviour and situational variables also plays a significant role in the effectiveness of vicarious learning. According to Bandura (1986) observers benefit more from witnessing models overcome their difficulties by struggling, exerting determined effort and exposing their vulnerability and anxiety. Together these characteristics compel attention and increase the credibility of the model’s efforts and success, thereby instilling trust (Gist, 1987). In addition, the consequences of the modelled behaviour need to be clearly evident. Gist (1987) advises that both vicarious reward and punishment are more likely to lead to the acquisition of behaviour when the modelled behaviour has a noticeable consequence for the model.

Finally, the characteristics of the observer need to be entered into the equation. Factors such as level of motivation, interests, values, existing levels of self-efficacy and self perceptions in general, intelligence, capabilities and perceptiveness determine which models will be selected, which behaviour will hold attention and which behaviour will be acquired and reproduced (Bandura et al., 1977).

**Social persuasion:** Bandura (1986) defines social persuasion as the process of encouraging and guiding people to believe that they can cope successfully with what has overwhelmed or defeated them in the past. The primary purpose of this verbal communication is to convince the individual of his or her capability to perform the task. Efficacy information generated in this way tends to lead to weaker inferences, which are readily extinguished by disconfirming information. This is because they lack an authentic experiential basis from which the individual can draw their own conclusions (Bandura et al., 1977). When used alone, they are limited as a means of creating an enduring sense of personal efficacy. However, when combined with enactive performance opportunities and particularly in corrective situations, Bandura (1977b) posits that their impact will be enhanced. Luzzo and Funk (1996) combined verbal persuasion with vicarious learning experiences in an attribution retraining intervention. Their results provided support for the combined effect of these two sources of self-efficacy information in improving career decision self-efficacy in college students with an external locus of control.

Bandura (1986) cautions that attempts to raise self-efficacy through persuasion without arranging facilitative conditions, can be particularly damaging. Not only will the individual’s likely failure reinforce his or her low expectations, but the persuader may be discredited and
his or her further efforts limited. De Bruin (1999) alludes to such a situation in the South African context. Since the abolition of apartheid, much encouragement and pressure have been placed on the previously disadvantaged to take advantage of their new freedom and the new educational opportunities open to them. However, this source of efficacy information has most often not been accompanied by exposure to other sources of self-efficacy information. (2007). Few bridging and educational support programmes are in place to give individuals opportunities for improving their skill repertoire and experiencing performance accomplishments, which would equip them to achieve success.

The efficacy value of social persuasion is moderated to a large extent by the recipient’s cognitive appraisal, and is strongly influenced by contextual factors and other person inputs such as ethnicity, and contextual factors (Bandura, 1986; Wood & Bandura, 1989). With regard to the persuaders, their perceived credibility, prestige, trustworthiness, expertise and assuredness are typical assessment criteria. As with all sources of efficacy information, the more believable the source, the more likely efficacy expectations are to be generated or modified (Lent et al., 1994).

**Emotional arousal:** Bandura (1977a) postulates that emotional arousal experienced in response to a situation, is another potential source of self-efficacy information. In this model, anxiety is regarded as a co-effect of behaviour and is based on the individual’s inferences about his or her ability to cope or perform in the existing situation (Bandura, 1999; Wood & Bandura, 1989). Since high levels of anxiety have previously been experienced as debilitating or associated with poorer performance, individuals are likely to infer from their state of arousal low expectancies about their ability to cope or succeed. Similarly, an emotionally calm state is likely to generate high self-efficacy beliefs as the individual concludes that his or her calmness suggests competency. Thus, reducing physiological arousal improves performance by raising efficacy expectations, rather than by eliminating the drive that instigates defensive behaviour. Evidence of this relationship between physiological arousal and self-efficacy was presented by Williams and Subich (2006). Arousal levels were found to predict unique variance in self-efficacy beliefs for women across the full range of careers detailed in Holland’s RIASEC model and for men in four of the six categories, excluding the artistic and enterprising domains.
Although physiological arousal is considered a less dependable source of efficacy information and extinguishing anxiety arousal is rarely a sufficient condition for eliminating avoidance behaviour, Betz (2004) suggests that it is likely to be a useful target for efficacy strengthening interventions. This appears to be especially true for non-traditional domains of behaviour where anxiety levels are likely to be high, as has been demonstrated amongst women entering traditionally male occupations. De Bruin (1999) notes that high levels of anxiety are also likely to be experienced by previously disadvantaged students entering South African universities. The legacy of the apartheid system has meant that many of these students are first generation students, lack adequate educational preparation and continue to experience language difficulties, all of which are likely to generate high levels of anxiety and negatively impact on their self-efficacy inferences. In this instance it would seem that anxiety management would need to be an important target for strengthening students’ self-efficacy beliefs.

As with all other sources of self-efficacy, the effects of emotional arousal will depend on how the situation or task is cognitively appraised. Appraisal of the sources of arousal, the situational circumstances under which the arousal is elicited and past experiences of how the level of arousal affects one’s performance, figure in the cognitive processing of this emotional reactivity (Bandura, 1999). Bandura (1986) notes that tasks performed in complex and ambiguous situations and in which the stimulus is evocative, are likely to provide information of a high expectancy value.

Although self-efficacy has proven to be both a theoretically and practically useful construct (Betz, 2000) it has not been exempt from criticism. According to Eastman and Marzillier (1984), this construct is confusing and lacks conceptual distinction from other aspects of personal agency, specifically outcome expectations. They claim that Bandura’s definition of efficacy expectations included reference to outcome expectations, implying that individuals’ evaluation of their prospective performance capabilities is inextricably intertwined with their consideration of potential outcomes of their behaviour. While the two aspects may be related, this is not necessarily the case (Smith & Fouad, 1999), as when individuals anticipate positive outcomes as a consequence of a particular level of performance, but have little confidence in their ability to perform at this level. Bandura’s (1984) retort to Eastman and Marzillier’s (1984) criticism, is to argue that self-efficacy beliefs reflect the individual’s anticipated pattern of behaviour that is being executed, and not its anticipated effects, consequences,
outcomes or affective experiences, as is the case for outcome expectations. Gore and Leuwerke (2000) have verified Bandura’s view, demonstrating that self-efficacy beliefs are related to, but empirically distinguished from outcome expectations.

**Self-regulation:** Although self-regulation is not one of the mechanisms of personal agency and is instead a separate cognitive constituent of the self system, it has been deemed appropriate to discuss it here because Bandura (1977b, 1986) notes that it plays a significant role in the operation of the above learning processes. He defines self-regulation as the learner’s ability to regulate his or her own behaviour, particularly his or her learning process. The mechanisms of self-reinforcement and self-punishment are used to achieve this regulation. Self-regulation processes are further differentiated into internal and external regulation, both of which can operate positively as self-reinforcement or negatively as self-punishment (Meyer et al., 1997). Internal self-regulation describes the subjective evaluation of behaviour. External self-regulation involves arranging the situation and the outcome of one’s behaviour so that one is able to reward or punish oneself in a concrete way (Bandura, 1977b).

Self-regulation, particularly internal self-reinforcement and punishment, is regarded by Social Cognitive theorists as one of the most important ways of learning, as it is fundamental to all other types of learning. Even where an individual is rewarded and punished by an external agent, the effect of the reward or punishment depends on the individual’s interpretation. Pajares (1996) cites various studies that have found self-efficacy to be related to self-regulated learning variables and learning strategies. Findings in this area suggest that students with high academic self-efficacy use more cognitive and meta-cognitive or self-directed learning strategies and persist longer in their learning endeavours. Similarly, Pintrich and De Groot (1990) conclude that self-efficacy plays a facilitative role in relation to self-direction in learning, thus indirectly leading to increased performance. Academic self-efficacy, they suggest, encourages the student to actively engage with and use cognitive strategies (self-directed) when learning, and that these strategies then lead to higher performance.

**ii. Outcome expectations**

The second mechanism of personal agency is outcome expectations, which are described as the subjective estimate of the probability of a particular outcome (Fouad & Guillen, 2006;
Hackett & Betz, 1981) and as personal beliefs about the consequences of an action (Bandura, 1977b). In SCCT, outcome expectancies are linked to probable outcomes of career decisions and behaviour. Along with efficacy expectations, Lent (2005) posits that outcome expectations form a part of the cognitive appraisals of situations, and choices regarding the three indices of behaviour, namely career approach, persistence and performance.

The relationship between self-efficacy expectations and outcome expectancies and behaviour is complex. Although self-efficacy expectations are posited to have greater predictive power with regard to behaviour, the relative contribution of each of these inferences is determined by the nature of the activity. According to Lent (2001), in situations where the quality of the performance guarantees particular outcomes, self-efficacy is seen as the dominant causal factor and outcome expectations as a partial determinant. Where outcomes are only loosely tied to the quality of performance, outcome expectations may be an independent source of motivation and behaviour (Bandura et al., 1989). This instance may be particularly relevant to the academic and career context, where the relationship between the quality of performance and outcomes is often weak. Lent (2005) provides an illustrative example of a person with high self-efficacy expectancies for maths, who may nonetheless choose to avoid a science intensive career if he or she anticipates negative outcomes such as non-support from significant others, work/family conflict or poor financial rewards. However, Bandura (1984, 1986) asserts that because the outcomes people expect are largely dependent on their judgements of what they can accomplish, outcome expectations are unlikely to make much of an independent contribution to predictors of behaviour when self-efficacy perceptions are controlled for. Findings from Ali, McWhirter and Chronister’s (2005) study of participants from lower socio-economic backgrounds were consistent with Bandura’s findings that vocational or educational self-efficacy beliefs significantly predict vocational outcome expectancies.

In a more recent expansion of SCCT, Lent, Brown and Hackett (2000) propose that outcome expectations may be classified along several dimensions, such as a valence (positive or negative), locus (self administered or other administered) or relative importance to the individual. In addition, they suggest differentiating outcome expectations along a temporal dimension. Although outcome expectations generally reflect beliefs about a future state of affairs, the consequences may be either short–term (proximal) outcomes or future (distal) outcomes. Within the career development process, distal outcomes would reflect what the
individual anticipates attaining once having succeeded at his or her particular career (such as status and financial reward). The *proximal outcomes* would be those conditions which the individual encounters en-route to this end. The value of this distinction is that it provides added information about the psychological environment surrounding the career decision process (Lent et al., 2000) and not just what individuals anticipate encountering once they enter their career.

In terms of the origin of outcome expectations, Schaub and Tokar (2005) and Williams and Subich (2006) found that although learning experiences were related to outcome expectations, this relationship was strongly mediated by self-efficacy. This research suggests that occupationally relevant learning experiences inform anticipated outcomes largely through their effect on the self-efficacy beliefs derived from those same experiences (Betz, 2007).

### iii. Goals

The third mechanism of personal agency is goals, which are seen as providing an important means through which people regulate their behaviour. Bandura (1986) defines goals as an individual’s intention to engage in a particular activity or to produce a particular outcome. Lent et al. (1994) note that goals are dependent on individuals’ ability to symbolise their intentions and are integral to the processes of career choice and decision making. Through goal setting, people are able to organise, direct and sustain their behaviour, even over long periods of time without external rewards as well as increase the likelihood of desired outcomes being achieved. In this way people are able to interact with environmental events and their personal history to gain some control over their future behaviour.

Goals play an important role in motivating behaviour and Bandura and Schunk (1981) identify four mechanisms which facilitate this motivational role: career plans, decisions, aspirations, and expressed choices. For these goal mechanisms to operate optimally, Wood and Bandura (1989) describe a number of important criteria that need to be met. Goals need to be specific, explicit, and broken into subcomponents. They should be challenging, refer to actions that are under personal control and set proximally to actual behaviour. Goals which are amorphous, global and distal tend to interfere with effective action.
SCCT differentiates between two types of goals: choice goals and performance goals. Choice goals relate to the type of activity or career the individual seeks to pursue or persist in. Performance goals reflect the level or quality of performance the individual plans to achieve within a chosen activity (Lent et al., 1994). Performance goals are further differentiated in terms of the degree of specificity and proximity to the actual choice implementation.

iv. The relationship between the sources of self-efficacy and three mechanisms of personal agency

Social Cognitive Theory, and by extension SCCT, states that important reciprocal relationships exist between self-efficacy, outcome expectations and goal systems (Bandura, 1986; Lent et al., 1994). Specifically, SCCT proposes that self-efficacy expectancies and outcome expectancies, albeit to a lesser extent, are informed by the four types of learning experiences described above. These expectancies then directly and indirectly, through their influence on interest development, contribute to goal formulation. Once an individual feels confident about his or her ability to achieve a particular task and anticipates positive outcomes in response to this task, he or she develops an affinity for these tasks or an interest in these activities and subsequently formulates goals for sustaining or increasing his or her involvement in the task. Through the goal mechanisms of aspiration, planning, organising, decision making and expressing choices over periods of time, engagement with the task is guided, sustained and enhanced (Lent & Brown, 1996). In addition, self-expectancies may also inform outcome expectancies.

In terms of reciprocal relationships, Lent (2005) explains that progress in attaining goals has a reciprocal influence on the individual’s self-efficacy beliefs and outcome expectations. By organising, directing and sustaining behaviour, goals facilitate opportunities to enact behaviours, attain performance accomplishment, and so provide further sources of information from which self-efficacy and outcome evaluations can be made. In this way a virtuous cycle is set in motion in which successful goal pursuit further strengthens self-efficacy and outcome expectations, which then reinforce further goal pursuit and the individual’s personal agency is reinforced (Lent, 2005). The converse is true too, if goal pursuit fails to produce successful behaviour. It should be reiterated that these relationships do not occur in a vacuum—they are mediated by a number of cognitive process, other person
inputs such as gender-ethnic-racial-cultural-social identity and environmental and behavioural cues (Lent & Brown, 1996).

Support for the existence of these relationships has been found in numerous studies, although research efforts examining the role of the sources of self-efficacy in personal agency development have been limited (Betz, 2007). The research that has been conducted, has taken place mainly within the domain of maths (Matsui et al., 1990) amongst Japanese university students and U.S. college students (Gainor & Lent, 1998; Lent, Lopez & Bieschke, 1991; Lopez, Lent, Brown & Gore, 1997) and occupational interest themes utilising Holland’s RIASEC model. The latter investigations concerned the impact of interventions, using one or more of the four sources of self-efficacy information as techniques for increasing self-efficacy beliefs. In these instances the predicted pathways between self-efficacy learning experiences and self-efficacy beliefs have been verified (Betz & Schifano, 2000; Luzzo & Funk, 1996; Sullivan & Mahalik, 2000).

Schaub and Tokar (2005) developed the first instrument to operationalise the sources of self-efficacy in relation to Holland’s RIASEC themes and referred to it as the Learning Efficacy Questionnaire (LEQ). Consistent with Bandura’s predictions, the four types of learning experiences for each RIASEC domain correlated in expected directions with both self-efficacy and outcome expectations for that domain (Schaub & Tokar, 2005). However, subsequent research by Williams and Subich (2006) showed that many of the individual LEQ scales have less than adequate reliability. Further studies are required to improve this instrument or to develop an alternative one, which would make the verification of these SCCT hypotheses possible.

Verification of SCCT’s hypothesized pathways between the three mechanisms of personal agency has been achieved in numerous studies within the domains of academic majors, including the work of Fouad et al. (2002). These and other related studies are discussed below in the context of literature pertaining to career processes. The career process models of SCCT specifically address the predicted pathways between the many components of SCCT in relation to career interests, choices and performance.

The above discussion focused on the various elements of personal agency. In addition to personal agency, SCCT also makes specific reference to gender and racial-ethnic-social-
cultural identity as important person inputs contributing to the individual’s career development. These characteristics are discussed in the next sections.

b) Race/ethnicity/culture and gender as person inputs

Biological race and sex characteristics are described within SCCT as person inputs. Their significance to the career context is derived from their social, cultural and psychological meanings (Lent et al., 1994). The incorporation of these variables into models of career development and choice has been cited as one of the major strengths of the SCCT approach (De Bruin, 1999; Gushue & Whitson, 2006). These variables are particularly relevant to this study in which a cross-cultural comparison is drawn between two groups of women students.

This section first addresses ethnicity, race and cultural characteristics, beginning with how these are defined, followed by a discussion of the generalisability of the SCCT model across these diverse ethnic/racial groups and a consideration of potential within-group variability. The same format is followed for the gender variables. A discussion of the SCCT model’s conceptualisation of how these person inputs relate to career development and behaviour concludes this section.

i. Race/ethnicity/culture person inputs

Arbona (1995) and Hackett et al., (1992) note that there is a great variability in the way people choose to identify themselves as well as in the terms used in the cross-cultural literature to describe persons of varying racial/ethnic/cultural backgrounds. Trimble (2007, cited in Ponterotto & Park-Taylor, 2007) describes the field of ethnic and racial research as being in a state of disorder and confusion, with different scholars using different definitions to describe these constructs. According to Quintana (2007), scholars within the cross-cultural literature have traditionally differentiated between the constructs of ethnicity and race. Ethnicity has typically been used to refer to socio-cultural characteristics such as shared ancestry, history, tradition and cultural traits (Cokley, 2007). Race has been used to differentiate groups in terms of their shared physical characteristics such as skin colour, facial features and other hereditary traits (Cokley, 2007). Quintana (2007) argues that more recently these boundaries have begun to blur. For example, Helms (2007), in defining race, has extended his descriptions beyond physical characteristics to include traditionally ethnic
criteria such as socio-political constructions. In addition, the American Anthropological Association (1997, cited in Helms, 2007) declared their formal opposition to treating race and ethnicity as distinct categories.

In response to calls to reclassify race and ethnicity as a single entity, three alternative solutions have appeared in the literature (Quintana, 2007). Helms and Cook (1999) propose reclassifying ethnic groups as racial groups; however this means that any prejudice attributed to ethnic differences (such as national origin, linguistic and cultural patterns) would be ignored. The converse was proposed by Phinney (1996), who chooses to consider race as a subset of ethnic groupings. However, this approach also leads to a neglect of the racial basis of social distance among socio-cultural groups. A more comprehensive alternative was proposed by Cross and Cross (in press, cited in Quintana, 2007). They propose the use of a unitary term that reflects all aspects, namely, ethnicity-race-socio-culture identity. Their rationalisation is that this combined term mirrors most accurately the phenomenological experience of minority populations, who are unlikely to consider themselves in terms of these artificial differentiations between racial, ethnic and cultural identities. This approach is adopted in this study. The term **racial-ethnic-socio-cultural person inputs** is used to refer to an individual’s shared sense of ancestry, history, tradition, cultural traits as well as the socio-political constructions that are associated with their physical characteristics such as skin colour, facial features or other hereditary characteristics.

In a review of the application and relevance of SCCT to diverse populations, Lindley (2005) indicates that the generalisability of many of the SCCT concepts to various international samples has been demonstrated. Within the U.S.A. context, Native (Lauver & Jones, 1991), African (Byars-Winston, 2006; Gainor & Lent, 1998), Asian (Gim, Atkinson & Kim, 1991; Tang, Fouad, & Smith, 1999), Taiwanese (Larson, Wei, Wu, Borgen & Bailey, 2007) and various Latino (Gushue et al.; McWhirter, Torres, Salgado & Valdez, 2007; Navarro, Flores & Worthington, 2007; Rivera, Blumberg, Chen, Ponterotto & Flores, 2007) minority groups have been studied. In the broader international arena, although scarce, research utilising this model has demonstrated its relevance to Chinese (Hampton, 2005), Taiwanese (Mau, 2001), Arab (Abdalla, 1995), Australian (Creed et al., 2002; Rogers, Creed & Glendon, 2008), Italian (Lent, Brown, Nota & Soresi, 2003) and South African (Creed et al., 2002; De Bruin & Bernard-Phera, 2002; Watson, Brand, Stead & Ellis, 2001) student samples.
Despite the evidence of the validity of SCCT in diverse populations, no clear pattern has thus far emerged with regard to the mean differences in self-efficacy levels (Lindley, 2005). Firstly, in terms of career interests and choice intentions, findings amongst various American minority groups have been inconsistent. A number of studies have reported that self-efficacy beliefs are important predictors of outcome variables for these groups (Bores-Rangel, Church, Svendre & Reeves, 1990; Gainor & Lent, 1998; Post-Kammer & Smith, 1986). Other researchers such as Lauver and Jones (1991), report that while career self-efficacy estimates were predictive of occupational consideration for Euro-American, American Indian and Mexican-American Latino high school students, the prediction equation varied as a function of ethnicity (Hackett et al., 1992). Recently, Rivera et al. (2007) found that career self-efficacy was predictive of career considerations amongst Hispanic university students and Gushue et al. (2006) report career decision self-efficacy to be related to a more differentiated vocational identity and greater engagement in career exploration tasks amongst Latino/a high school students.

Within the international community beyond the borders of the U.S.A., while the cross-cultural validity of some of the SCCT concepts has been demonstrated, the same inconsistent pattern has emerged. For example, in a study of Italian high school students, Lent, Brown, Schmidt et al. (2003) found that self-efficacy mediated the relationships of perceived environmental supports and barriers to career choice considerations. Abdalla (1995) demonstrated the relevance of the construct of career decision self-efficacy among Arab students. However, other studies have shown that SCCT variables may operate differently in different contexts. For example, amongst samples that have a collectivistic orientation, problems have been noted with the factor structure of the career decision self-efficacy scale. The subscales which reflect particularly individualistic conceptions have proven problematic amongst these samples. Creed et al. (2002) note these problems amongst a South African sample and Hampton (2005) reports similar problems with Chinese samples. In both instances the self-appraisal and goals setting subscales proved to be problematic. These subscales both reflect particularly individualist self-construals in which personal goals, self-reliance and independence are emphasised. Hampton (2005) hypothesises that problems with these subscales amongst the two samples reflect their common underlying collectivistic worldviews in which collective decision making is emphasised and the self is made meaningful in terms of its social relations. Similarly, Mau (2001) found that Taiwanese college students experienced more career decision difficulties than their Euro-American counterparts. He also
attributed these differences to the different cultural value orientations of each of these population groups. Unlike American students who, in line with their individualistic belief system, tend to make their own career decisions and emphasise self-efficacy, Taiwanese students are more likely to make career decisions that conform to their familial and societal expectations, thus making the decision making process more complex and reducing the contribution of self-efficacy beliefs.

Another example of how SCCT constructs may function differently in diverse international socio-cultural contexts was provided by Patton et al. (2003). Amongst matched samples of predominantly white high school adolescents from South African and Australian samples (Patton et al., 2003), differences were evident in the relationship between perceived career barriers and self-efficacy for career decision making. The South African sample showed a negative relationship between perceived career barriers and career decision self-efficacy, while no relationship was found in the Australian sample. Patton et al. (2003) attribute this difference to the unique economic context in which white South African students are considering career paths. Unlike the Australian white youth, white South African job seekers are confronted with additional external challenges. These include a climate of recession, increasing unemployment and the implementation of affirmative action policies, aimed at redressing past inequities in employment practices. In this context it is likely that perceived barriers are greater, less likely to be surmountable, and more likely to impact on individuals’ career pursuits and their confidence in their ability to succeed in these pursuits. Stead et al. (2004) confirm that financial difficulties and affirmative action were regarded as barriers among white South African high school students.

In a discussion by Hesketh and Rounds (1995) of the relevance of the self-efficacy construct to collectivist cultures, it was suggested that since the family or community and not the individual him or herself is the primary reference group in these cultures, collective self-efficacy should be considered. Confidence in these communities is more likely to arise from a sense of confidence in the family or group’s efficaciousness rather than from confidence in individual ability. They propose further that certain components of SCCT, such as its process aspects, may transfer more easily to other cultures than other content related aspects of the model. However, career decision self-efficacy is a process variable within the SCCT framework, and it has been found to be problematic in cross-cultural contexts. Clearly further research is required to make sense of these differences.
Another important consideration when examining cross-cultural experiences and effects is the role of within-group variability. Cross-cultural research is commonly criticised for its tendency to ignore potential within-group differences, such as level of ethnic-racial identity and levels of acculturation. Betz and Fitzgerald (1987) have referred to this as the cultural conformity trap and argue that neglect of these individual differences perpetuates stereotypes. However, this has not been the case with SCCT. Various studies conducted within the SCCT framework have verified the mediating effects of these intra-group differences with regard to the self-efficacy beliefs of diverse population groups. In terms of the role of ethnic-racial-cultural-social identity, individuals’ subjective level and/or nature of their identification with this identity (Corkley, 2007; Quintana, 2007), or their level of racial awareness are differentiated (Byars-Winston, 2006). In her study of black students attending a historically black university, Byars-Winston (2006) found that Black Nationalist ideology, which describes a strong and positive identification and affiliation with being black, positively correlated with career interests and perceptions of career barriers. Byars-Winston (2006) speculates that the positive relationship between Black Nationalist ideology and career interests may be related to the affirming context of the historically black university, which is likely to encourage a psychological form of racial resistance against occupational stereotypes. In terms of career barrier perceptions, she explains that her sample’s strong Nationalist ideology is likely to have sensitised them to potential societal discrimination and its effects on career expectations.

Another central component of ethnic identity which has been reported within the SCCT framework to affect career development and account for within-group variability is acculturation (Leong & Serafica, 2001). The process of acculturation describes the changes in behaviours, values and attitudes that occur as an individual begins to adapt to and function in a new or different culture (Casas & Pytluk, 1995). Acculturation is posited to have an influence on the individual’s perceptions, self-efficacy beliefs; types of activities they are willing to engage in, and in turn the types of careers they are willing to consider. Various models have explored how people acculturate, proposing a progression through a series of stages which are typically differentiated in terms of the individual’s attitude towards his or her own and the host culture (Bowman, 1993). Tang et al. (1991) demonstrated that level of acculturation played a significant role in influencing career self-efficacy and career choice amongst their sample of Asian American students. Flores and O’Brian (2002) and McWhiter, Hackett and Bandalos (1998) note that career self-efficacy and development were influenced
by an interaction between level of acculturation and gender amongst Hispanic and Mexican Americans high school girls respectively. Flores and O’Brien (2002) report that level of acculturation accounted for significant variance in their samples’ educational and career expectations. The greater the acculturation to Anglo culture, the greater the consideration of more prestigious and more female-dominated types of careers for this sample of Hispanic adolescent girls. McWhirter et al. (1998) found that level of acculturation had an indirect influence on the educational plans and career expectations of their sample of Mexican American high school girls, through its influence on family commitment and gender role attitudes. More recently Rivera et al. (2007), in their study of Hispanic women attending an urban community college in the U.S.A, found that Anglo acculturation significantly contributed to female dominated career self efficacy. However, not all studies have been supportive of the influence of acculturation. Navarro et al. (2007) found that no relationship was evident between acculturation, past performance accomplishments and self-efficacy for math/science, among Mexican middle schools students.

From the above it can be concluded that, although the validity and relevance of SCCT has been demonstrated in several studies across diverse population groups, both within the U.S.A. and the broader international context, no clear pattern has emerged in terms of the mean differences in self-efficacy levels. Amongst U.S.A. minority communities, findings regarding all three career processes including interests, choices and performance, have been inconsistent. Within the international community beyond the borders of the U.S.A., preliminary findings have suggested that in some instances, SCCT constructs may operate differently than predicted by this framework. Collectivistic cultural values and unique contextual variables have been identified as potential contributing factors. In addition, within-group differences such as social identity and acculturation have been shown to impact career relevant constructs within the SCCT framework.

ii. Gender

Gender is viewed as an important person input within the SCCT model and is defined in terms of the socio-cultural constructions, ascribed to physical characteristics (Betz, 2002; Lent et al., 1994). Lindley (2005) notes that the earliest research within the vocational domain utilising the construct of self-efficacy, focused on its applicability to women’s career development and specifically the influence of self-efficacy on traditional versus non-traditional career options
considered by women (Betz & Hackett, 1981). Since these initial studies, the body of research that has accumulated suggests that overall, women tend to exhibit lower levels of self-efficacy beliefs for a variety of career related variables than men, and that these compromised self-inferences operate as significant cognitive barriers, restricting their career development and narrowing their career interests, choices and performance (Betz, 2001).

In terms of the traditionality of career options, and in line with Betz and Hackett’s (1981) and Hackett and Betz’s (1981) original findings, subsequent research has consistently shown that young women report stronger self-efficacy for occupations that are traditionally dominated by women, and that these beliefs are linked to their interests and consideration of traditional and non-traditional career pursuits (Lent, Brown & Larkin, 1986; Rotberg, Brown & Ware, 1987). These include the social domain of activity, for example teaching and counselling (Betz, 2005). Typically, women have shown lower self-efficacy for non-traditional female career fields such as technical, math/science and engineering academic and career choice (Betz & Hackett, 1981; Nauta & Epperson, 2003) and performance and persistence in related school subjects and college majors (Hackett et al., 1992; Lent et al., 1986). These differences are consistent with stereotypical patterns of gender socialisation (Betz, 2005).

Women continue to be under-represented in math related areas, thus explaining the focus in gender research on this variable (Betz, 2005). A lack of a math background, Betz (2005) argues, constitutes one of the major barriers to women’s career development. A considerable number of studies have consistently supported the existence of lower self-efficacy for this subject amongst women (Betz & Hackett, 1983; Hackett & Betz, 1985; Lent et al., 1991; Navarro et al., 2007); the predictive relationship of math self-efficacy to math performance and achievement in women (Siegel, Galassi & Ware, 1985) and the importance of math self-efficacy to science or math relatedness of career choice (Hackett & Betz 1989; Lapan, Shaughnessy & Boggs, 1996; Post-Kammer & Smith, 1986).

In terms of career interests and self-efficacy gender research, Holland’s RIASEC model has been utilised to represent possible career interests. Lindley (2005) notes that the highest and most consistent discrepancies between men and women, have been for Realistic and Investigative occupational themes. Women have demonstrated consistently and significantly lower levels of confidence for Realistic interests, while men have typically been found to have
It is apparent from above that a sizeable body of evidence has been accumulated verifying a consistent trend of mean difference in self-efficacy between men and women, with women consistently reporting lower levels of self-efficacy for traditional male occupations, math and Realistic and Investigative interest themes. These low levels of self-efficacy expectancies serve as significant internal barriers narrowing their academic and career choices and performance. However, Lindley (2005) cautions against overstating these differences and ignoring the variability amongst women. For example, Betz, Borgen, Kaplan and Harmon (1998) found fewer gender differences amongst those who were already employed in a particular occupational field, albeit a non-traditional field for women. Similarly, Lent, Brown, Schmidt et al. (2003) found no gender differences in self-efficacy among engineering students and Betz and Borgen (2000) suggest that fewer gender differences have been found with regard to career interests when career choices have already been made.

Gender research within career psychology has been criticised for treating women as a homogenous group and ignoring intra-gender variability. The SCCT model, however, has attempted to address these concerns. These efforts have involved examining the moderating effects of various gender-related constructs on career indices amongst women. They include the level of conformity to gender roles (Tokar et al., 2007), level of traditionality of career preferences (Mathieu, Sowa & Niles, 1993), level of gender bias (Ancis & Philips, 1996) and sex role orientation (Gianakos & Subich, 1986). These constructs share the understanding that the extent of an individual’s identification with certain gender defined traits, roles, expectations or norms contributes to intra-gender differences on the same career indices (Letlaka-Rennert, Luswazi, Helms & Zea, 1997) amongst women. For example, Ancis and Phillips (1996) mention that women students who perceive a greater degree of gender bias in their undergraduate experiences also report lower self-efficacy. Similarly, Gianakos and Subich (1986), Abdalla (1995) and Brown et al. (2006) report that sex role orientation, and not sex difference, was strongly related to vocational undecidenedness and low career decision self-efficacy. Alternatively, these intra-gender variables were found to partially mediate the relationship between gender and the career variable in question. In this regard, Tokar et al. (2007) report that conformity to gender roles directly contributed to learning experiences which serve as sources of gendered self-efficacy beliefs across Holland’s RIASEC model. In
addition, the effect of gender on these learning experiences was at least partially mediated by conformity to gender role norms.

In studying black South African women attending a historically black university, Letlaka-Rennert et al. (1997) applied Helm’s womanist identity model to differentiate various stages/states of gender identity, and how these produce within-gender differences in self-efficacy beliefs. Theoretically, Letlaka-Rennert et al. (1997) explain that positive progression in womanist identity develops from the least personally empowered status (pre-encountered) through to the most personally empowered ego state (internalisation). In their study of black South African women students, they found that the pre-encounter state was the most important aspect of gender identity for black middle-class South African women, thus suggesting that some black women have responded to sexism by internalising the status quo and making it their primary way of viewing themselves. In addition, the researchers examined the relations between the various womanist identity states and self-efficacy. Women high in pre-encounter and immersion-emersion attitudes were low in self-efficacy and a positive relationship was found between the internalisation identity state and level of self-efficacy. This suggests that the more personally empowered the black women student feels, the higher her self-efficacy beliefs were likely to be. This confirms that within-group differences in gender identification mediate the relationship between gender and self-efficacy beliefs for women.

Another significant potential intra-gender factor is racial-ethnic-socio-cultural identity. Lindley (2005) notes that although women of colour are a particularly under-researched population in the career literature, initial findings suggest that self-efficacy may be a particularly potent variable in this sub-population. Research amongst diverse samples, including Japanese (Matsui et al., 1989), Mexican American (Caldera, Robitschek, Frame & Pannell, 2003; Flores & O’Brien, 2002), Arab (Abdalla, 1995) and African American (Chronister & McWhirter, 2004; Gainor & Lent, 1998) women have demonstrated that gender patterns replicate those found in European American samples. However, both Betz and Fitzgerald (1987) and Yang (1991) have speculated that for women of colour, it is likely that the effects of gender on their career development may be more extreme and compounded by the socio-political and economic meanings of their racial-ethnic-socio-cultural identities. Betz and Fitzgerald (1987) have referred to this possibility as the “double jeopardy” faced by African American women as they negotiate both sexism and racism. Betz (2005) notes that
women of colour, while being employed at rates similar to white women, continue to earn less than white women and minority men and tend to occupy menial jobs at a rate exceeding that of white women. Yang (1991) describes the experience of Asian American women as one of “triple jeopardy”. For this group, the struggle is not only with cultural impediments to equality between men and women that are perpetuated by the Confucian patriarchal ideology, but also with problems resulting from the social ramifications of sexual and racial differences. McWhirter (1997) notes a similar experience among Mexican American female students, who appear to more frequently anticipate gender and ethnic discrimination than their Euro American counterparts.

Similar challenges confront women of colour within the South African context (Erasmus & Sadler, 1999). Not only have they encountered many years of institutional racial and gender oppression but, as Letlaka-Rennert et al. (1997) note, they continue to experience customary forms of gender oppression as well. Within the African patriarchal system, women continue to be treated and valued as possessions and are objectified by members of their own racial group. By way of example, Letlaka-Rennert et al. (1997) refer to the tradition of “labola” or the traditional system of bride wealth. Originally intended to protect women’s rights, it now provides for patriarchal control and continued subordination of women. In addition, this control by the African patriarchs is maintained by co-opting the senior women in the community to help control the younger women. These cultural and socio-political experiences are likely to contribute to significant differences with regard to the career development of black and white South African women.

In summary, SCCT predictions with regard to the influence of gender (as a person input) on self-efficacy beliefs have been verified in numerous studies. A consistent pattern of lower levels of self-efficacy beliefs amongst women for traditionally male occupations, maths and Realistic and Investigative interest fields has emerged in these empirical findings. These compromised cognitive inferences appear to be operating as internal cognitive barriers, restricting women’s academic and career choices and their performance. In addition, it appears that individual differences amongst women are also evident. Thus far, the individual’s level of identification with the social, cultural or political meanings of their gender and other person inputs such as the ethnic-racial-socio-cultural identity, have been shown to mediate the effects of gender on self-efficacy beliefs with regard to various career indices. For women of
colour the impact of these person inputs on their self-efficacy beliefs appears to be the strongest.

iii. The role of gender and ethnicity-racial-socio-cultural person inputs in shaping career development

SCCT has made a significant contribution to the research and theoretical understanding of career development amongst women and diverse ethnic-racial-socio-cultural populations. Two main pathways have been proposed to describe how the socio-political-cultural-economic implications of these person inputs influence career experiences and behaviour. The first is a mediated pathway with gender and ethnic-racial-socio-cultural socialisation processes shaping individuals' access to sources of self-efficacy information and so indirectly influencing their self-efficacy and outcome beliefs and their subsequent education and career interests, choices and performance. The second pathway is more direct and involves the influence of these person inputs at various career choice points. This direct pathway is conceptualised as reflecting barriers or supports associated with gender-race-ethnicity-socio-cultural characteristics within the identified context, which either hamper or facilitate the individual’s career development.

Hackett and Betz (1981) were the first to theorise about the indirect effects of gender influences on the traditionality of women’s career choices. They posited that gender role socialisation processes bias the access of young boys and girls to sources of self-efficacy information that is culturally deemed to be gender appropriate. The result is that neither gender learns all the skills necessary for effective adaptive functioning and responding (Betz, 2005). Young boys develop strong self-efficacy perceptions for male typed skills, activities, interests and careers (for example engineering, science and technology) and young girls develop strong self-efficacy beliefs for female typed abilities, activities, interests and careers (for example social work and arts). The effect of gender on career interests, choices and outcomes operate largely through self-efficacy and outcome expectations or more precisely through the differential learning experiences that give rise to these beliefs (Betz, 2000).

Evidence for the influence of gender through this mediated pathway has been presented by a number of researchers. Betz and Fitzgerald (1987) and Quimby and DeSantis (2006) have shown that an absence of female role models or vicarious learning experiences within non-
traditional careers is related to low self-efficacy beliefs with regard to these fields amongst women. Juntunen (1996) concludes that the effectiveness of her intervention in encouraging women to consider non-traditional career choices was attributable to her use of female role models in these non-traditional fields. Similarly, Zeldin and Pajares (2000) report that for women who continued to excel in male dominated fields, critical sources of non-traditional self-efficacy information were obtained via verbal persuasion and vicarious experiences.

Recently, Williams and Subich (2006) found that women reported fewer learning experiences in the traditionally masculine Realistic and Investigative domains, and men reported fewer learning experiences in the traditionally female Social domain. These findings echo gender differences found for self-efficacy and interest with regard to Holland’s RIASEC career themes, therefore supporting the premise that men’s and women’s learning histories may be the origin of these gendered differences. Tokar et al. (2007) support these findings as well as highlight the role of intra-gender variables. They report that gender and the intra-gender variable of conformity to gender role norms were related to gender differences for Realistic, Investigative and Social learning experiences. Gender was also found to indirectly affect Realistic and Social learning experiences through its relation with conformity to gender role norms. These findings suggest that while men and women, on average, may have different experiences in Realistic and Social domains, within each gender individuals differ in their career related learning histories. This is partly a reflection of the degree of their conformity to societal notions of gender appropriate behaviour. Brown et al. (2006) also found that the within-gender variable of sex role orientation contributed to individual differences in career decision self-efficacy amongst women majoring in computer science. It can thus be concluded that women’s career pursuits are partly constructed and circumscribed by their exposure to gendered learning environments, which give rise to internal cognitive barriers to the consideration of non-traditional careers (Lent, 2005).

The SCCT model suggests that the same mediated pathway exists for ethnic-racial-socio-cultural person inputs, with ethnic-racial-socio-cultural socialisation and oppression processes posited to circumscribe the self-efficacy learning histories of these groups. De Bruin (1999) provides a useful illustration of this pathway in his description of the experience of black South African students who although politically liberated, continue to be comprised by the socio-economic legacy of the now abolished apartheid system. The number of black South African students in grade 12 studying mathematics and science remains comparatively low.
relative to their white counterparts (Watson et al., 1997). De Bruin (1999) posits that these differences are the result of inadequate access to the sources of self-efficacy information in these fields amongst black South Africans. A lack of essential educational resources in schools serving this community, including textbooks, laboratories and qualified teachers, has compromised students’ opportunities to experience and benefit from performance accomplishments in these subjects. The system is self perpetuating. With limited numbers of black students completing their education in these fields, the number of potential credible role models is limited. De Bruin (1999) explains that exiles returning from studying abroad do not provide a substitute for these role model needs, as their diverse socio-economic background and their privileged educational background mean that they lack credibility amongst these economically challenged students. Hackett and Byars (1996) suggest that for a role model to have influence, he or she needs to have shared similar background experiences, especially where these background experiences have involved political, economic and social struggles and barriers. In addition, De Bruin (1999) notes that black students, because they are typically first generation students, are likely to be more vulnerable than their white counterparts to emotional arousal and anxiety as they arrive unprepared and uninformed at higher education institutions for further study. In addition, language differences and difficulties and concerns about performance in view of bursary and scholarship requirements are likely to compound their level of anxiety.

The second pathway through which the effects of gender and ethnic-racial-socio-cultural person inputs are evident, is in their direct impact on the career decision process, by either facilitating or impeding it at various choice points (Betz, 1989). These person characteristics are posited to influence the opportunity structure to which individuals have access, either leading them to experience barriers or supports for the formation and implementation of their education and career plans and choices. For example, ethnic differences in perceptions of anticipated barriers to post-school career plans were found by McWhirter et al. (2007). Mexican American students with lower levels of educational attainment not only anticipated more internal and external barriers; they also perceived these barriers to be more difficult to surmount than their European American counterparts. These findings support earlier studies by Luzzo (1993c) and Luzzo and McWhirter (2001) in which ethnically related differences in perceptions of barriers to career plans were found amongst Hispanic-American, Caucasian American, African American, Filipino American and Asian American student samples. The positive effects of social supports have also been reported amongst diverse ethnic-racial-
cultural groups. For example, Gloria, Robinson-Kurpius and Hamilton (1999) found that African American student’s were more likely to persist at predominantly white universities in the presence of social support.

In terms of the direct impact of gender on the career decision process, Luzzo and Hutchenson (1996) report that more women than men perceived family issues to be related to past occupational barriers. McWhirter (1997) found that female high school juniors and seniors anticipated gender discrimination more frequently than their male counterparts. Rivera et al. (2007) found that perceived barriers were directly associated with female-dominated career consideration, but had no effects on male or female-dominated career self-efficacy, nor on male-dominated career consideration. This suggests that the greater the perceived barriers by women, the more likely they are to select female dominated occupations.

In summary, person inputs describe one of the three vertices comprising the Triadic Reciprocal Model of Causality, which Lent et al. (1994) have imported from Bandura’s work to explain the interactive dynamics underlying career development. In their discussion of these internal factors, which comprise the self-system or command centre of behaviour, they focus on three components: mechanisms of personal agency (self-efficacy beliefs, outcome expectancies, and goals), the individual’s capacity for self-regulation, and gender and ethnic-racial-socio-cultural identity. The three mechanisms are proposed to interact with each other in reciprocal relationships in shaping career development. The individual’s capacity for self-regulation has been described as critical to the learning processes that inform the individual’s sense of self-efficacy and outcome expectancies. Through self-reinforcement and self-punishment individuals are able to regulate their exposure and response to their performance accomplishments, vicarious learning experiences, encouragement and emotional arousal. The person inputs of gender and ethnic-racial-social-cultural identity impact on the process of career development, either indirectly by shaping the individual’s access to the four sources of self-efficacy information, or directly by impeding or facilitating the individual’s career development at various career choice points. However, it should be noted that with regard to both gender and racial-ethnic-socio-cultural social identity, within-group differences have been found to moderate their impact on career behaviour.
As mentioned at the beginning of this section, the Triadic Reciprocal Model of Causality proposes that these person factors do not operate alone. The individual’s behaviour and the broader environment or context interacts in reciprocal relationships with these person inputs.

2.3.2 Behaviour: The second vertex of the Triad of Reciprocal Causality

Behaviour occupies the second point of the Triad of Reciprocal Causality, influencing and being influenced by person and environmental inputs. It is described in terms of three indices, namely approach versus avoidance behaviour, persistence in the face of obstacles or disconfirming experiences, and the quality of performance in the target domain (Meyer et al., 1997). The higher the self-efficacy expectations, the more likely people are to accept challenging tasks, to persist at them and to perform them successfully (Pajares, 1996). Low self-efficacy beliefs lead to avoidance, giving up easily as a result of obstacles or disconfirming evidence and poor performance (Lent, 2005). As discussed above, person inputs shape, guide and inform these three behavioural indicators and contextual variables mediate these relationships at the point of learning and choice making.

Behaviour is also posited to have a reciprocal effect on person inputs, providing an important source of efficacy information for the formation, adjustment and correction of self-efficacy beliefs and, in turn, outcome expectations (Lent et al., 1994). The individual’s performance accomplishments therefore form the raw data from which efficacy information is extracted and appraised. In this way past performance primarily exercises influence over current behaviour through its effects on personal agency (Bandura, 1986). However Bandura et al. (1989) note, that since people are influenced more by how they interpret their performance than by the performance itself, it is not uncommon for perceived self-efficacy to predict subsequent behaviour better than past performance. As mentioned previously, these person inputs along with self-regulatory processes then subsequently influence behaviour, generating purposeful, goal-directed action, which provides opportunities for further performance accomplishments and a self-reinforcing cycle is set in motion. Evidence supporting these SCCT propositions has been accumulated. The studies in this regard are detailed in section 2.4 of this study.
2.3.3 Environmental/contextual factors: The third vertex of the Triad of Reciprocal Causality

The third vertex identified in the Triadic Model of Reciprocal Causality comprises environmental variables (Bandura, 1986). Person inputs and behavioural influences are understood to operate within a broader social, political and economic context. These contextual factors, including socio-economic status, available resources, opportunities, supports, barriers and obstacles are conceptualised as either facilitating or impeding the individual’s person agency and career development. Their influence is related to the objective and subjective aspects of these factors (Lent et al., 1994).

According to SCCT, the objective dimension of contextual variables include those aspects of the experience which impact on the individual’s career experience, whether or not they are comprehended by the individual. An example of an objective contextual variable would be the quality of education received and financial resources available for further education. However, the influence of an objective factor may also depend on whether or not it is perceived, appraised or interpreted as a hindrance or facilitator of one’s career. Lent et al. (1994) describe this phenomenological or subjective aspect of contextual influences, by referring to Astin’s (1984) concept of opportunity structure, and Vondracek et al.’s (1986) concept of contextual affordances. Both concepts infer that the influence of a contextual variable is very much in the “eye of the beholder”. The opportunity structure describes individuals’ perceptions of the opportunities that are open to them in their context and refers to variables such as job availability, economic conditions, costs associated with occupational entry, perceived and actual barriers to entry (Astin, 1984). Contextual affordances refer to the fact that although the environment may offer, provide and/or furnish something to the individual, this is only influential if the individual makes sense of it in this way (Vondracek et al., 1986).

Contextual or environmental influences are also differentiated in terms of their temporality or their relative proximity to career choice points. Background or distal contextual influences impact on the learning experiences through which self-efficacy beliefs, personal interests and other influences on career choice are acquired (Lent, 2005). They serve as internalised barriers or supports to the career development process (Lent et al., 2000). The second form of contextual influences is experienced further along the career development process. These
contemporary or proximal contextual factors refer to the environmental barriers or supports which shape the opportunity structures within which career plans are made and implemented (Parajes, 1996). These contemporary influences help determine whether primary career interests are translated into career goals and then into action designed to achieve these goals.

2.3.3.1 Distal contextual variables

Distal contextual factors serve as precursors of social cognitive factors (Lent et al., 2000) and their influence precedes and helps shape self-cognitions and educational and career interests. Their influence is evident on all four sources of self-efficacy information. By creating differential opportunities for task performance, skills development, role model exposure, emotional, social and financial encouragement and support for engaging in particular activities, distal background factors either circumscribe or facilitate the individual’s career learning experiences (Lent et al., 2000). Examples of these background factors include cultural and gender role socialisation processes, socio-economic factors and various formal or informal oppressive factors. In this way social, political and economic external reality and the individual’s internal reality blend together and are reflected in the magnitude, generality and strength of self-efficacy beliefs, outcome expectations and educational and career interests that develop. The result is that the individual’s personal performance expectations and personal standards are strongly influenced by the opportunity structure in which he or she develops, and barriers and supports are internalised. These internalised barriers or supports then function to either support or inhibit the career process (Lent et al., 2000).

Over and above the gender and racial-ethnic-socio-cultural identity socialisation processes, parental, peer and sibling support and social class have been reported to be significant distal, contextual factors. Ali et al. (2005) found that sibling and peer support accounted for a significant variance in vocational and educational self-efficacy beliefs amongst ninth graders from lower socio-economic backgrounds. They speculated that since many of these participants were first generation students, their parents lacked the knowledge, experience and resources to provide adequate role modelling and career information. Siblings and peers on the other hand, engaging in similar challenges, were more likely to be in a position to provide relevant sources of efficacy information. However, other researchers have found support for the role of parents in self-efficacy learning experiences, especially in terms of their ability to provide social and emotional support and encouragement. Ali and Saunders (2006) report that
parental support independently predicted vocational and educational self-efficacy amongst a sample of Appalachian, impoverished high schools students. It may be that the peers and siblings are able to provide important sources of self-efficacy information through vicariously learning opportunities, while parental support provides sources of self-efficacy information through the learning processes of verbal persuasion and encouragement.

In terms of the role of social class as a distal contextual factor, Navarro et al. (2007) found that access to learning experiences amongst Mexican American middle school students is strongly influenced by social class. Similarly Kahn’s (2005) research on the South African grade 12 population demonstrated how social class has inadvertently replaced race as a distal contextual factor affecting students’ access to learning experiences in the university gateway subjects of math and physical science.

2.3.3.2 Proximal contextual variables

The second subgroup of contextual factors differentiated in terms of their relative proximity to the career choice process points, is contemporary/proximal contextual influences. These variables come into play at critical choice points, either moderating or directly influencing the extent of personal agency afforded to the individual in the career choice process. Lent et al. (2000) explain that the opportunity structure in which career development processes occur may moderate the relations of interests to choice goals and choice goals to actions. For example, supportive environmental conditions such as the presence of ample parental, peer and teacher support, and the absence of obstacles and barriers are likely to facilitate the individual’s translation of his or her educational and career interests into choice goals, which will then lead to choice actions. Rogers et al. (2008) provide evidence for the moderating effects of contextual variables. They found that perceived contextual social supports moderated the relationship between choice goals and the goal action activity of planning, and directly influenced the career goal action of exploration amongst a group of Australian high school students. Conversely, if educational, social, political or/and economic conditions are unfavourable, it is more likely that the interest, goal and goal action relationships will be compromised. In these instances, where choices are constrained by educational background and economic necessity, career goals and actions may be influenced less by interests than by contextual factors such as job availability, economic necessity and discriminatory opportunities (Brown & Lent, 1996). By way of example, Leal-Muniz and Constantine (2005)
report that perceived gender and ethnic carrier barriers were found to be related to Mexican American college students’ tendency to limit their career options.

In terms of the direct influence of proximal contextual variables, such as discriminatory hiring practises and family prescriptions, choice making and implementation is affected. Lent et al., (2000) provide an example of how in collectivistic societies, parental and family expectations play a particularly strong role in influencing the individual’s own personal career preferences. Similarly, Tang et al. (1999) report that family involvement was a stronger predictor of career preferences than personal interests amongst Asian American students, who typically subscribe to a collectivistic value orientation. A similar scenario was identified by Caldera et al. (2003) amongst Mexican Americans, who are also considered to display a collectivistic orientation. In individualistic cultures the direct influence of proximal factors is also evident. For example, white South Africans, who typically subscribe to western individualistic values, are being confronted with politically motivated proximal contextual barriers. Their career choice implementation process is being circumscribed by affirmative action quotas and measures. Stead et al., (2004) report that 74% of white grade 11 learners and 56% of white grade 12 learners believed that racial and ethnic discrimination in the form of affirmative action measures will be a potential future barrier to their career choices.

A wide array of contextual barriers and supports have been investigated within the SCCT literature (Lent et al. 2002; Luzzo, 1993c; McWhirter et al., 2007). Financial concerns, negative family and social influences, role conflicts, lack of role models, negative life events and leisure activities are some of the barriers that have been explored. Fitzgerald and Harmon (2001) note that for women, discrimination remains a barrier to career development, albeit in less overt forms. They list subtle forms of contextual discrimination such as the null environment, glass ceiling, sexual harassment and the token effect as continuing to restrict women’s career options. Martins (1994) argues that for women of colour these subtle forms of discrimination and exclusion are doubled. In her study of the training of African American police women, she reports various forms of subtle and not so subtle discrimination which convey a message of exclusion, and a wish that these women should fail at their endeavours to enter this traditionally male occupation. These include insufficient instruction, male co- student hostility, silence, overtly close and punitive supervision, lack of support and stereotyping.
Research thus far has provided important insights into the role played by proximal contextual factors in compromising or facilitating educational and career goals and career decision making. In particular it has provided significant explanations for the gap between ability, self-efficacy and occupational attainment that has been evident amongst women and people of colour (Lindley, 2005; McWhirter, 1997). However, the results of these studies have been inconsistent and the barrier size effects have only been moderate (Lent et al., 2000). Scholars have attributed these shortcomings to methodological and conceptual problems with this aspect of SCCT (Lent et al., 2000; Lindley, 2005; McWhirter et al., 2007). It is argued that in many instances, barriers and supports are confounded with outcome expectations, coping efficacy or dispositional affect (Lent et al., 2000), which may moderate the impact of these proximal environmental variables. Further research is necessary to verify these hypotheses and explain these inconsistencies.

It is evident from the above that the third vertex of the Model of Reciprocal Causality, namely environmental inputs, interacts with person inputs and the individual’s behaviour at multiple points and in complex ways to shape the individual’s career development. The pathways delineated between these three vertices and career behaviour are detailed within SCCT’s Career Process Models. These are explained in the section that follows.

2.4 Career processes

Lent et al. (1994) have integrated the above assumptions, concepts and three aspects of the Triadic Reciprocal Model of Causality (person inputs, behavioural inputs and contextual variables) to formulate three distinct models for three domains of career development: career interests, career choice and career performance. The Career Interest Model addresses how educational and career interests are formulated and elaborated. The Career Choice Model attends to the selection and implementation of academic and career choice options, and the Career Performance Model considers performance and persistence in the context of education and occupational pursuits (Lent et al., 1994). Empirical findings have provided good support for these three models in middle school (Fouad & Smith, 1996), high school (Lopez et al., 1997), and college (Betz, 1984; Ferry, Fouad & Smith, 2000; Lent, Brown, Schmidt et al., 2003) students as well as across diverse racial-ethnic-socio-cultural samples (Gainor & Lent 1998; Tang et al., 1999).
2.4.1 Career Interest Model

Career interests are defined within the SCCT framework as patterns of preference, dislikes and indifferences in relation to academic and career activities and occupations (Lent et al., 1994). They are hypothesised to be determined by self-efficacy and outcome expectancy beliefs (Bandura, 1986; Lent, Larkin & Brown, 1989). This means that people will only develop an interest in a particular activity if they view themselves as competent at it and when they anticipate that performing this activity will produce valued outcomes. Conversely, interests are unlikely to develop in activities for which people lack confidence in their own capabilities and for which they do not anticipate positive consequences. This view contrasts with other career models, which attribute interest formation to aptitude and ability (Ackerman & Beier, 2003). SCCT posits that the effects of aptitude or ability on interests are mediated by these mechanisms of personal agency (Lent et al., 1994). Once interests have been formulated, they are posited to not only promote career related activities, but to lead to skill acquisition. Without these incentives it is assumed that people will not be motivated to approach and persist in a task or activity (Bandura, 1986; Lent et al., 1989).

Although most variables within the SCCT model are posited to be reciprocally related, the original SCCT model suggests an asymmetry in the relationship between self-efficacy and interests, with self-efficacy playing a stronger determining role than interests. However, subsequent to these original postulates, Nauta, Kahn, Angell and Cantarelli (2002) have shown that interests are also fairly strong predictors of subsequent self-efficacy.

According to SCCT, the development of occupational interests begins early in the child’s life. The first step in this process involves the acquisition of self-efficacy and outcome expectations for certain activities and the development of related skills. This occurs through exposure to the four sources of self-efficacy information (performance accomplishments, vicarious learning, social persuasion and appropriate levels of emotional arousal). During childhood and adolescence the individual is exposed to a variety of activities, contexts and significant others. These distal background contextual variables and behavioural activities interact with each other and other person variables such as predisposition, gender, ethnicity, aptitude and values to shape the child’s access to sources of self-efficacy information. Engaging with these learning experiences provides the developing child and adolescent with opportunities to acquire, practise and rehearse relevant skills, develop personal performance
standards, and generate self-efficacy and outcome expectancies. Outcome expectancies will be directly influenced by the four sources of learning as well by self-efficacy expectations (Betz, 1997). Once a child begins to feel competent in a particular activity/ies and expects positive outcomes from engaging in this activity/ies, he or she will become interested in this activity. With the appearance of these emergent interests he or she starts to formulate goals for further exposure to the activity. These goals serve to sustain the individual’s engagement in the activity of interest, providing ongoing opportunities for practise and rehearsal, and so performance attainments. These performance achievements then serve as further learning, reinforcing and strengthening related self-efficacy, outcome beliefs, interests and goals. A virtuous cycle is set in motion and has the potential to continue throughout the individual’s lifespan, although interests relating to academic and career activities tend to stabilise in adolescence and are unlikely to change without a very intensely disconfirming experience.

Once interests are formed, they mediate the relationship between self-efficacy and goal setting, goal action and performance attainments. Self-efficacy and outcome expectancies are also hypothesised to have a direct influence on goal formulating and goal action. Only self-efficacy expectations are posited to directly influence performance attainments. Thus it can be concluded from these hypotheses that people formulate goals to engage in certain activities, partly because of their interests in these activities, partly because of the rewards they anticipate and partly because of their confidence in their competence to perform the activity (Lent et al., 1994).

Support for the hypotheses regarding the relationship between mechanisms of personal agency and interests has been provided by a numbers of studies within the field of education. The relationship between academic interests and self-efficacy and outcome expectations has been verified with respect to math (Lopez et al., 1997; Waller, 2006), science (Luzzo et al., 1998), engineering (Lent, Brown, Schmidt et al., 2003) and social studies, art and English (Fouad et al., 2002; Smith & Fouad, 1999). Waller (2006) also reports that math interests in his sample of non-traditional African Americans college students predicted choice intentions for course selections and choice of major.

Studies examining the relationships between mechanisms of personal agency and interests have also been conducted in the field of occupational interests. Flores and O’Brien (2002) found that non-traditional career self-efficacy had a direct influence on Mexican American
women’s non-traditional career interests. As non-traditional career self-efficacy increased, so did non-traditional career interests. Significant relationships have been found between self-efficacy for Holland’s RIASEC themes and interests in these themes (Betz et al., 1998; Campbell, Hyne & Nilsen, 1992; Lucas, Wanberg & Zytowski, 1997). Each RIASEC self-efficacy type has been found to be consistently related to its associated RIASEC interest type. Reporting on an intervention designed to increase Realistic self-efficacy amongst women, Betz and Schifano (2000) found that their intervention not only increased these women’s Realistic self-efficacy, but also their interests in Realistic activities.

2.4.2 Career Choice Model

The career selection process in the SCCT model is conceptualised as a dynamic process, with a number of choice points which are reciprocally influenced by multiple factors, including person inputs, distal and proximal contextual variables and behavioural factors. Career choice points include career choice goals and career choice actions. As mentioned previously, career choice goals refer to intentions or aspirations to engage in a particular career activity. Career choice actions reflect the implementation phase of the career choice process and include career entry behaviours such as declaring a major, career exploration and planning activities (Lent et al., 1994).

Two alternative pathways are hypothesised for the formation of career choices. The first pathway predicts a direct relationship between interests and career choices and assumes that the environment in which these interests materialise into goals and then choices, is supportive and facilitative. Betz (2005) notes however, that for many, the environment in which their interests develop is not supportive and resources and opportunities are restricted. In this second or indirect pathway to the formation of career choice, the opportunity structure may moderate the relations between interests and choice goals, and/or choice goals and choice action, or may directly shape career choices (Betz & Hackett, 1986, 1997). For example, in their study of Mexican American female high school students, Flores and O’Brien (2002) demonstrated how the interests of these students did not predict career goals. Instead, proximal contextual variables, including financial constraints and traditional patriarchal collectivistic values, circumscribed their career choices and they had to forego the luxury of choosing a career based on these interests. Similarly Mau (2001) found that the career decision process for Taiwanese university students was less reflective of personal interests.
than their American counterparts. Instead, for the Taiwanese students, their underlying collectivistic cultural orientation meant that their personal career interests were subsumed by family and community interests and expectations.

2.4.3 Career Performance Model

SCCT attends to two primary areas of career performance, namely, the level of achievement attained in academic or work tasks and the extent of persistence with these tasks, despite obstacles. In the career domain, persistence is understood to be reflected in career choice commitment and stability. In addition, persistence is considered to be a sign of performance achievement, as it is assumed that competent performers will persist longer, and thereby facilitate the attainment of educational milestones and job tenure (Lent et al., 1994). In line with the Triadic Reciprocal Model of Causality, performance attainments are conceptualised to be determined by the ongoing reciprocal interaction between person inputs, socio-contextual factors and behavioural variables.

In terms of person inputs, self-efficacy is considered to both directly and indirectly influence performance. Firstly, self-efficacy beliefs directly influence performance by facilitating the acquisition of the skills the individual requires to perform the task at hand. Secondly, the indirect influence of self-efficacy beliefs on performance is via their influence on interest and goal formulation. Outcome expectations affect performance only indirectly via their influence on goal formulations.

Ability, another person input, is hypothesised to affect performance attainments along two pathways. Firstly, a direct effect of ability on performance is evident through task knowledge, skill development and acquisition and performance strategies, which are collectively referred to by Lent et al. (1994) as task mastery skills. Indirectly, abilities inform self-efficacy and outcome expectations, which in turn give rise to performance goals and subsequent performance achievements. The stronger the self-efficacy and outcome expectancies, the more ambitious the efforts and goals and the more impressive the performance. Evidence for both pathways was presented by Lopez et al. (1997) who found that objective ability and self-efficacy expectancies related to performance. Each produced pathways to maths course grades, with self-efficacy reported to determine how individuals use their abilities.
As mentioned previously, performance goals that reflect an optimistic but reasonably congruent ratio between self-efficacy and ability, have been suggested to be the most likely to optimise performance. The performance goals generated in response to self-efficacy and outcome expectation serve to initiate, regulate, direct and sustain the individual’s application of his or her abilities and talents or task mastery skills. Although self-efficacy, outcome expectations and performance goal setting provide an important complement to ability, they do not provide a substitute for it. This is especially true for complex performances which require adequate capabilities as well as motivational and regulatory skills. The performance attainments that are achieved through these direct and indirect pathways then continue to shape subsequent behaviour, by the feedback they provide to the developing self-efficacy and outcome expectations. Where performance tasks are progressively more challenging, a virtuous cycle is set in motion, with opportunities being provided for learning new skills and improving existing ones as well as promoting self-efficacy and outcome expectations and increasingly more ambitious goals.

As with all processes in the SCCT model, performance behaviours do not take place in a vacuum. The person and behaviour inputs that contribute to performance attainments develop and operate within a sociocultural context. This context is characterised by a particular opportunity structure which denotes economic status, educational access, social supports, gender role socialisation, peer support, and community and family norms. These external factors exert their influence as background distal factors that shape the individual’s access to sources of self-efficacy information as well as determine the individual’s opportunities for skill mastery. Proximal contextual factors may also exert their influence on performance attainments by moderating self-efficacy, goals and performance relationships or by directly influencing the performance goals that are formulated.

The Career Performance Model has been tested in both the academic and career domains. Within the academic domain, two meta-analytic reviews, the first conducted by Multon et al. (1991) and the second by Brown et al. (2007), both reported positive and statistically significant relationships between self-efficacy, and academic performance and persistence across a wide range of subjects. In addition, a number of moderating factors were identified. In terms of performance, the effect size of self-efficacy beliefs was found to be moderated by the time period during which self-efficacy and performance were assessed, the achievement status of the student, his or her age and the type of performance measure used. With regard to
persistence, the effect size of self-efficacy was related to, the time spent on the task, the number of items/tasks completed, task difficulty, stage of learning and performance skills.

Within the work domain, a meta-analysis (Stajkovic & Luthans, 1998) indicated a significant positive correlation between self-efficacy and work related performance. As was the case in the academic domain, the complexity of the task was found to moderate this effect, with the highest correlations evident for simple tasks and decreasing for moderate and high levels of task complexity. Task strategies, task focus and ability conception were also suggested to play a moderating role. In terms of objective career outcomes, self-efficacy has been linked to superior career preparation and greater staying power in challenging career pursuits (Bandura, 1986), steadfastness to a career (Bandura, 1997), increased job opportunities (Saks, 1995), enhanced job search activities and the likelihood of re-employment (Eden & Aviram, 1993). In terms of subjective career outcomes, relations have been found between self-efficacy and job satisfaction (Vinokur & Schul, 2002).

In summary, three career processes are elaborated within the SCCT model. The Career Interest Model details the formation and elaboration of educational and career interests. The Career Choice Model theorises about the selection and implementation of academic and career choices. The Career Performance Model considers career related performance and persistence. These models propose a number of distinct pathways along which the various SCCT constructs and career processes influence the individual’s career development.

2.5 Conclusion

SCCT provides a useful, multifaceted and comprehensive framework for examining numerous variables and processes that shape and determine the processes within the individual’s career development. Its most impressive contribution lies in the understanding it provides of the role played by gender, ethnicity and contextual variables within career development. Within this framework, the Triadic Model of Reciprocal Causality provides a structure for making sense of how these multiple variables mutually influence each other in this process. Although empirical findings supporting these constructs, mechanisms and models have been compromised by the use of correlational, cross-sectional designs and self report measures, a substantial body of evidence has been gathered, over the past two decades that has leant support to many of the propositions described by SCCT. More recently these efforts have
expanded into diverse population groups and although still in their infancy, many of the SCCT measures have demonstrated cultural equivalence, and the constructs have proved to be useful indicators of career behaviour in these population groups.

The relevance of this broader theoretical approach to this study is threefold. Firstly, it provides significant insights with regard to a key aspect of successful career decision making and adaptive career behaviour, namely career decision self-efficacy. Secondly, it addresses the effects of gender and racial-ethnic-socio-cultural identity and thirdly, it accounts for the role played by contextual variables on this aspect of the individual’s career decision experiences. The impact of these factors on career decision processes is particularly relevant to the South African context, with its history of apartheid and the legacy left since its abolition in 1994.

**PART B: CAREER DECISION SELF-EFFICACY**

**2.6 Introduction and background to career decision self-efficacy**

As undergraduate university students, the participants in this study were likely to be negotiating the tasks delineated within the Career Choice Model of SCCT. Typically they would have formulated their career interests and be currently engaged in the development of career choice goals and taking career choice actions. As indicated in Chapter One, the career decision literature has revealed that this stage of the career development process has become increasingly more challenging and complex. Technology continues to evolve in the world of work, presenting the individual with many more occupations from which to choose a career (Reese & Miller, 2006). In addition, as Wuthrow (2003) notes, individuals are demanding far more from their jobs than financial security. Careers are expected to provide both meaning and to function as an extension of the individual’s identity. The result of this is that a growing number of university students are indecisive (Reese & Miller, 2006). Consistent with this hypothesis is the findings of Tinto (1993) that the number of students entering university undecided, and those changing their major at some point in their academic career, is increasing. In addition, the usage of career counselling services has also reached an all time high (Smith et al., 2002). In the South African context these career decision difficulties have been reported to be particularly prevalent amongst black students (Stead, 1996), for whom a
lack of self knowledge and occupational information are most often cited as the source of these difficulties.

In view of the challenging nature of the developmental tasks with which the sample of this study is currently engaged, career decision making has been selected as the behaviour domain in which self-efficacy theory is investigated. The career decision self-efficacy construct has received extensive attention from researchers (Betz, 2007; Luzzo, 1996). It has been positively related to high levels of vocational identity (Gushue et al., 2006; Robbins, 1985), adaptive career beliefs (Luzzo & Day, 1999), career exploratory behaviour (Blustein, 1989; Gushue et al., 2006), career maturity (Creed & Patton, 2003; Luzzo, 1993b, 1995a, 1995b), declared major (Gloria & Hird, 1999), career decidedness (Creed et al., 2005; Srsic & Walsh, 2001; Kraus & Hughey, 1999; Luzzo, 1993a) and a more rational and less dependent style of decision making (Mau, 2000). It has also been inversely related to career indecision (Bergeron & Romano, 1994; Lent & Hackett, 1987; Taylor & Popma, 1990a) and fear of career commitment (Betz & Serling, 1993). In addition, career decision self-efficacy has been noted to play an important role in career assessment (Betz & Luzzo, 1996).

In line with predictions by SCCT, career decision self-efficacy has also been shown to be derived from and enhanced by the four sources of self-efficacy (as described earlier in this chapter). The influence of these sources of self-efficacy on career decision self-efficacy has been demonstrated in quasi-experimental and experimental studies, involving career interventions that have made use of one or more of these learning experiences to improve career decision self-efficacy (Foss & Slaney, 1986; Kraus & Huey, 1999; Luzzo & Day, 1991; Luzzo & Funk, 1996; Luzzo & Taylor, 1994; McAuliffe, 1992). For example, in a more recent study, Foltz and Luzzo (1998), utilising all four sources of self-efficacy information in a career guidance workshop, were successful in increasing levels of career decision self-efficacy for a group of non-traditional women students. Similarly, levels of career decision self-efficacy in women were increased by Sullivan and Mahalik (2000) as a result of a group counselling intervention, which also drew on all four sources of self-efficacy information. In addition, the career decision self-efficacy of disadvantaged high schools students was successfully enhanced by O’ Brien et al. (2000) as a result of their career exploration programme, which also included all four sources of self-efficacy learning.
Other interventions amongst diverse samples utilising only one or two of the sources of self-efficacy information have also produced significant increases in career decision self-efficacy. Verbal persuasion was found to significantly increase career decision self-efficacy amongst first year college students (Luzzo & Taylor, 1994) and military veterans (Krieshok, Ulven, Hecox & Wettersten, 2000a, 2000b). Luzzo and Funk (1996) and Foss and Slaney (1986) demonstrated positive gains in career decision self-efficacy as a result of providing opportunities for performance accomplishments. Luzzo and Day (1999) found that performance accomplishments and verbal persuasion together, were effective in enhancing this construct. Collectively these findings provide strong support for the origins of career decision self-efficacy, as residing within performance accomplishments, vicarious learning experiences, social persuasion and anxiety or arousal regulation. In addition, they point to the possibility of improving the individual’s confidence in his or her adaptive functioning within the career choice process, by providing relevant sources of self-efficacy information.

Career decision self-efficacy has also been positively related to processes within the Career Interest and Career Performance Models. Gushue and Whitson (2006b) report that high levels of career decision self-efficacy were related to clearer interests and goals and Church et al. (1992) mention that high levels of this construct were associated with a greater range of occupations considered. In terms of career performance variables, career decision self-efficacy was found to be predictive of a more stable career pattern (Gianakos, 1999), educational adjustment (Betz, 2001), academic persistence in undergraduate college students (Sandler, 2000) and academic and social integration of college students (Peterson, 1993). Similarly, Uffelman, Subich, Diegelmans, Wagner and Bardash. (2004) conclude that career decision self-efficacy should be considered an essential component of adaptive career exploration processes and career outcomes.

Numerous studies have provided support for the assumption that social-cognitive variables do not operate in a vacuum, but rather are associated with other personal and contextual variables. In the next section, the influence of these inputs on career decision self-efficacy is discussed.


2.6.1 Person inputs and career decision self-efficacy

Empirical studies suggest that individuals who are confident in their ability to achieve the competencies necessary for making effective career decisions, demonstrate an overall sense of efficacy, global self esteem, self confidence and a tendency to take personal responsibility. They also seem to exercise self-regulation, control and discipline and to be highly conscientious. Niles and Sowa (1992) and Patton et al. (2003) report that career decision self-efficacy is one form of career self-efficacy which has been found to be most strongly related to generalised self-efficacy and global self esteem. In a subsequent study Creed, Patton and Bartrum (2004) found that self esteem was a significant predictor of career decision self-efficacy amongst a sample of Australian adolescents. Gushue and Whitson (2006) suggest that in acquiring self-efficacy in career decision tasks, a general set of skills are developed, which may be generalised to benefit other career related domains and enhance an individual’s overall sense of self confidence.

In addition to general self-efficacy, Niles and Sowa (1992) found that motivation and commitment to predict career decision self-efficacy. They conclude that taking responsibility for and becoming actively engaged in the career decision process, facilitates high levels of self-efficacy regarding career decision making. These conclusions have received support from various researchers. Nauta and Kahn (2007) note that, in addition to achieving an adult identity status, taking active responsibility for and being engaged in the tasks related to career development and career decision making, are essential to achieve high levels of career decision self-efficacy. A similar conclusion was drawn by Taylor and Popma (1990b) who propose that individuals who believe that they possess some control (via effort or talent) to affect the outcome of their behaviours, are likely to also possess confidence in their capacity to successfully master decision making behaviours. As variations on the same theme, Paulsen and Betz (2004) found leadership qualities to be the greatest confidence predictor of career decision self-efficacy, and Brown, George-Curran and Smith (2003) note that of all the dimensions of emotional intelligence, self control was the most strongly related to self-efficacy regarding career decisions.

In terms of trait personality research, Conscientiousness has been most consistently related to career decision self-efficacy. Defined as an emphasis on pro-social attitudes such as orderliness, self discipline, deliberation, dependability and competence, Conscientiousness
was found to be significantly correlated with career decision self-efficacy (Hartman & Betz, 2007). Lounsbury, Hutchens and Loveland (2005), Tokar, Fischer and Subich (1998) and Rogers et al. (2008) also report significant relationships between Conscientiousness and the broader domain of career decidedness.

It appears from the research on person inputs that individuals who report high levels of career decision self-efficacy can be characterised as having a personal orientation, which reflects a commitment to taking active ownership and responsibility for their career development, and display the traits of Conscientiousness, a strong sense of personal agency and self-management.

2.6.1.1 Diverse population groups and career decision self-efficacy

The Career Decision Self-efficacy Scale (CDSE; Taylor & Betz; 1983) has been applied to diverse population groups (Chaney, et al. 2007). At this stage studies are limited and problems have been reported with the factor structure and individual subscales of the measure. The total score has demonstrated cultural equivalence (Creed, et al., 2002; Hampton, 2005; Watson et al. 2001) and has been described by Taylor and Popma (1990b) as a useful indicator of career self-efficacy for the multifaceted domain of career decision behaviours amongst diverse populations. For example, Gushue et al. (2006) found that career decision self-efficacy (measured by a CDSE total score) may significantly influence career development by means of its correlation with vocational identity and career exploration behaviour amongst Latino/a American high school students. They suggest that low levels of career decision self-efficacy may be impeding these students from engaging in developmentally appropriate tasks. In their review of research pertaining to career decision self-efficacy amongst people of colour, Worthington et al. (2005) assert that overall, the CDSE has proved a robust measure amongst these population groups and has been demonstrated to be related to educational and vocational outcomes, career interests and career choice. However, Lindley (2005) notes that no clear trend has emerged with regard to the mean differences amongst these diverse population groups with regard to the levels of career decision self-efficacy.

Within the U.S.A., findings across various cultural groups have been mixed. For example, Chung (2002) reports that African Americans scored higher than Euro-Americans on the
CDSE, whereas Gloria and Hird (1999) found that white students had higher CDSE scores, than a composite group of diverse ethnic American students. Wang et al.’s (2006) findings concur with those of Gloria and Hird (1999). Wang et al. (2006) argue that the consistently lower levels of career decision self-efficacy amongst students of color may reflect their unique and shared experiences as members of oppressed, minority racial groups. They also found that the students of color displayed higher levels of Neuroticism. Neuroticism refers to a tendency to be generally sensitive to negative emotions, anxiety and fearfulness (Costa & McCrae, 1992). Wang et al. (2006) speculate that societal factors such as oppression, racism, and discrimination might contribute to and exacerbate the anxiety of students of color, as they navigate the biased educational and occupational structures of the U.S.A. society. In support of this hypothesis, Luzzo (1993c) found that 13% to 40% of students of color identified career barriers related to their racial and/or ethnic group membership, whereas less than 15% of white students perceived career barriers based on their race and/or ethnicity. Following the assumptions of SCCT, these experiences of heightened anxiety serve as a source of self-efficacy information which leads to negative judgements and assessments about one’s abilities to master career related tasks and may impede the individual’s readiness to make career decisions. Gloria and Hird (1999) also made reference to the relationship between negative emotions and lower levels of career decision self-efficacy amongst students of ethnic minorities to explain the lower levels of career decision self-efficacy in this group. Like Wang et al. (2006), they found a stronger relationship between trait anxiety and career decision self-efficacy for ethnic students than for Euro-American students. Gloria and Hird (1999) argue that these lower levels of career decision self-efficacy do not reflect a lack of skills and abilities to successfully complete and make decisions regarding the world of work. Instead, they hypothesise that the low scores on the CDSE reflect anxiety, generated by concerns about anticipated career barriers related to their ethnic and racial identity (such as job discrimination, work and family responsibilities, internalised discrimination and financial restrictions). Collectively these findings emphasise the necessity for examining the socio-political context, in which career decisions are being made, when attempting to understand the career decision self-efficacy, of people of diverse ethnic groups and minority status.

In terms of international research outside of the U.S.A., studies investigating career decision self-efficacy have been rare. Inconsistencies have also been noted, especially in relation to the reliability and validity of the factor structure of the CDSE (Lindley, 2005) amongst these diverse samples. Gati, Osipow and Fassa (1994) report that the five factors of the CDSE-Short
Form (Betz, Klein et al., 1996) were consistent with the five factors in the original CDSE for a sample of Israeli college students. Similarly, De Bruin and Bernard-Phera (2002) found that all five factors of the original CDSE were valid for a sample of South African coloured high school students. However, Hampton (2005), Watson et al. (2001) and Creed et al. (2002) failed to confirm the factor structure of this scale amongst their respective samples of Chinese college students, South African university students and South African and Australian adolescents. Problems were noted with the self-appraisal and goal setting subscales and attributed to the influence of collectivistic values in the Hampton (2005) and Creed et al. (2002) studies. The tendency to subsume individual identity and personal goals to community identity, goals and the greater good, was considered to be the reason for difficulties with these particularly individualistic subscales of the measure.

In those studies comparing U.S.A. and other international samples, career decision self-efficacy levels have been found to be lower in the international samples. Mau (2000, 2001) reported higher career decision self-efficacy for American undergraduates than Taiwanese undergraduates, which he attributed to three aspects of the Asian culture. Firstly, he argues that the Taiwanese are likely to experience more decision making difficulties and to be less aware of their individual aspirations and needs, because of their collectivistic cultural emphasis on familialism and social conformity. Secondly, Mau (2001) suggests that Taiwanese students are far less likely to work before they complete their university degree, and may, therefore, lack important occupational knowledge of the world of work. Finally, he suggests that Asian and American cultures promote contrasting views with regard to how the individual should view and present him or herself to others. According to Mau (2000), the Asian culture tends to endorse self-critical modest thinking, which is in sharp contrast to the American culture, which has been shown in numerous studies to encourage self-promotion. Another interesting cross-cultural variation with regard to career decision self-efficacy research noted by Mau (2000) is that differences were also evident in the relationships between decision making style and career decision self-efficacy for these two cultural groups. For the American students a dependent career decision making style was associated with lower levels of career decision self-efficacy. However, for the Taiwanese students, a dependent decision making style was found to be predictive of higher levels of career decision self-efficacy. This is again consistent with the cultural belief amongst this group that the dependent approach is not as negative as it is to the American individualistic culture. These
findings support the prediction by SCCT that cultural differences in values may play a significant role in career decision self-efficacy amongst diverse populations.

The CDSE, although plagued by problems with its factor structure, has been found to be a robust measure of career decision competencies in cross-cultural studies. Problems with the individual scales are not new or limited to these diverse population groups. In those instances where the individual subscales have proved to lack validity, the overall total score has proved to be a viable alternative. In these cross-cultural studies, no consistent trend has emerged in mean levels of CDSE. In those studies where levels of career decision self-efficacy for ethnic minorities have been found to be lower than white samples, negative emotional responses to anticipated career barriers, associated with racial and ethnic identity as well as variations in cultural values, have been identified as potential contributing factors.

2.6.1.2 Gender and career decision self-efficacy

Empirical studies examining the relationship between gender and career decision self-efficacy have typically shown no gender differences (Betz & Klein, 1996; Betz & Voyten, 1997; Chung, 2002; Creed et al., 2002; Mau, 2000; Taylor & Betz, 1983; Taylor & Popma, 1990b). Lent and Hackett (1987) suggest that these findings are consistent with the general trend in the career literature, which proposes that gender appears to only impact on gender-linked content activities or variables such as career preferences, with the most sizeable gender differences in self-efficacy being found in relation to Holland’s occupational themes (Lindley, 2005). However, as predicted by the SCCT model, gender role self-concept or social constructions associated with gender, appear to influence career decision self-efficacy, operating as distal background variables and shaping the socialisation experiences that inform the sources of career decision self-efficacy beliefs. For example, various studies utilising Bem’s sex role orientation model, have demonstrated that career decision self-efficacy appears to be related to sex role orientation (Abdalla, 1995; Brown et al., 2006; Gianakos, 1995). Women with an androgynous orientation (incorporating instrumental and expressive attributes) reported higher levels of confidence in their abilities to successfully complete the five career decision competencies of the CDSE, especially problem-solving, planning and self-appraisal (Gianakos, 1995). Abdalla (1995) reported that gender as a biological attribute, had a negligible effect on career decision self-efficacy, whereas women with an androgynous orientation scored highest on the CDSE, followed by those with masculine or instrumental
self-concepts, then feminine or expressive, and finally undifferentiated ones. More recently, Brown et al. (2006) reported that androgynous, followed by feminine orientated students majoring in computer science obtained significantly higher CDSE scores than undifferentiated students. Within-gender differences, reflecting differential levels of gender role identification, were also noted by Gushue and Whitson (2006). Gender role attitudes predicted career decision self-efficacy amongst African and Latino American girls. Higher levels of egalitarian gender role attitudes were related to higher levels of self-efficacy. Gushue and Whitson (2006) suggest that these higher levels of egalitarian attitudes may increase girls’ confidence in their ability to cope with the effects of the sexism they may encounter in the process of career exploration. This increased confidence is then likely to influence their beliefs in their ability to engage in the specific behaviours necessary for the tasks of career decision making.

2.6.1.3 Contextual variables and career decision self-efficacy

As mentioned previously within the SCCT framework, contextual factors that directly influence or moderate the career decision process, are construed as either potential barriers or supports to the progress of the individual’s career development. Supports are defined as those aspects of the environment and the individual’s appraisal of the environment that facilitate career choice and development (Lent et al., 2000). In relation to career decision self-efficacy, parental, sibling and peer supports, as well as religious support have been examined. Hargrove, Creagh and Burgess (2002) note that the perceived quality of family relationships and family supported goals positively influence career decision self-efficacy amongst college students. An achievement orientation within the family of origin was the only variable to consistently predict all five of the CDSE subscales. Social support from family, friends and significant others, was also noted to have an enhancing effect on self-efficacy amongst undergraduate college students (Duffy & Lent, 2008). This contextual factor has particular relevance in collectivist communities, where the family is considered an important reservoir of advice and wisdom. In this regard, Constantine, Wallace and Kindaichi (2005) report on how cultural values that emphasise familialism and communalism may influence African American adolescents in the process of making career decisions to place great emphasis on parental support. An absence of this form of support may be particularly challenging for them. Another example of the importance of parent involvement in the career decision process is provided by Flores and Obasi (2005). Amongst Mexican American high school students,
parents were reported to have an important influence as role models, with 78% of the students identifying their mother as the most significant role model.

Parent and peer support in the career decision making process has also been examined from an attachment perspective. Wolfe and Betz (2004) found that the quality of parental and peer attachment bonds were related to career decision self-efficacy amongst undergraduate university students. According to them, individuals with less well developed, fearful or preoccupied attachment styles are particularly vulnerable to career decision problems.

Women have also cited perceived social support as an essential proximal contextual variable, influencing their career decision self-efficacy levels. Quimby and O’Brien (2004) found that social support accounted for significant variance in self-efficacy for both traditional and non-traditional college women students, with social support adding to the prediction of CDSE over and above the contribution of perceived career barriers. Overwhelmingly, perceptions of few career barriers and robust social support resulted in feelings of confidence in achieving career decision tasks.

Another dimension of support that has been explored in relation to career decision self-efficacy is the influence of religious and/or spiritual support. Duffy and Lent (2008) found that, what they referred to as “God support”, rather than religious community support, accounted for unique variance in self-efficacy amongst undergraduate students involved in campus religious organisations. “God support” is defined as feeling close to God and having the ability to turn to God when overwhelmed and troubled. They note that for religious individuals, this spiritual relationship may provide a relatively unique source of support in constructing beliefs about decision making self-efficacy.

Career barriers, which are defined as negative contextual influences (Lent et al., 1994), have also been explored. Given the socio-political implications of racial/ethnic, gender and minority political status, it is not surprising that researchers have found that ethnic minorities and women perceive more barriers to decision making and overall academic and career pursuits than white male samples (Leal-Muniz & Constantine, 2005; Luzzo, 1993c; Luzzo & Hutchenson, 1996; Luzzo & McWhirter, 2001). McWhirter (1997) investigated anticipated discrimination related to obtaining employment, college attendance, barriers within the
college context and general perceptions of barriers, and concluded that all were related to ethnic and gender identity. Patton et al. (2003) report that perceived career barriers had a negative impact on the career decision self-efficacy of South African white adolescents, who have to make career decisions in the context of an economic recession, high levels of unemployment and the implementation of affirmative action policies. Stead et al. (2004) also note that perceptions of barriers to career development were high for white South African high school students, who cited affirmative action and racial discrimination as important contextual barriers to their career progress.

2.7 Conclusion

It appears from the literature on SCCT in general, and career decision self-efficacy in particular, that developing a high level of self-efficacy in career decision making is likely to lead to adaptive career decision making and successful career outcomes for university students. From the various person inputs that have been investigated with regard to career decision self-efficacy, a fairly cohesive profile of the internal characteristics, which serve as precursors for high levels of career decision self-efficacy, can be compiled. Conscientiousness, personal agency, self-confidence, self-discipline, self-management and the commitment to taking the initiative and personal responsibility for one’s career development, have been consistently correlated with high levels of career decision self-efficacy. As will be evident in the proceeding chapter, this personal orientation strongly resembles that of the self-directed learner. It is hypothesised that this personal orientation towards self-directed learning facilitates the learning processes of performance accomplishments, vicarious learning, social persuasion and emotional arousal—which provide information from which self-efficacy and outcome expectations are formulated.

The self-directed learner, whose defining characteristic is that he or she takes personal responsibility for his or her learning experiences (Brockett & Hiemstra, 1991), is speculated to engage more consciously, responsively and purposively in extracting the relevant efficacy information from their performance accomplishments, vicarious learning experiences, encouragement and emotional arousal. This efficacy information is then, in accordance with the SCCT model, predicted to positively influence self-directed learners’ perceptions of their competency in the tasks delineated within the construct of CDSE. These tasks include the achievement of accurate self appraisal, the accumulation of sufficient and accurate
occupational information, goal formulation, adequate planning and problem solving, with regard to career decision making. Initial support for these ideas is evident in the arena of education with the work of Parajes (1996) who reports a link between academic self-efficacy and self-regulated learning variables. In the career context Wang et al. (2007) propose that a concept related to self-directed learning, namely self-regulated learning plays a significant role in career search strategies. They conclude that self-regulated learning, provides an explanation of the learning process that is integral to the individual developing self-efficacy and outcome expectations regarding the world of work in general, and more specifically the job search process and career construction. They suggest that this approach to learning accounts for career seekers’ motivation, selection of strategies, implementation, monitoring, adaptation and evaluation of whatever career process they are engaged in during their career search.

With regard to the additional personal variables of gender and ethnic-racial-socio-cultural identity, existing research has demonstrated the need for further studies, in these diverse population groups. For women, the typically lower levels of self-efficacy that have been reported across various career indices and domains, suggest the continuing presence of internalised cognitive barriers, circumscribing their career interests, choices, performance and outcomes. Within the realm of career choice, although research has typically not shown any gender differences in terms of career decision self-efficacy, caution needs to be exercised in assuming that this is the complete picture. Social, political and cultural constructions and meanings associated with gender have been found in some cases to moderate the relationship between gender and career decision self-efficacy. It is speculated that distal contextual variables, such as gender role socialisation processes restrict the access of certain women to sources of efficacy information, which would lead to a greater confidence and so more adaptive and successful career outcomes. In addition, the proximal contextual implications of gender have also been found to impact at various career choice points for women. Women continue to report anticipating more gender related barriers, which have been correlated with low levels of career decision self-efficacy. These observations necessitate that urgent attention be given to the career experiences of women in an effort to contribute to the growing body of knowledge aimed at understanding and remediating these challenges.

Ethnic-racial-socio-cultural identity has also been shown to be an influential person factor, both within the broader SCCT framework and the career domain of decision making. Distal as
well as proximal contextual barriers have been demonstrated to be correlated with levels of career decision self-efficacy. Although no consistent pattern has been reported, some significant findings suggest that the individual’s ethnic-racial-socio-cultural identity plays a significant role in the career experiences of diverse population groups. Within the South African context the legacy left by the racially oppressive apartheid system has meant continued differential access to sources of self-efficacy for black South Africans, with black women being the most severely affected population group. Anticipated career barriers have also been found to negatively impact the career decision self-efficacy levels of white South Africans as they encounter the negative consequences of various remediation and restoration policies in the post-apartheid era. In addition, the individual’s level of identification with his or her social identity appears to play a significant role in mediating the effects of ethnicity on career decision self-efficacy levels. The collectivistic cultural orientation and values, to which many black South Africans subscribe, have been offered as a partial explanation, in those instances where ethnicity has been correlated with lower levels of career decision making self-efficacy. In these instances the cultural equivalence of a number of the particularly individualistic subscales of the CDSE has been alluded to. At this stage, with only a few studies attending to these concerns within the career decision domain, the picture with regard to the effects of these person inputs remains unclear within the South African context. It is anticipated that the cross-cultural nature of this study will contribute to efforts to bring clarity in this regard.
CHAPTER 3

SELF-DIRECTED LEARNING

3.1 Introduction

Most recent accounts within the literature on self-directed learning differentiate between self-directed learning as a personal orientation and as processes/activities involved in self-directed learning. As will become evident in this chapter, the defining component of the personal orientation of self-directed learners is that they take personal responsibility for their learning experiences, including their motivation levels and the initiation, decision making, planning, implementation and evaluation of all learning processes. It is this personal orientation which is hypothesised to be an important precursor to high levels of career decision self-efficacy and so to adaptive career decision making and successful career outcomes. Utilizing Brockett and Hiemstra’s (1991) Personal Responsibility Orientation Model of Self-direction in Learning and other empirical findings, this research proposes that the young woman student career decision maker, who displays high levels of self-directed learning, will also display high levels of career decision self-efficacy.

In terms of the role of the process elements or activities of self-directed learning, it is hypothesised that these activities and processes will provide the self-directed learner with opportunities to perform, engage in and master activities relevant to effective career decision making. The student within the self-directed learning context is expected to take on the role of decision maker for all learning related choices and processes. In doing so, he or she has access to opportunities for performance accomplishments, vicarious learning opportunities, sources of social persuasion and emotional arousal information with regard to these skills. These learning experiences will not only contribute to self-directed learners’ self-efficacy beliefs with regard to their generic decision making abilities, but will also provide them with the skills, motivation and confidence to engage in effective career decision making. However, as will become evident, the focus of this study is on the personal orientation of the self-directed learner. It is recommended that the process aspects of this construct be addressed in further studies, and speculations regarding the relationship of this aspect of self-directed learning and career decision self-efficacy be examined in these efforts.
The discussion of the construct of self-direction in learning begins with an overview of the origins and evolution of the construct as well as various definitions of self-directed learning. Thereafter the literature on self-directed learning is reviewed, utilising Candy’s (1991) theoretical approach as an organizing framework. Self-direction as a personal orientation is differentiated from self-direction as a process and the various correlates of these components of self-direction, which have been empirically examined, are discussed. Next, a discussion of the Personal Responsibility Orientation Model (Brockett & Hiemstra, 1991) is presented. The chapter concludes with a summary and discussion of the hypothesised relationship between self-directed learning and career decision self-efficacy.

3.3 Origins and definition of self-directed learning

Candy (1991) asserts that self-directed learning is the prototype of all learning and the goal of almost all formal education. McClintock (1982) describes it as the oldest and most noble form of study and notes that the earliest references to self-education/study date back to the early Greeks and Romans (Guglielmino et al., 2005). Socrates is noted as having described himself as a self-educated individual and according to Kulich (1970) and Gibbons et al. (1980), numerous other famous thinkers throughout history, including Descartes, Benjamin Franklin, Harry Truman, Malcolm X and Walt Disney have made reference to their self-education (Candy, 1991). Long (1989) claims that the evidence of self-direction through these times can be found in various media such as oral traditions, diaries, letters, societies and associations, personal libraries, newspapers and magazines, that have served as resources for self-directed learning efforts. More recently, in the early twentieth century, related ideas such as autonomy and independent and personal development of adult learners were explored in the field of adult education (Brockett & Hiemstra, 1991). However, despite its long history, it was only in the 1960’s that self-directed learning became the subject of systematic scientific study in the field of adult education. Even then, despite the numerous empirical studies (Della-Dora & Blanchard, 1979), the domain would continue to be plagued by conceptual confusion and a lack of internal consistency for the next three decades (Clardy, 2000).

Candy (1991) explains that in the 1960’s, concern was growing about the potential widening of the gap between what formal education offered and what the rapid technological advances in industry required from a worker. Professor Houle of the University of Chicago initiated research into this subject matter by conducting informal interviews amongst 22 adults from
Milwaukee, Wisconsin. These individuals were selected because they were engaged in ongoing learning activities, outside of institutional settings. Houle’s (1961) focus was on identifying the motives of these learners. Based on his findings, he described three types of adult learners: goal-orientated learners whose learning activities were motivated by a desire to achieve a particular end, such as a career advancement or career change; activity-orientated learners who were found to be motivated by a desire for opportunities to connect with like-minded individuals; and a learning-orientated group, reported to be participating in learning activities for the sake of personal gratification, viewing learning as an end in itself. These findings were published by Houle (1961) in a book titled “The Inquiring Mind”, which became the impetus for further research into this subject matter by two of his students, Tough (1971) and Knowles (1975).

At around the same time, Johnstone and Riveria (1965) sought to quantify these informal adult self-directed learning endeavours so as to establish the prevalence of this phenomenon. Their findings from a survey demonstrated that eight percent of adults sampled were involved in at least one major self-education project (Guglielmino et al., 2005). They concluded that self-instruction was possibly the most overlooked activity in adult education, and invited researchers within the field to address this gap (Guglielmino et al., 2005). In response to this call and inspired by the work of Professor Houle (1961), Tough (1971, 1978, 1979a, 1979b) operationalised the construct of self-directed learning that took place outside of educational institutions. He was particularly interested in Houle’s (1961) learning-orientated group, who chose to pursue continuous and in-depth learning for their pleasure and as an end in itself. His unit of analysis was the Learning Project, which he defined as purposeful learning efforts and activities aimed at acquiring knowledge, skill or change in some way (Candy, 1991). Each project was required to have a beginning, middle and end and to include at least seven hours of the individual’s time over a six month period. The information obtained in this way needed to have been retained for at least two days after the learning activity took place. Assessment of these activities was focused on adult learners’ involvement in tasks such as the planning, locating and organising of resources, studying and learning, and evaluation of their learning progress (Guglielmino et al., 2005). These activities were considered self-directed because they were initiated, planned and controlled by the adult learner (Guglielmino et al., 2005).

Tough’s (1971, 1978, 1979a, 1979b) studies and a number of other studies, utilising the same methodology, were conducted amongst diverse socio-demographic groups, including blue
collar workers, women and men in lower levels of white collar positions, beginning elementary school teachers, social science professors and upper class women with pre-school children (Brockett & Hiemstra, 1991). The results revealed a much higher prevalence of informal self-directed learning endeavours, than had been reported by Johnstone and Riveria (1965). It appeared that almost everyone undertakes at least one or two major learning projects per year, and some individuals undertake as many as 15 to 20. An average of eight learning projects per year, with the majority of them self planned and comprising an average of 104 hours, was reported, with professionals tending to embark on more learning projects than people in other occupational groups (Caffarella & O’Donnell, 1987; Coolican, 1975; Cross, 1981; Hiemstra, 1985; Merriam & Caffarella, 1999; Penland, 1979). Less than one percent of these projects were undertaken for credit. The most commonly mentioned topics included: job preparation, job skill maintenance, problem solving in the work context, personal growth and development, and responsibilities at home. Collectively the data pointed to a consistent pattern of self-directed learning as a method commonly used by adults for addressing their learning needs (Clardy, 2000). In addition, this form of learning was primarily differentiated from traditional learning approaches, by the fact that self-directed learners were reported to take personal responsibility for their own learning (Brockett & Hiemstra, 1991). Tough’s (1971, 1978, 1979a,b) notion of personal responsibility in learning became an impetus for further research in this field, which subsequently verified the widespread involvement of adult learners in such informal projects.

In the 1970’s growing awareness of the popularity of these informal self-initiated projects as well as ongoing economic, political, technological and social changes on a global scale, led researchers within the field of formal education to consider the relevance of self-directed learning to their context. Technological innovation and the emergence of a globalised information economy meant that not only was there a constant flow of new knowledge that needed to be mastered, but that the manner in which information is developed, acquired and disseminated was changing dramatically. The storage time of an individual’s knowledge was reducing dramatically and it was predicted that most workers’ jobs would change significantly over every five year period (Clardy, 2000). Durr, Guglielmino and Guglielmio (1996) also note that knowledge gained from higher education pursuits was expected to be obsolete within five to ten years. In order to keep pace and maintain their competence and competitiveness, organisations require employees who are capable of independent and self-initiated continuous learning and problem solving (Gabriella, Guglielmino & Guglielmino, 2006).
The probability that individual learners would embrace these emerging demands, for increased autonomy and personal responsibility in the new career landscape, was further enhanced by the corresponding shifts in the ideological consciousness within the broader social political arena. Candy (1991) explains that a renewed emphasis on ideals such as humanism, individualism, participative democracy and egalitarianism meant that individuals were assumed to be basically good and to be driven by a natural tendency towards growth and development. In this context the individual is assigned personal responsibility for creating and mastering his or her own destiny and expected to seek active participation in decision making processes, which affect his or her life, with very little heed paid to hierarchy and authority. These demands for empowered graduates and the growing recognition of the individual’s willingness and capability to engage in self-initiated learning were pointing to a need for important changes within formal education practises. To keep pace, adult education needed to capitalise on the individual’s inherent growth tendencies and provide opportunities and skills which would empower them to take responsibility for, and master their careers (Candy, 1991). Gabriella et al. (2006) note that formal learning institutions need to progress from being content providers to developers of self-directed learners with a strong information base from which they can grow. This will allow future employees to enter the world of work empowered with the skills, attitudes and competencies to engage in continuous learning, easily and skilfully for the rest of their lives (Mok & Lung, 2005).

It was in the context of this renewed focus on the role of educational institutions equipping future graduates for this new career landscape, that Malcolm Knowles (1975), also a student of Houle, considered applying the construct of self-directed learning to the formal education context. In addition to acknowledging the relevance of this form of learning to the broader social, political and economic world of work, Knowles’s (1975) unique contribution was to assert that self-directed learning is more congruent with the individual’s natural process of psychological development than traditional educational methods. Becoming a self-directed learner, Knowles (1975) explains, mirrors the process of psychological maturation from complete dependence to self sufficiency and personal responsibility for ones’ life. In the process of becoming a self-directed learner the individual progressively acquires greater independence in the learning process and accepts increasingly more responsibility for the learning process and its outcomes. Another major contribution made by Knowles (1975) was
his definition of self-directed learning. This definition has become the most well known and often cited definition of this construct:

Self-directed learning describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (Knowles, 1975, p. 18).

In the 1980’s a new area of interest within the field of self-directed learning emerged (Della-Dora & Blanchard, 1979). Rager (2006) notes that researchers such as Spear and Mocker (1984), Candy (1991) and Brockett and Hiemstra (1991) began investigating the origins and dynamics that contributed to the individual becoming a self-directed learner. Their intention was to progress beyond description of self-direction to prediction of this construct. Spear and Mocker (1984) adopted a qualitative approach and explored how and why self-directed learners in the informal learning context acquired their resources and made decisions about their learning processes. The participants in their study had not earned a high school diploma, but were engaged in various informal learning activities. Contrary to expectations, they found that these learners seldom pre-planned their learning activities or considered a variety of alternatives in the selection of resources to use in their projects. Instead, their choices were shaped by whatever resources were readily available in their environment. On the basis of these findings, Spear and Mocker (1984) conclude that decisions about self-directed learning projects were largely structured by contextual variables. Although Spear (1988), subsequently softened this deterministic view, he still maintained that environmental or contextual variables have a powerful influence on both the content and process of adults’ informal learning projects. These environmental factors were referred to as the Organising Circumstance, which, like the SCCT construct of contextual affordances, accounted for the impact of limited learning opportunities and resources on learning projects undertaken independently.

In addition to considering external factors accounting for individual differences in self-directed learning, factors internal to the individual were investigated. In exploring the personal qualities, traits and motivations of individuals regarded as highly self-directed in their learning activities, factors such as psychological control (Long, 1989), critical and reflective thinking (Confessore & Kops, 1998) and achievement motivation, mental ability,
energy, curiosity and confidence (Tough, 1971) were identified. Further insight into these internal characteristics was presented by Guglielmino (1977) in her construction of an instrument used to measure an individual’s readiness to engage in self-directed learning. Houle, Tough and Knowles were some of the participants comprising her panel of experts for the Delphi survey on which the Self-Directed Learning Readiness Scale was constructed. The panel reached consensus on the following characteristics of a highly self-directed learner:

- one who exhibits initiative, independence and persistence in learning, one who accepts responsibility for his or her own learning and views problems as challenges not obstacles; one who is capable of self discipline and has a high degree of curiosity; one who has a strong desire to learn or change and is self confident; one who is able to use basic study skills, organize his or her time and set an appropriate pace of learning and to develop a plan for completing work; one who enjoys learning and has a tendency to be goal-orientated (Guglielmino, 1977, p.73).

Although Guglielmino’s (1977) measure provided important insights into the characteristics of self-directed learners, the measure tended to be biased towards individuals in more formal educational setting (Brockett, 1985a). An alternative measure of self-directedness in learning, which also included the experiences of those in the informal learning context was developed by Oddi (1986) and referred to as the Oddi Continuing Learning Inventory. It differentiated individuals as self-directed learners on the basis of their initiative and persistence in learning over time and through a variety of modes. In her factor analysis, Oddi (1986) identified three clusters of personality dimensions to be essential to self-direction in continuing learning. These included proactivity, cognitive openness and a commitment to learning. Both Guglielmino (1977) and Oddi’s (1986) instruments have been used to demonstrate significant correlations with various psychosocial correlates and demographics, confirming that a significant part of the variance in self-directed learning activities, both in formal and informal settings, is attributable to internal stable factors.

The late 1980’s and 1990’s were characterised by efforts to synthesise and integrate the empirical findings in the field of self-direction and to conceptualise a theoretical base for this construct (Brockett & Hiemstra, 1991; Garrison, 1997). Candy (1991) and Brockett and Hiemstra (1991) have made significant contributions in this regard. They share the opinion that self-direction in learning is a multidimensional construct with many facets and aspects,
and the product of the interaction of both internal person factors and external contextual variables. Candy (1991) argues that failure to differentiate this construct into its components is responsible for the reported confusion and lack of internal consistency in this field of study. Specifically, he notes that various terms such as lifelong learning, autonomous learning, independent study, self-regulated learning and learning projects have been used interchangeably, despite their differences in emphasis. As a solution, Candy (1991) proposes that self-direction in learning be separated into four components. At the first level of differentiation, he distinguishes between self-direction as a method/process of instruction and as a personal orientation. Self-direction as a method of instruction or process is then further divided into learner control and autodidaxy. Learner control describes self-direction in the formal institutional setting and is evident in the work of Knowles. Autodidaxy refers to independent learning endeavours, initiated by the learner outside of the formal education setting, resembling Tough’s learning projects. In terms of the dimension of self-direction as a personal orientation, Candy (1991) distinguishes between self-direction as a personal attribute in the philosophical and psychological sense, and self-direction as a form of self-management. The former component he refers to as personal autonomy, and the self-management aspect he defines as including the individual’s willingness, capacity, skills and competencies required to conduct his or her education. In terms of the relative contributions of person and contextual variables to the development and expression of self-direction in learning, Candy (1991) posits that both the dimensions of self-direction as a process (including autodidaxy and learner control) and the dimension of self-direction as a personal component (including the individual sense of personal autonomy and self management capacity) are influenced by individual and contextual variables. Personal autonomy and self-management contain both trans-situational and situation-specific aspects, and the definition of a learning context includes a consideration of the responses of the participants engaged in the learning method or process.

Candy attempts to capture the complexity of this construct by providing the following all-encompassing definition of self-direction in learning:

Self-direction is at once a social and psychological construct, a philosophical ideal, and a literal impossibility; an external manifestation and an internal tendency, both the beginning and the end of lifelong learning; the foundation stone and the keystone of a learning society; a supplement to and a substitute for the formal education system; a
vehicle for the mastery of established knowledge and for the transformation of personal understanding, simultaneously a process and a product, a precondition and a purpose (Candy 1991, p. 424).

Brockett and Hiemstra (1991) also allude to the multidimensional and complex nature of this construct by formulating a model of self-direction which also differentiates the personal and process aspects of this construct. Their model is termed the Personal Responsibility Orientation Model (PRO) of Self-Directed Learning. It includes an overarching term, self-direction in learning, which encompasses all aspects of self-directedness. This construct is then differentiated into self-directed learning and learner self-direction. Self-directed learning represents the instructional dimension of this form of learning, in which the learner assumes primary responsibility for planning, implementing and evaluating the learning process, with or without the input of an educator. It represents the process dimension of the model and delineates the external characteristics of the instructional process that impact on the individual’s self-direction in learning. The second dimension (learner self-direction) encapsulates the learner’s personal orientation or internal characteristics, which predispose him or her to assume responsibility for learning. These two dimensions are linked through the recognition that each emphasises the importance of learners assuming personal responsibility for their thoughts and actions. Like Candy (1991), Brockett and Hiemstra (1991) emphasise that all self-directed learning experiences are the result of the interaction between these process elements and the individual’s personal characteristics. In addition, they recognise that there are times when a highly teacher-directed approach will prove most effective and will be expected and demanded by the learner as well.

3.3 Self-directedness as a personal orientation

Candy (1991) differentiates between the philosophical, broader aspect of self-direction as a personal attribute (personal autonomy) and the more narrowly circumscribed aspect of self-management within the learning context. Personal autonomy describes the predisposition towards thinking and acting autonomously across diverse situations, while self-management denotes the tendency to exert control over one’s learning endeavours. Although related, these aspects of self-direction may not occur together. Brookfield (1984) explains that an individual may be self-directing in the learning context, setting goals, determining the instructional design and evaluating procedures, yet he or she may not demonstrate ideological
independence by critically assessing the validity or value of the particular learning project. Similarly, a highly autonomous individual may choose not to manage his or her own learning endeavours and instead delegate control over the management of the learning process to others.

However, despite the value of conceptualising these aspects of self-directedness as distinct, in this research they will be used interchangeably as they occur most often together and share a number of assumptions and characteristics. For example, Candy (1991) notes that they are both embedded in philosophical ideals of personal freedom, democracy, humanism and individualism. Furthermore they both correspond to the dominant social and cultural ideal of autonomy and the concept of adulthood as being largely defined as independent thought and behaviour. The congruence of self-directedness in learning with the ideological view of society and adulthood, as well as the fact that self-directed learners have been found to adapt effectively in a world characterised by continuous and rapid political, social and technological change (Bandura, 1995; Guglielmino & Murdick, 1997) has meant that the development and enhancement of both these orientations to life has become a major goal of adult education and a lifelong pursuit. Initially viewed dichotomously as either something people are or are not or have or do not have, more recent theories (Kasworm, 1983b, 1988a; Brockett & Hiemstra, 1991) have conceptualised self-directed learning as a continuum, which is present in all individuals to varying degrees.

Another important aspect of self-directedness in the learning context is that despite the associated emphasis on self-reliance and independence, Brockett and Hiemstra (1991) and Candy (1991) assert, that it is simultaneously compatible with interdependence and collaboration. Candy (1991) further argues that the advocacy of personal autonomy need not be associated with excessive individualism. Many self-directed learning activities are conducted within a classroom or group setting, requiring important social skills such as cooperativeness, mutual respect and empathy. What remains in the jurisdiction of the individual, however, is the responsibility for his or her learning endeavour.

Numerous research efforts have been directed at elucidating the personal characteristics, including socio-demographics, psychological variables and personality factors that are typically related to the self-directed learner. In addition, the development course of this personal orientation has been explored. These findings are presented below.
3.3.1 The development of self-directedness

Various studies investigating the relationship between age and self-directedness have consistently demonstrated age differences in self-directed learning readiness. Reio and Davis (2005) note that this evidence lends support to the view that learner self-directedness might have a developmental trajectory over the lifespan—increasing incrementally from adolescence, peaking in the 30’s to 40’s until the 50’s, at which time the individual’s level of self-directedness begins to decline. Goldberg (2001) hypothesises that to the extent that self-directed learner readiness is considered an aspect of executive control functioning in the frontal cortex, this progression makes sense from a maturational/biological perspective. This aspect of brain functioning only matures in late adolescence and early adulthood (Goldberg, 2001) and thus to be fully self-directed in learning activities, the individual needs to have reached this level of development. Findings by Oliveira and Simoes (2006) that the influence of age on self-directedness was through its effect on the development of cognitive and metacognitive factors, provide evidence in support of this postulate.

Candy (1991) and Grow (1991) note that although disagreement remains as to the origins of self-directedness, consensus and ample evidence exists for the view that self-directedness is amenable to educational intervention. Kasworm (1983b) proposes that the development sequence of this process involves qualitative changes in behaviour or skills, cognitive capacities and skills, and emotional and value orientations, and is influenced by a number of factors. These factors include individuals’ awareness of themselves and their values, language competences, numeracy, ability to define, clarify and resolve problems, and cognitive information processing patterns. The nature and content of the individual’s exposure to cultural influences with regard to the value and use of knowledge and the self as well as to previous learning experiences, also play an important role in providing opportunities for learners to explore and develop their self-directed learning capacity. In terms of the skills the self-directed learner acquires, Candy (1991) differentiates between generic and content specific skills. Generic skills (which will empower him or her to exercise self-directedness trans-situationally) include the ability to identify learning purposes, locate learning resources and manage learning activities. Content specific skills require that the learner grasp the internal coherence or inherent structure of the discipline he or she is studying. This will enable him or her to critically reflect on the subject matter. In addition to this skill acquisition, Akerlind and Trevitt (1999) argue that where the learner has previously been
embedded in a teacher-directed education context, he or she will need to confront their assumptions about learning and knowledge, and make changes at the level of their paradigm for education. As the responsibility for education, teaching, learning and knowledge shifts from the educator and educational system, the self-directed learner will need to take ownership for the learning process and content and accept the tasks of preparing, planning, directing and controlling what is learnt.

Numerous studies have reported that in adopting this alternative approach to learning, individuals typically progress through a series of psychological reactions before they adjust. Initially they display resistance, frustration and self doubt, which progressively give way to an openness, responsiveness and expanding confidence. For example, Lunyk-Child et al. (2001) report that students who engage in self-directed learning, undergo a transformation that begins with negative feelings of confusion, frustration and dissatisfaction and progresses to a sense of confidence and skill for lifelong learning. Similarly, Boyer and Kelly (2005) found that individuals who participated in a self-directed learning programme reported being initially overwhelmed with feelings of trepidation, fear and anxiety. As the course progressed, these fears gradually gave way to an increased sense of mastery and comfort with directing their own learning experiences. Schweikert-Cattin and Taylor (2000) have provided a stage model to describe this developmental progression, through various motivational states. Stage 1, is characterised by self-doubt and denial, as the learner questions his or her competence and grapples with the foreign idea of taking control and responsibility from the educator. Learners become increasingly aware that their previous experience has not prepared them for this method (Regan, 2006). Stage 2 is characterised by feelings of anger and displays of resistance. Schweikert-Cattin and Taylor (2000) explain that the anger is in response to the realisation that the teacher is not going to give them direction every time they are confused. They encounter the reality that they have no one but themselves to blame for their incompetencies, and that they have been left to make their own choices and motivate themselves to work. Stage 3, during which learners feel increasingly incompetent and continue to make mistakes as they test out new strategies, is marked by feelings of being overwhelmed. Unaccustomed to identifying their learning needs, planning or making independent choices, they grapple with having to master these generic skills over and above having to master the subject matter. Progress through Stage 4 is cautious and tentative. They may feel conflicted, as on the one hand they do not want to let go of the security of the familiar and the freedom that comes with knowing that the decisions are someone else’s
responsibility, but on the other hand they do not want to let go of the independence that comes with andragogy. Finally, in Stage 5, as they complete a learning task or a course that they had set as a goal to accomplish, they become more confident. They realise that mistakes are a natural part of the self-directed learning process, and begin to believe in themselves and in their abilities as self-directed learners to complete tasks and achieve goals. Their self esteem increases and they enjoy having choices, making decisions and being in control of their situation. At this stage, they have made the paradigm shift that Akerlind and Trevitt (1999) speak of, as integral to becoming a self-directed learner.

Patterson, Crooks, and Lunyk-Child (2002) and Wiley (1981) have noted a number of other individual differences in this process. Given the differences apparent in the readiness, receptivity, and responsiveness to attempts to develop self-directedness amongst learners in both formal and informal settings, a number of empirical studies have investigated the individual differences that are unique to the self-directed learner and potentially indicate a self-directed learner personal orientation.

### 3.3.2 Characteristics of the self-directed learner

Attempts to understand the self-directed learner have included quantitative and qualitative studies, which have identified socio-demographic, psychological and personality correlates amongst self-directed learners. In these efforts to move beyond description toward prediction and comparison of self-direction via other characteristics, the most popular instruments used to measure these characteristics have been the Self-Directed Learning Readiness Scale (SDLRS; Guglielmino, 1977), followed by the more recent Oddi Continuing Learning Inventory (OCLI; Oddi, 1986). The SDLRS was designed to determine the extent to which individuals perceive themselves to have the skills and attitudes typically associated with self-directed learning. Factor analysis of this scale revealed the existence of eight factors, namely an openness to learning opportunities, self-concept as an effective learner, initiative and independence in learning, informed acceptance of responsibility for one’s own learning, love of learning, creativity, future orientation, and an ability to use basic study and problem solving skills. This scale has been shown to demonstrate a number of conceptual, construction and layout problems (Candy, 1991; De Bruin, Jacobs & Schoeman, 2001).
Similarly, although the OCLI has been shown to have a number of methodological and substantive problems (Landers, 1990; Six, 1989), Brockett and Hiemstra (1991) argue that empirical studies, utilising this measure, have provided significant insight into the psychological and personality characteristics of self-directed learners engaged in lifelong learning. The OCLI was constructed to identify those learners who demonstrate initiative and persistence in learning. Oddi (1986) identified three clusters of personality traits evident in self-directed continuing learners: proactive drive versus reactive drive, cognitive openness versus defensiveness, and a commitment to learning versus apathy or aversion to learning. A factor analysis of this scale revealed three factors, namely a proactive approach toward learning, the ability to work independently, to learn through involvement with others and to be self-regulating, and finally, a strong desire and interest in for reading (Oddi, 1986).

3.3.2.1 Socio-demographic characteristics of the self-directed learner

In terms of socio-demographics, age, gender, race/ethnicity and level of education have been considered in research. Studies have also been conducted amongst the disabled population (Wehmeyer, Agran & Hughes, 2000). As noted above, a clear trend appears to exist with regard to age and self-directedness in learning, and the same pattern applies to education level. Self-directedness increases incrementally with increases in age (Hoban & Sersland, 2000; Long & Agyekum, 1983; McCarthy, 1986; Reio & Davis, 2005) and level of education (Chuprina & Durr, 2006; Durr et al., 1996; Guglielmino et al., 2005). Where these relationships are indirect, they have been found to be mediated by developmentally influenced variables such as cognitive and metacognitive abilities (Oliveira & Simoes, 2006) and other psychological constructs, such as reflective abilities, self-regulatory and attentional capacities, and motivation (Reio & Davis, 2005).

In terms of gender, the majority of studies (cf. Chuprina & Durr, 2006; Tsay, Morgan, & Quick, 2000) do not support a relationship between gender and self-directedness. For example, Mourad (1979) found that there were no statistically significant differences in the SDLRS scores among males and females across gifted elementary, junior and senior high school students in the U.S.A. In addition, no relationship between gender and self-directedness was noted amongst university students in studies by Guglielmino, Guglielmino, and Zhao (1996) and Hoban and Sersland (1999), amongst managers at Motorola (Chuprina & Durr, 2006), or across a range of occupations (Durr et al., 1996). This pattern was also
evident amongst the disabled population (Bulik, 1996). However Reio and Davis (2005) report that although overall, gender differences in self-directed learning were not noted in their study and that age differences tended to be consistent by gender, with SDLRS scores increasing for both males and females until age 50, there did appear to be a gender age interaction for the age group 14-20. Males in this category of their study demonstrated less self-directed readiness than their female peers. These findings, Reio and Davis (2005) argue, are consistent with previous research with learning related variables, which has also demonstrated that initially males tend to lag behind females in these developmental processes. Despite this overall consistency with regard to the relationship between gender and self-directed learning, it should be noted that gender data reflects biographical descriptors only. No study could be found that considered the role of gender identity as a within-group variable, with the potential to mediate this relationship.

Similarly, ethnic identity has not been considered in a relationship with self-directedness. Furthermore, cross-cultural research in this field has resulted in inconsistent findings. Given the emphasis on collectivist values amongst various diverse population groups (with community identification contradicting the fundamentals of self-directed learning), it would be expected that learner self-directedness levels would be lower among ethnic samples. However, some studies have demonstrated the contrary position. Long and Agykeum (1983) report that black college students at an American university, demonstrated higher levels of self-directedness than white students. In addition Mok and Lung (2005) report high levels of learner self-directedness amongst student teachers at the Hong Kong Institute of Education, and Tsay et al. (2000) found high levels of self-directedness amongst Taiwanese college students, both of which have a collectivistic value orientation. It is suspected that variations in participants, level of acculturation and identification with his or her ethnic origins, may provide some explanation for these unexpected and incongruous findings, however these investigations have yet to be conducted.

Finally, in terms of the special education needs population, although many have argued against the value of applying this approach to those who lack the reflective, cognitive and metacognitive skills which are considered to be integral to self-directedness, Wehmeyer et al. (2002) and Bulik (1996) have demonstrated that this perspective is short-sighted. Wehmeyer et al. (2002) report that students from this population responded positively to a programme designed to improve their self-directedness to master everyday responsibilities. Rather than
dismissing this approach in the context of the mentally challenged population, they recommend that standards and expectation be adjusted to match the individual’s capabilities.

Despite this progress in understanding self-directed learners, Reio and Davis (2005) argue that a number of questions remain unanswered with regard to their socio-demographics. They recommend that future research investigate why these demographic differences exist, how these individual differences manifest themselves in various learning contexts, whether situational variables such as motivation levels or lack of learning resources impact on the expression of self-directedness, and finally, how these differences could be embraced in both formal and informal learning contexts.

3.3.2.2 Psychological characteristics of the self-directed learner

McCune’s (1988) meta-analysis of studies conducted between 1977 and 1987 revealed that adult self-direction has been investigated with a diversity psychosocial/behavioural variables. The following factors have been found to correlate significantly with self-directedness in learning: degree of self-directed learning activity, positive self-concept, educational attainment, self-development, autonomy, ability to master the environment in work, school, play or social relations, and factors related to longevity on the job. Subsequent to this analysis, numerous studies have been conducted to verify these findings and investigate additional variables. The resultant correlates have been grouped into different categories. For the purpose of this review, the most commonly cited category descriptors will be used, namely, cognitive factors, learning, and self development aspects of psychological functioning. However, as Patterson et al. (2002) note, these variables are not mutually exclusive, but rather interrelated in such a way that the self-directed learner uses all or a combination of them simultaneously to direct and control their learning experiences.

a) Cognitive factors

Various cognitive factors have been found to be integral to self-directedness amongst learners. These include meta-cognitive skills and abilities, related skills such as reflection, critical appraisal, self-assessment, as well as more general cognitive factors, such as problem-solving skills, information management and creativity. Mok and Lung (2005) define meta-cognition in the learning context as the individual’s level of awareness and understanding of his or her
specific aspects of cognitive functioning in the context of learning. These include awareness of their own knowledge reserve relevant to the learning task, typical learning style, learning goals, learning strategies, learning competencies, beliefs about one’s own capacity to learn, self-efficacy, locus of control and attributional beliefs about learning outcomes. According to Mok and Lung (2005), the value of meta-cognitive skills in the learning context lies in its empirically verified association with deep level learning, and these skills equip learners to engage in regulating their own learning. Deep level learning and learner self-control have, in turn, been associated with positive learning outcomes and self-efficacy (Gordon & Debus, 2002). Mok and Lung (2005) found that a growth in meta-cognition was one of the most significant changes evident amongst students engaged in a project to increase self-directedness in learning. Similarly, Oliveira and Simoes (2006) verified their hypothesis that meta-cognitive factors, such as internal control and the individual’s beliefs about the use of knowledge, contribute to the prediction of self-directedness in learning.

In terms of the cognitive factors related to meta-cognition, Patterson et al. (2002) identify critical thinking and appraisal, reflection and self-evaluation, as key proficiencies acquired by learners in a programme to improve self-directedness. These students were more independent, purposeful and goal-directed in their thinking, and were able to use their critical appraisal skills to identify relevant data, solve problems and select the best evidence for various tasks. They also have developed reflection abilities, which Patterson et al. (2002) assert are integral to self-directed learning, because these enable the learner to introspect and assess what has occurred and how current events influence future events. Self-evaluation skills were also progressively developed in these students. Patterson et al. (2002) report that initially, the learners’ evaluations were personal, subjective and fairly defensive. However, by the time they graduated, their self-evaluations had become more objective than subjective, they had gained a sense of appreciation for the value and role of others in the evaluation process, and they were able to differentiate and respond to constructive feedback.

A number of other broader cognitive skills have been identified as defining the self-directed learner. Torrance and Mourad (1978) found that self-directed learners displayed a preference for a right brain hemisphere learning style. Mok and Cheng (2001) propose that the relevance of these cognitive skills lies in the fact that they facilitate key learning processes used by self-directed learners, such as assessment of the demands of tasks, planning of the learning
activity, monitoring of progress, achievement evaluation, memory, rehearsal and critical thinking.

In addition to the above mentioned competencies, Patterson et al. (2002) also identify information management as a key skill demonstrated by self-directed learners. Integral to this process are information searching and filing skills, which enable the learner to locate and preserve relevant information for current and future activities. Specifically, searching skills include database knowledge, search strategies, critical appraisal strategies to select relevant literature, all of which facilitate the search for, selection and evaluation of resources appropriate to problem scenarios.

b) Learning factors

The self-directed learner’s approach to learning endeavours is related to cognitive skills. Linares (1999) found a positive correlation between self-directed learning readiness and learning style amongst nursing students. She reported that convergers (Kolb, 1984 cited in Linares, 1999) were significantly more self-directed than the accommodators, assimilators or divergers. Convergers are described as individuals who rely on abstract conceptualisation and engage in experimentation. They display strengths in the skills of problem-solving, decision-making, and the practical application of ideas, and prefer to work on technical, as opposed to social and interpersonal problems and challenges.

Control over learning processes such as information identification and help seeking, has also been found to be a key competency exhibited by self-directed learners (Mok & Lung, 2005). Pascual-Leone and Irwin (1998) describe this process of control as involving the learner’s purposeful attempts to take charge of the conditions and outcomes of the learning process, and exercising this control at the level of the self, the task and the learning context. With regard to control over the self within the learning context, Pascual-Leone and Irwin (1998) posit that self-directed learners display the ability to control their attention, intentions, emotions, motivation and behaviour. Control over their intention and attention, assists the self-directed learner with focusing on the task. Emotional and motivational control enables them to synchronise their motivation with their learning goals and to avoid emotional states that interfere with task achievements. Controlling behavioural impulses and directing their efforts
allows for the selection of learning strategies, which are useful to the task and investment into achieving goals.

c) Self development factors

Self-directed learners have been shown to have a strong self-concept as a learner (Sabbiaghian, 1980; Savoie, 1980), to feel worthy (Hoban & Hoban, 2004; Kitson, Lekan & Guglielmino, 1995; Long & Stubblefield, 1994; Oliveria & Simoes, 2006); to be satisfied with life (Brockett, 1985b) and to view themselves as competent (Hoban & Hoban, 2004; Hoban & Sersland, 1999, 2000; Ponton, Derrick, Hall, Rhea & Carr, 2005). The individual’s sense of competence or self-efficacy for being a self-directed learner has been reported to have the strongest relationship with self-directed learning. This relationship was originally referred to by Bandura (1995) as being essential to lifelong self-directed learning. He states the following:

Efficacy beliefs play a vital role in the development of self-directed lifelong learners. Students’ belief in their ability to master academic activities affect their aspirations, level of interest in intellectual pursuits, academic accomplishments and how well they prepare themselves for occupational careers (Bandura, 1995, p. 17).

In response to these hypothesised links between self-efficacy and self-directedness in learning, Hoban and Sersland (1999, 2000) developed an instrument to determine the extent to which students perceive their efficacy to be self-directed learners. Hoban and Hoban (2004) note that this instrument proved to have good validity and reliability, in various settings and a high correlation with Guglielmino’s SDLRS (1977). From this it can be concluded that self-efficacy is an important construct in understanding students’ readiness for self-directed learning, and that the construct of self-efficacy for self-directed learning does exist and can be measured. However, what remains unclear is the nature of the relationship between self-efficacy and self-directedness in learning. Bandura (1995) posits that self-efficacy beliefs influence the level of learning goals, which individuals set for themselves when directing their learning. In addition, the self-regulatory behaviours that are associated with self-efficacy enable the self-directed learner to persist in his or her learning endeavours in the absence of motivation (Bandura, 1995).
Following on from this view that self-efficacy beliefs mediate the motivational processes involved in self-directed learning, Ponton et al. (2005) explored the relationship between self-efficacy and self-directed learning that occurs beyond the formal education context. They developed the Self Efficacy for Autonomous Learning scale, which measures this construct in the larger population of adult learners, including informal learning activities. Based on their research they conclude that self-efficacy for autonomous learning mediates the relationship between the individuals’ cognitive beliefs and their intentions to engage in self-directed learning. Through self-reflection the learner assesses his or her capability to successfully engage in self-directed or autonomous learning, and on this basis formulates his or her intentions to engage in self-directed learning activities. Oliveira and Simoes (2006) also found a strong correlation between self-efficacy for self-directedness and self-directed learning readiness. In their model depicting the relationship of numerous psychological variables to learner self-directedness, self-efficacy forms part of a broader factor they refer to as personal confidence, which includes the individual’s level of self-esteem and sense of life satisfaction.

3.3.2.3 The personality of the self-directed learner

The personality traits of the self-directed learner have also been the subject of study in attempts to gain an understanding of the personal dimension of self-directedness in learning. Evidence that certain people are manifestly more competent, more dedicated, more experienced and more successful at self-directed learning than others, lead initial efforts in this quest to profile those individuals who display high levels of self-directedness in their learning efforts. Candy (1991) notes that despite the diversity of ways and contexts in which self-directed learner profiles have been compiled, a significant degree of congruence is evident amongst these profiles. Reviewing previous research, Candy (1991) arrived at the following list of attributes and competencies that are either possessed by or desirable in independent learners: methodical and disciplined; logical and analytical, reflective and self aware; curious, open and motivated; flexible, interdependent and interpersonally competent; persistent and responsible; venturesome and creative; confident and have a positive self-concept; independent and self-sufficient; developed information-seeking and retrieval skills; have knowledge about and skill at learning generally; develop and use defensible criteria for evaluating learning.
Gibbons et al. (1980) extended the search for the self-directed learner profile to the broader context beyond formal education. They examined twenty individuals who had engaged in self-directed learning activities in various career fields. In addition, they included the biographies of a number of well known figures who had become experts in their fields, without the benefit of formal training (for example Walt Disney, Henry Ford, George Bernard Shaw and Virginia Woolf). They identified the following prominent characteristics: concentrating learning experiences in one area; industriousness, perseverance, and self-discipline; curiosity; creativity; and self-confidence. Based on these characteristics Gibbons et al. (1980) drew several conclusions about the differences in the assumption of the self-directed learners in the informal context. Self-directed learners in informal settings tend to show a greater diversity in skills and expertise, expertise tends to grow out of extracurricular activities with school generally playing an insignificant or negative role in developing this expertise, and they are more likely to develop in-depth rather than superficial knowledge of their field across a broad range of topics. In addition, they display a strong, active, experimental orientation to the learning effort and tend to possess characteristics that enable them to pursue their areas of expertise, despite great odds, failures and public disapproval.

More recent efforts to identify the profile of the self-directed learner have involved the use of personality questionnaires. For example, De Bruin (2007) investigated the relationship between self-directed learning and personality traits, as measured by the 16 Personality Factor Questionnaire (16PF; Cattell & Cattell, 1995) amongst students at a South African university. Her findings indicated that the Anxiety factor demonstrated the strongest unique negative relationship with the sample’s SDLRS total score. This means that the self-directed learner displays an emotionally stable, trusting and relaxed disposition and tends to feel self-assured and secure. De Bruin (2007) also reports that Independence, Superego Strength and Sensitivity were co-determinants of her sample’s self-directed learning readiness, although to a lesser extent. Thus, the self-directed learner also appears to be to fairly assertive, free thinking, self-reliant, conscientious, well controlled, warm and sensitive. Utilising the Neo Personality Inventory (Costa & McCrae, 1992), Oliveira and Simoes (2006) confirmed the relationship between Conscientiousness and self-directed learning readiness, further supporting the idea of the self-directed learner as having a sense of competence, dutifulness, self-discipline, and achievement orientation. In conclusion, De Bruin (2007) proposes that the self-directed learner displays a fairly healthy and well-adjusted psychological profile, with
high levels of conscientiousness, a sense of personal responsibility, creativity and the ability to engage in critical thinking.

Chuprina and Durr (2006) also identified adaptability as a key characteristic of self-directed learners. They found a strong correlation between self-directed learning readiness and cross-cultural adaptability, which indicates that individuals who are self-directed in their learning also display openness to change, flexibility and a willingness to learn new skills and try new tasks.

3.3.3 Summary and critique of research on the characteristics of the self-directed learner

Evidence utilising various empirical methods has revealed that self-directed learners tend to display a unique personal orientation that is comprised of socio-demographic, psychological and personality aspects. Typically they tend to have reached adulthood, may be male or female, have a high level of education and may be of diverse ethnic origin. Their meta-cognitive capacities are strong and they possess skills in the areas of critical thinking, reflection, self-evaluation, creativity and problem solving. A converger learning style, in which they prefer abstract conceptualisation and technical problem solving, is preferred and they display an ability to exercise control of themselves in the learning context and with regard to learning tasks. These individuals report having positive self-esteem, a strong self-concept as a learner and high levels of self-efficacy, with regard to their self-directedness as a learner. In terms of their personality characteristics, the consensus amongst researchers utilising diverse techniques suggests that there may well be a prototypic self-directed learner. Personality characteristics such as curiosity, self-acceptance, conscientiousness, adaptability, flexibility, independence, warmth and cooperativeness have been identified.

Despite the important contributions made by researchers to understand the individual characteristics of the self-directed learner, Candy (1991) identifies a number of conceptual and methodological limits to their generalisability. Firstly, he alludes to the gender, racial and class bias that is evident amongst the samples selected for studies. Typically, white middle class male university students have dominated sample selection, and the study of diverse genders, populations and socio-economic groups has been limited. Where these diverse groups have been studied, within-group differences, such as ethnic and gender role identity
and acculturation levels have been ignored. Secondly, Candy (1991) raises the concern that the competencies listed are often not exclusive to the self-directed learner, but instead have been found to be related to successful learning in general. Finally, Candy (1991) argues that these studies of the personal orientation of the self-directed learner tend to ignore the situational variability inherent in any learning approach as well as the contextual influences that may either facilitate or inhibit self-directedness in learning. Instead, situational constraints or opportunities are not recorded and the individual’s predisposition is assumed to be context free. Although the present study focuses on the self-directed-learner’s personal orientation, Candy’s concern highlights the importance of considering the context in which the learning takes place. Furthermore, a brief discussion of the learning context may add clarity and understanding to the overall concept of self-directed learning. Candy’s notion of self-direction as learning activities (processes) is explored below.

3.4 Self-directedness as learning activities or processes

Many scholars within the field of adult education (Brookfield 1984; DeSilets, 1986; Kasworm, 1983a, 1983b) have differentiated between self-directed learning as a process and as a personal attribute. However, Candy (1991) and Brockett and Hiemstra (1991) were the first to formalise this differentiation in their self-directed learning models. Candy (1991) takes this differentiation one step further by distinguishing between different degrees of self-directed learning activities. This conceptualization is used in the following section to relay the literature about self-directed learning activities. As with his notion of self-direction as a personal orientation, Candy (1991) conceptualises self-directed learning activities as a continuum ranging from learner control, at the one pole to autodidaxy at the opposite end of the continuum. The differentiating factors are firstly the nature and the extent of assistance utilised by the self-directed learner, and secondly the context in which the learning takes place. It should be noted, however, that Candy (1991) was of the opinion that self-directed learning rarely occurs in its pure form and almost always involves some form of social interaction. Cho (2008) concludes that adult learners generally seek a variety of ways to gain assistance from others in order to become more self-directed. Similarly, Barlett and Kotrlik (1999) note that interdependent peer learning and collective help-seeking can be positively related to self-directed learning. Thus, although Candy’s (1991) self-directed learning activities continuum represents varying degrees of social involvement, it is unlikely that extreme cases of isolation and independence will be noted.
Autodidaxy describes those learner-initiated activities that take place in natural societal settings outside of formal educational structures (Candy, 1991). The learner has a high degree of control over many instructional elements such as setting objectives, selecting their pacing, content and methodology and assessment of learning outcomes (Brockett & Hiemstra, 1991). These activities may either supplement or substitute formal learning. At the other extreme, learner control describes those learner-directed activities which take place within the formal education system and involve assistance, support and guidance from teachers within this context.

3.4.1 Autodidaxy

To describe those learning activities which take place outside of the scope of formal education and at the learner’s initiative and direction, Candy (1991) utilises the term autodidactics or autodidaxy. Primarily preferred for the fact that it allows individuals to work at their own pace and without anybody judging them, Candy (1991) describes it as a learning process which is neither a model of teaching, nor of learning. Instead, he argues that it involves the learner in the self-initiated sourcing of information with the intent of gaining some content knowledge to solve a problem situation.

From their review of the relevant literature, Candy (1991) and Brockett and Hiemstra (1991) conclude the following about autodidaxy: firstly, they report that the incidence of this form of learning is widespread amongst adults, with figures ranging from 80 to 100% of adults sampled, being involved in these learning activities at some point in their lives. Secondly, they propose that self-education efforts appear to extend to almost all domains of human concern and behaviour, across social, racial, gender, educational, economic and ethnic differences. Thirdly, they note that various studies have reported that these activities are typically unpredictable, episodic and more often exploratory. Finally, although autodidacts are by definition self-directed, they indicate that empirical findings have shown that learning activities very seldom occur in isolation. According to Tremblay (1981, 1983, cited in Candy, 1991), autodidacts typically seek assistance with the management of their learning project, content expertise, communication skills and interpersonal relationships. Candy (1991) reiterates the importance of the relationship between the autodidact and his or her helpers,
asserting that supportive relationships are essential to autodidacts as they negotiate their way through these learning activities.

The literature on autodidaxy has also shown that this form of learning has been linked to a number of positive outcomes. Leeb (1985) reports that adults between the ages of 21 and 55 who were engaged in various learning projects, demonstrated positive health behaviours, and Brockett (1985b), East (1987) and Curry (1983) found autodidaxy to be correlated with perceived life satisfaction amongst older adults.

A more recent trend within the literature related to self-directed learning processes is an increased interest in its work related implications (Confessore & Kops, 1998; Kossek, Roberts, Fisher & De Marr, 1998). Clardy (2000) notes that this interest has been stimulated both by the fact that increasingly, self-directed learning projects are focusing on job related topics and that this form of learning is proving to be particularly relevant to the current social, economic and political landscape. The relevance and value of autodidaxy in the workplace is briefly discussed below.

### 3.4.1.1 Autodidaxy in the workplace

As mentioned previously, in order for employers and employees to remain current, competent and competitive in the information age, they will need to engage in continuous life long, self-initiated learning activities. The unprecedented advancement in technology and the rapid generation of knowledge and information within the workplace (Mok & Cheng, 2002; Arthur, Simpson, Baruch & Burke, 1995) mean that the storage time of workers’ knowledge decreases dramatically and becomes obsolete within a five year period. Globalisation has meant that employees are spread across the globe, and the resultant workforce reflects a substantial degree of diversity. In this context, traditional, formal, institutional education settings and structured training and development programmes are no longer able to keep pace or provide meaningful and relevant learning options (Durr et al., 1996). Corporations have been forced to re-examine the way employees learn, what and where they learn. According to Guglielmino and Murdick (1997), autodidaxy has been found to be particularly suitable for meeting these new demands, because it bypasses the limitations imposed by formal structures. Brooks (1985) extols its cost effectiveness. The self-directed learner is able to progress continuously at his or her own pace and initiative, and at his or her own location, while
maintaining a working role. Guglielmino and Murdick (1997) report that autodidaxy was correlated with improved job performance scores and proved to be more cost effective and efficient in a self-directed training programme presented at Motorola. Training could be done by the learner whenever needed, thus enabling more timely and frequent updates. It could be tailored to the individual learner’s needs and thereby have more relevance to him or her. In addition, specialised fields were accommodated whilst still ensuring that the training budget was spread fairly across employees. Guglielmino and Murdick (1997) also note that this approach encouraged individuals to develop their problem solving skills and allowed for flexibility in the training schedule.

Other benefits of autodidaxy in the workplace that have been reported in the literature include an increase in the individual’s confidence, a greater adeptness in independently solving problems (Guglielmino, Guglielmino & Long., 1987), improved overall performance (Guglielmino, 1996; Guglielmino & Klatt, 1994; Guglielmino & Roberts, 1992), especially in jobs involving a great deal of change (Durr, 1992; Guglielmino et al., 1987; Roberts, 1986), and a tendency to become more engaged in learning activities. More recently, Chuprina and Durr (2006) and Boyer and Kelly (2005) note that a strong relationship exists between self-directed learning and cultural adaptability, including factors such as emotional resilience, perceptual acuity, flexibility and personal autonomy.

An extensively investigated domain with regard to the world of work and autodidaxy is the medical profession, especially in the field of nursing (Armstrong, 1986; Dixon, 1991; Hegge, 1985). Autodidactic activities are proposed to be particularly pertinent in this context, since they have been found to facilitate the ongoing learning in which these practitioners are required to engage and to facilitate the diagnosis and care of patients (cf. Graeve, 1987; Iwasiw, 1987; Lingeman & Mazza, 1986; Slevin & Lavery, 1991). Autodidaxy has also been reported to account partly for job satisfaction within this profession. Middlemiss (1988) reports that autodidaxy played an important motivational role amongst nurses, and accounted for 29 percent of the variance in job satisfaction among professional nurses.

Another recurring theme within the literature pertaining to autodidaxy in the workplace, is that this form of learning is integral to successful management and leadership. Confessore and Kops (1998) propose that the complex and subtle learning processes that managers are continually engaged in to determine the best course of action for their organizations, are self-
directed learning activities. In addition, they assert that leaders must also model autodidactic behaviour if they are to expect it from others in the organization. Denchant (1989) notes the importance of autodidaxy to those managers in the midst of a change process. Typically the manager in this context engages in aggressive self-directed learning activities that provide a focus in his or her management of the change process. In another study by McCall, Lombardo and Morrison (1988), independent learning activities were found to play a key role in executive development. Similarly, Roberts (1986) found self-directed learning readiness levels to be related to management level and management performance.

From the above it can be concluded that autodidaxy has a highly significant role to play in the current information economy and across diverse industries and contexts and involves skills that are essential to the current world of work. However, studies within this field have demonstrated that this form of learning within the workplace, requires a particular organisational profile in order for it to operate optimally. The nature of this context is briefly discussed below.

3.4.1.2 Characteristics of organisations that foster autodidaxy

Empirical findings (Baskett, 1993; Brown & Duguid, 1991; Foucher, 1995; Kopps, 1993; Kops & Pilling-Cormick, 2004) have demonstrated that there are features about an organization which enhance self-directed learning and contribute to an increased incidence of autodidaxy. These include the organisational culture, the communication system, the interpersonal dimension and the learning activities and opportunities provided. Heightened levels of autodidaxy have been evidenced in those organisational cultures which encourage participation from staff at all levels and provide a challenging setting where experimentation, problem-solving and creativity are encouraged and mistakes are tolerated (Bernardin & Russell, 1998; Long & Morris, 1995). Baskett (1993) also mentions the importance of a culture of risk-taking and innovation and suggests that participation by employees should be at the level of understanding and contributing to the goals and values of the organisation. Finally, autonomy as a central value and confidence in the employees’ competence from management, have been identified as additional components of those organisational cultures which promote self-directed learning (Confessore & Kops, 1998).
Another key aspect of a working environment which Baskett (1993) asserts fosters autodidaxy is clarity and communication of expectations as well as an openness in the communication system. Without understanding the parameters within which they are expected to learn, the autodidact will struggle to achieve relevant and useful learning goals. Related to this aspect of the learning environment, is the prominence of interpersonal relationships in developing self-directed learning (Candy, 1991; Cho, 2008). Learners select helpers who offer encouragement, have confidence in them, show respect for and interest in them (Tremblay, 1983 cited in Candy, 1991). Organisations supporting autodidactic activities are typically characterised by mutual trust, respect and collaboration (Confessore & Kops, 1998). Nowlen (1988) suggests that social interaction and collaboration between staff is an important mechanism in organisations, which facilitates the incidence of autodidaxy. Brown and Duguid (1991) explain that this form of learning is facilitated by these informal discussions and exchanges of information amongst employees.

Specific attention in the literature pertaining to autodidaxy has also been given to the nature of learning activities and the role of trainers within these organisations that encourage autodidaxy within the workplace. The development of resource centres, creation of online learning opportunities and the provision of discretionary time for learning and maintaining resources that support learning, have been noted (Confessore & Kops, 1998). Kopps (1993) describes a renewed role for training departments, where trainers, in addition to their traditional role of designing and teaching formal training programmes, also function in an expanded role as a resource for learners. In a subsequent study, Kops and Pilling-Cormick (2004) report mentorship, peer tutoring initiatives, coaching by supervisors and a commitment to learn from mistakes and constructive criticism to be key self-directed learning initiatives facilitated by trainers. Trainers in self-directed learning environments assume the role of facilitator, coach, mentor, advisor and tutor to support self-directed learning.

Confessore and Kops (1998) suggest that the characteristics of the workplace training environment described above, resemble the features of what has been referred to as a learning organisation. In support of this view, Bierema and Berdish (1999) and Murrell and Walsh (1993) provide evidence from a number of case studies which demonstrate that in the process of becoming a learning organisation, employees can become more adept self-directed learners. Confessore and Kops (1998) conclude that the learning context and organisational climate is very important to the success of self-directed learning activities. As is evident from
above, self-directed learning activities outside of formal institutional structures, have widespread appeal and benefits, both within everyday life settings and today’s career landscape, and is optimally achieved in those organisations which fit the description of a learning organisation. At the other end of Candy’s spectrum of self-directed learner activities is learner control, which is explored below.

### 3.4.2 Learner control

The learning activities at the other end of Candy’s (1991) continuum of self-directed learning processes take place within the formal educational system and are referred to as learner-control activities or andragogical learning. This form of learning is differentiated from the traditional teacher-control approach, in that it reflects a substantial shift in the locus of responsibility, for instructional activities from the educational agent to the student (Boekarts, 1997). However, it rarely occurs without some degree of teacher involvement. Instead, the learner exerts greater or lesser degrees of control over multiple aspects of the instruction process, including objective setting, content decisions, method, sequence, pace and evaluation of learning outcomes.

In his comparison of the traditional teacher–directed model of learning and the learner-control model of self-directed learning, Knowles (1975) proposes that differences exist at both the level of assumptions and processes for these two approaches. According to him, the teacher-directed approach assumes the learner to be dependent on the teacher’s direction and guidance. Learning in the traditional model is subject-orientated and organised into units of content, with the focus being on “what” is learned. In this framework, Akerlind and Trevitt (1999) explain that knowledge is assumed to be something that exists out there, waiting to be gathered, taken in and stored. The learning experience is viewed as a passive process consisting of receiving and absorbing knowledge that is transmitted by the teacher. In contrast, andragogical learning or learner control, according to Knowles (1975), assumes the learner to be a self-directed organism, whose experience is considered a rich source of learning. This approach to learning is active and involves the learner giving structure and creating personal meaning from knowledge and ideas (Akerlind & Trevitt, 1999). In this model, learning is assumed to be task or problem centred with learning units consisting of problem solving projects and inquiry units. The focus of learning is on “how” the learner learns, rather than the content of what is being learnt. In this context, the self-concept of the
The educator needs to change from that of teacher to that of facilitator of learning, and the educator is expected to consider the learner’s experience of the material (Knowles, 1975). Educators are also released from their role as experts with all the answers, to join with the students as continuing co-learners, guides and resources.

In light of the diversity of learning styles, learning tasks and reasons for learning, Brockett and Hiemstra (1991) suggest that both the teacher and learner approach may be equally beneficial in different instances. In addition, studies evaluating the success of the learner approach have been both inconclusive and ambiguous. However, it has been demonstrated that learner control appears to enhance and develop a number of additional skills which are beneficial to life orientation and ongoing learning. According to Wilcox (1996) these skills prepare university students for lifelong learning beyond the institution’s walls. Bulik and Frye (2004) argue that knowledge or content of a particular subject area is insufficient to qualify an individual as competent in a subject area. The individual, they assert, needs to leave the higher education institution with an ability to use that knowledge in the generation and interaction of ideas, in critical analyses or in creative problem-solving.

Mocker and Spear (1982) identify an increase in reasoned decision making, a willingness to accept responsibility in future teaching/learning situations, and a tendency to undertake further self-directed learning outside of formal instructional settings as significant outcomes of learner control. The student is given the responsibility for making all the necessary decisions pertaining to his or her learning experiences, including what and how to learn, as well as what, where and how to obtain resources. Increases in the individual’s sense and desire for personal control, has also been reported by Mok and Lung (2005) amongst those in the process of becoming self-directed learners. They established that student teachers’ exposure to learner-control processes improved their control of learning processes, such as the identification of information and seeking of assistance. With regard to the promotion of future self-directed learning, a number of studies have shown a relationship between the skills developed in response to exposure to learner control-programmes, and ongoing self-directed learning activities. Tsay et al. (2000) report that students involved in learner control experiences where more likely to persist in distance learning activities. In another study by Park, Christmas, Schmaltz and Durso (2006) one of the themes identified as outcomes of a learner-control programme was the realization of the need for continued learning in order to perform optimally at one’s work.
Given this broader educational brief for higher education institutions in the information age and learning society, Ullian and Stritter (1997) recommend that the role of the educator needs to change. In response to this challenge, Bulik and Frye (2004) propose that faculty development activities need to be based on the principles and practices of self-directed learning, so as to provide both educators with the skills and the philosophical framework to teach or train effectively. The nature of the educator’s role in the learner control context is related below.

3.4.2.1 The role of the educator in self-directed learning

Brockett and Hiemstra (1991) and more recently, Regan (2006), argue that a number of scholars have mistakenly viewed learner control as a means of not only transferring responsibility for the formal learning experience to the student, but as way of freeing the educator from active involvement in the learning process and coping with decreasing student/lecturer ratios. On the contrary, they argue that the learner control context demands a substantial level of engagement and active participation in the learning process from the educator. Not only is he or she required to create the new terms of the learning-teaching transaction and manage the relationship between these two parties, but the educator has the role of facilitating and guiding this change process (Cheng, Chow & Tsui, 2001). Brookfield (1987) explains that the educator continues to be responsible for ensuring a high quality of learning and is expected to engender the many new skills and attitudes that are integral to being a self-directed learner. Through the provision of ongoing opportunities for the learner to develop new learning strategies, and constant provision of feedback and assistance, the educator remains actively engaged throughout the learner’s educational experience.

Prior to facilitating the development of the self-directed learner, educators are more than likely going to have to address their own and their students’ lack of familiarity and confidence in this new approach (Candy, 1991). The educator’s previous educational experiences, both as a student and as a teacher, were probably within the teacher control context. These traditional experiences must have served them fairly well given their success thus far, and they are likely to be somewhat reluctant to surrender it. The educator’s resistance and difficulties in making this transition personally at the initial stages, has been reported in numerous studies. In these instances teachers have expressed feelings of inadequacy, a lack of preparation, frustration,
helplessness, ongoing doubts about the efficacy of this method and fear of becoming redundant (Candy, 1991).

Over and above internal resistance, educators are likely to encounter resistance from their students. This resistance, Akerlind and Trevitt (1999) argue, is anticipated to be strong, in those instances where students have been exposed to and succeeded in the context of traditional methods of learning and teaching. In these instances little incentive exists to change what has been working and confidence about their ability to exercise and benefit from the new approach is low amongst these students. Scholars such as Brundage and Mackeracher (1980), Lunyk et al. (2001) and Dunn and Chaput de Saintonge (1999) recommend that to overcome this resistance, the educator needs to adjust his or her role, as the student progresses through the developmental sequence of psychological reactions, while internalising this new model of learning. Initially the educator will need to offer the fearful, anxious and insecure student, ongoing attention by providing safety, structure and direction. As the student’s confidence grows, the educator should begin providing the learner with opportunities to explore, rehearse and practise their new found skills. Gradually the educator will need to adopt the role of facilitator, resource and support, encouraging cooperative and collaborative behaviour. Role modelling, coaching and providing feedback should continue to play a vital role through this process. This input will assist students to monitor their own progress objectively and realistically. Once they are able to identify the advantages of becoming self-directed learners, and demonstrate the behavioural and practise competencies of this new approach, the students are best supported by the educator openly sharing his or her feelings and values and taking on the role of a co-learner who models self-direction and self-evaluation (Brundage & Mackeracher, 1980).

Finally, in order for the benefits of learner control to become entrenched, Knowles (1975) suggests that the educator pays careful attention to the educational environment. He recommends that the atmosphere should be one of warmth, friendliness and mutual respect, where communication is honest and open, experimentation and risk-taking is encouraged and mistakes are viewed as essential to the learning process. In this context the student is required to provide creative input and to play the role of active inquirer, while the educator remains the facilitator, source of information and continues to be supportive and encouraging.
3.4.2.2 Summary of self-directed learning activities (processes)

Self-directed learning activities describe the process dimension of self-directed learning. Candy (1991) situates these process elements along a continuum ranging from autodidaxy or self-directed learning activities in informal everyday life setting and the workplace, to learner control within the formal educational system. In both instances these activities have been found to be relevant to the current career landscape in that they both facilitate and foster ongoing lifelong self-directed learning amongst its participants, and have been related to overall performance improvement. In addition, the skills and attitudes which evolve as the individual engages in self-directed learning activities, have been found to facilitate improved problem solving abilities, confidence, reasoned decision making, a willingness to accept responsibility in future teaching/learning situations and a tendency to undertake further self-directed learning outside of formal instructional settings. Autodidaxy has been linked to life satisfaction and positive health behaviours amongst older adults and to assist the worker in keeping pace and competence in the ever-changing and technically advancing world of work. Learner control has been demonstrated to play a significant role in preparing students for this career landscape, and ensuring that they exit the formal learning context with a working knowledge of how to generate, interact and critically analyse ideas, solve problems creatively and make intelligent effective decisions. The above discussion on self-directed learning not only applies to academic learning (in formal and not so formal contexts), but also to situations where career education (in formal and not so formal contexts) may be the goal.

3.5 The Personal Responsibility Orientation Model of Self-Directed Learning

The Personal Responsibility Orientation Model (PRO; Brockett & Hiemstra, 1991) provides a framework for the interaction of internal and external factors influencing self-directed learning, and reflects a synthesis of both theoretical and empirical findings on this subject. The construct of personal responsibility, which is defined as individuals taking ownership and responsibility for both their ideas and their behaviours, stands central to this model. In addition, the model posits that assuming personal responsibility is both “desirable and effective” (Brockett & Hiemstra, 1991, p. 101). This view invests a great deal of faith in the learner, originating within democratic and humanistic ideals. The individual is believed to have the freedom to make choices and to be basically good, with a virtually unlimited potential for personal growth. He or she is believed to have self-directed abilities and beliefs
and it is proposed that learner self-direction is a means of enabling individuals to realise their full human potential (Brockett & Hiemstra, 1991).

Although personal responsibility is a key ideal within this approach, it is circumscribed by various qualifications. Firstly, Brockett and Hiemstra (1991) note that personal responsibility is not a dichotomous construct, and the extent to which an individual assumes personal responsibility is understood to vary along a continuum. In the context of learning, this means that adult learners possess different degrees of willingness to accept responsibility for themselves as learners. Secondly, although the individual is assumed to be the primary locus of the learning process, the social context is not ignored. A person who assumes responsibility for him or herself is likely to be more socially accountable as well. Finally, Brockett and Hiemstra (1991) assert that in taking responsibility for one’s thoughts and actions, one also assumes responsibility for the consequences of those actions.

Various conceptualisations of self-directed learning have been discussed in this chapter. In the PRO model, it is defined as “a combination of forces both within and outside of the individual that stress the learner accepting ever increasing responsibility for decisions associated with the learning process” (Brockett & Hiemstra, 1991, p. 9). In terms of the “forces” mentioned in this definition, the PRO model describes both a personal dimension and process aspects of self-directed learning (Brockett & Hiemstra, 1991). The personal component denotes both the broader philosophical aspect of self-direction, which transcends contexts and which Candy (1991) describes as personal autonomy, as well as the psychological aspects of an individual, which predispose and facilitate his or her tendency to exert control over his or her learning endeavours. Collectively this personal orientation identifies those factors within persons, which predispose them to take personal responsibility for their learning and is referred to as learner self-direction.

The process aspects of self-direction, including both autodidactic activities and learner control as described by Candy (1991), are referred to as self-directed learning. The focus in this instance is on the characteristics of the teaching-learning transaction and the external factors to the individual in the learning context, including needs assessment, planning, implementing, evaluation, learning resources, facilitator roles and skills and independent study. Collectively they describe the instructional method that facilitates or enhances the individual’s ability to take responsibility for his or her learning.
Self-direction in learning is used as an overarching term to describe both dimensions (learner self-direction and self-directed learning) and to indicate that although separate, they are intertwined and function most effectively when both aspects are present. The external factors or process aspect of self-directed learning enable the learner to take responsibility for the planning, implementing and evaluating of the learning process. The internal factors or personality characteristics provide the motivation for the individual to accept responsibility for his or her thoughts and actions as a learner. Thus, personal responsibility in learning is facilitated by both the presence of learner self-directedness and self-directed learning. When these two aspects of self-direction are congruent, optimal learning conditions are said to exist. This means that where the individual is predisposed to a high level of self-directedness and is engaged in a learning situation where self-direction is actively facilitated, his or her chances for success will be high. Similarly, the learner who is not as high in self-directedness is likely to achieve greater success in a teacher-directed learning context. Where the balance between internal and external characteristics is not attained, difficulties and frustrations may arise in the teaching-learning transaction. For the PRO model, self-direction in learning is not a panacea for all problems associated with adult learning, nor is it always necessary for one to be highly self-directed in order to be a successful learner. This model is graphically presented in Figure 3.1 below.

![Diagram](SELF-DIRECTION IN LEARNING)

Learner self-direction (Personal orientation)  
Self-directed learning (Process orientation)

*Figure 3.1 Personal Responsibility Orientation Model of Self-Directed Learning (Brockett & Hiemstra, 1991)*

For the purposes of this research, the focus is on the personal orientation of learner self-directedness, as it is hypothesised that this approach facilitates high levels of career decision self-efficacy. More specifically, individuals who are more self-directed in their learning attempts (not only referring to learning in an academic context), are assumed to take more
responsibility for the various components of career decision-making, namely information gathering, self appraisal, goal setting, problem-solving and planning (Taylor & Betz, 1983).

3.5.1 The personal orientation of learner self-direction

Brockett and Hiemstra (1991) substantiate their claims regarding the existence of internal characteristics or personality aspects which predispose the individual to engage in self-directed learning activities, on the basis of research reporting correlations between personality measures and self-directed learning. Firstly, they acknowledge the contributions of scholars such as Houle (1961), Morstain and Smart (1974) and Reynolds (1986), who demonstrated the existence of a self-directed learner profile. Secondly, they cite the numerous empirical studies which have consistently revealed a relationship between positive self-concept and self-directed learning. This, together with research by Cross (1981) have shown the importance of individuals’ perceptions of their tendency towards being self-directed in their learning. Cross (1981) reports dispositional characteristics as significant barriers to becoming involved in self-directed learning activities, thus indicating the importance of personality in self-directed learning engagement.

In describing this personal orientation, the PRO model relies on the humanist tradition and in particular, Maslow’s notion of the self-actualising individual. Highly self-directed individuals are thus understood to have a good sense of reality, to be able to withstand ambiguity and uncertainty, to show great insight, understanding and acceptance of themselves and others, to be spontaneous as well as planful and to be highly adaptable. A high level of integrity and respect for their culture and tradition are also evident amongst these individuals. However, their respect of tradition does not prevent them from making independent decisions and choices. They consistently strive to attain high levels of personal growth, and are able to utilise existing resources to their greatest potential. In the words of Brockett and Hiemstra (1991, p. 126): “In essence self-actualizers and the people who demonstrate high levels of this characteristic epitomize personal responsibility – as we have used the term within the context of the PRO model”.

In addition to this overall self-actualising tendency, Brockett and Hiemstra (1991) mention three key abilities or skills that are displayed by the learner with this personal orientation: critical reflection, critical thinking and assuming the primary decision-making role for one’s
life. Reflecting critically on their experience assists self-directed learners to use the knowledge they have gained in future action. Closely linked to critical reflection is critical thinking. In this regard the PRO model makes reference to the work of Brookfield (1984), who defines critical thinking as occurring whenever we question why we behave in certain ways, within relationships. He identifies four components of critical thinking: identifying and challenging assumptions, recognising the influence of context on thoughts and actions, considering alternatives to existing ways of thinking and living, and developing reflective scepticism (an unwillingness to accept a behaviour or an idea merely on the basis of it always having been done that way or because an expert says it is so). Brockett and Hiemstra (1991) assert that taken together, critical thinking and critical reflection are important elements of learner self-direction, because they facilitate problem solving. Finally, Brockett and Hiemstra (1991, p. 138) emphasise the importance of individuals assuming the primary decision-making role for their lives: “Personal responsibility is a choice: in any given situation, including the process of learning, individuals can choose how they wish to respond.”

Despite its references to its humanist influence, the PRO model also acknowledges the role of environmental or external factors in self-directed learning. Although this study focuses on the personal orientation aspect of this model, the importance of these factors in facilitating self-directed learning is not ignored.

### 3.5.2 The role of contextual variables in self-directed learning

To explain the impact of the environment on the process of self-directed learning, Spear and Mocker (1984) developed the concept of the Organizing Circumstance. They postulate that self-directed learning, is largely structured by the affordances provided by the environment in which one finds oneself. In addition they propose that contextual variables may be self-reinforcing, setting in motion a virtuous learning cycle. They suggest that a change in the individual’s environment serves as an impetus for learning, which once set in motion, causes a further change in circumstances, leading to new learning opportunities and a virtuous cycle of continuous learning.

Although Spear and Mocker (1984) were fairly deterministic initially, arguing that environmental circumstances were more important than socioeconomic, psychological or demographic characteristics in determining participation in self-directed learning, their
position subsequently softened. Spear (1988) acknowledged that the Organising Circumstance, interacts with internal factors to shape the self-directed learner and his or her experience. In a more recent discussion of the influence of environmental factors on self-directed learning, Rager (2006) demonstrates how the internet has become a key organising circumstance in the current economy, with its ability to remove geographic location as an external barrier to self-directed learning activities. However, this external variable comes with its own set of limitations, including the technology gap, difficulties surrounding internet skills acquisition, the problem of information overload and quality controls in terms of internet content (Rager, 2006).

Guglielmino et al. (2005) also examined the effect of circumstances on self-directed learning, in their study of barriers encountered by adults considered to be highly self-directed learners. Situational barriers were the most commonly mentioned by this sample. These barriers included time, lack of accessibility or adequacy of human or material resources, aspects of the learner’s interactions with other people, technical difficulties and the physical aspect of personal limitations.

Various other contextual factors that may impact self-directed learning can be identified. Some of these have been discussed previously in this chapter. Each environment is however unique and may therefore offer unique environmental challenges and supports.

3.6 Conclusion

Empirical studies examining the personal orientation of the self-directed learner, who is described within the PRO model as someone who displays the predisposition to take personal responsibility for their learning, are in their infancy. A review of the literature on this subject indicates that there may well be a prototypic self-directed learner who displays a particular set of socio-demographic, cognitive, learning, psychological and personality characteristics.

Self-directed learners have been found to embrace their learning experiences consciously, purposefully, skilfully and independently. They are adept at identifying their learning purposes, locating learning resources, managing and monitoring their learning activities, as well as grasping the internal coherence and structure of the subject matter on which they are working. A number of psychological and personality factors have been found to support self-
management within the learning environment, for example industriousness, perseverance, self-discipline, curiosity, creativity and self-confidence. Compared to their peers, these learners are resilient, persisting in the face of adversity and have a positive self-esteem with high levels of self-efficacy for learner self-directedness.

Studies exploring the relationship between learner self-directedness and personality have also presented strong evidence in support of a self-directed learner’s personal orientation. Specifically, self-directed learners have been found to present a conscientious, emotional stable, self assured, well-adjusted, secure, trusting, resilient and relaxed disposition. They also tend to be fairly assertive, free thinking, self-reliant, well controlled, warm and sensitive, and as predicted by the PRO model, to demonstrate a sense of personal responsibility

It is this personal orientation of the self-directed learner, based on both empirical findings and the theorising of Brockett and Hiemstra (1991) in their PRO Model, which is hypothesised to be related to career decision self-efficacy levels amongst the sample of young women university students in this study. As reported in Chapter Two, high levels of career decision self-efficacy have been reported in the literature to be correlated with person inputs similar to those describing the self-directed learner profile. This relationship is speculated to be facilitated in one of two ways: either by a superordinate personality factor, which acts as a precursor to both self-directedness in learning and career decision self-efficacy, or the personal orientation of the highly self-directed learner engenders in the career decision maker an optimal approach to the learning processes, which serve as the sources of self-efficacy information, informing his or her levels of career decision self-efficacy. Given the self-directed learner’s predisposition to take personal responsibility for his or her learning, it is hypothesised that in confronting career decision challenges, this individual is more likely to take personal responsibility for successfully achieving the tasks relevant to high levels of career decision self-efficacy, namely accurate self-appraisal, the accumulation of sufficient and accurate occupational information, goal formulation, adequate planning and problem solving. Their metacognitive and cognitive abilities, learning style as well as the personal tendencies towards being self-disciplined, responsible, conscientious, emotionally stable, curious, open to new learning and confident learners, are proposed to facilitate the necessary initiative and regulation of their attention, emotional and behavioural impulses, and enable persistence in these learning activities.
CHAPTER 4

RESEARCH METHOD

4.1 Introduction

In this chapter an overview of the research method is provided. This includes a brief discussion of the quantitative research paradigm and descriptive and inferential statistical techniques applied in this study. This is followed by a statement of the research questions. Thereafter the participants and the questionnaires utilised in the study, are discussed. An overview of the data analyses follows, and the chapter concludes with a description of the ethical procedures that were employed in the study.

4.2 Research design

A survey design with correlational research (Gravetter & Forzano, 2003) was employed in this study. Participants completed questionnaires to measure the relevant variables. Surveys are generally used to develop an accurate description of a particular variable. In addition to determine levels of self-directed learning and career decision self-efficacy in this research, the aim of the questionnaires was to investigate the relationship between the two variables. To achieve this objective, correlational research was used.

Correlational research is used to measure the direction and strength of relationships between variables, but not to infer underlying causal relationships between variables (Gravetter & Forzano, 2003). Pearson product-moment correlation and moderated hierarchical multiple regression analysis were used to investigate the relationship between self-directed learning and career decision self-efficacy.

Table 5.1 Research questions

The following research questions are relevant to this research:

Question 1: What are the levels of self-directed learning and career decision self-efficacy in a group of black and a group of white women university students?
Question 2: Are there differences in the levels of self-directed learning and career decision self-efficacy between black and white women university students?

Question 3: What is the relationship between self-directed learning and career decision self-efficacy in a group of black and a group of white women university students?

Question 4: Is the relationship between self-directed learning and career decision self-efficacy different for black and white women university students?

Question 5: To what extent does self-directed learning predict career decision self-efficacy in a group of black and white women university students?

4.4 Research method

Participants

The participants (N = 365) consisted of black (n = 221, 60.5%) and white (n = 144, 39.5%) women university students who were enrolled for undergraduate programmes at a metropolitan university. The researcher purposefully selected representative numbers of these two groups of students from the larger student population at the relevant university. The mean age of the participants was 19.74 (SD = 1.44), which falls in the expected age range of the undergraduate university population. The mean age of the black students was 19.42 (SD = 1.39) and of the white students, 20.23 (SD = 1.37). Further descriptions of the participants are provided in Tables 4.1 to 4.4. Table 4.1 provides information pertaining to the language distribution of the participants.

<table>
<thead>
<tr>
<th>Language</th>
<th>N = 365</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>85</td>
</tr>
<tr>
<td>Afrikaans</td>
<td>77</td>
</tr>
<tr>
<td>Indigenous African</td>
<td>153</td>
</tr>
<tr>
<td>Other</td>
<td>22</td>
</tr>
</tbody>
</table>
Approximately 42% of the participants indicated an indigenous African language as their home language. Eighty-five participants (23.3%) indicated that they spoke English, and 77 participants (21.1%) indicated that they spoke Afrikaans. Twenty two participants (6%) indicated that they spoke a language not indicated on the biographical questionnaire. Almost 8% of the students did not give an indication of their home language. Table 4.2 indicates in which faculties the participants were registered.

Table 4.2 Faculty Distribution of Participants

<table>
<thead>
<tr>
<th>Faculty</th>
<th>N  = 365</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>5</td>
</tr>
<tr>
<td>Law</td>
<td>13</td>
</tr>
<tr>
<td>Engineering</td>
<td>3</td>
</tr>
<tr>
<td>Humanities</td>
<td>181</td>
</tr>
<tr>
<td>Science</td>
<td>3</td>
</tr>
<tr>
<td>Management</td>
<td>74</td>
</tr>
<tr>
<td>Economics and Finance</td>
<td>27</td>
</tr>
<tr>
<td>Health</td>
<td>55</td>
</tr>
</tbody>
</table>

The participants were selected from a variety of faculties. The majority of the students (49.6%) were from the Faculty of Humanities. Four participants did not indicate which faculty they represented. Table 4.3 indicates the academic year of the participants during the completion of the questionnaires.

Table 4.3 Year of Study of Participants

<table>
<thead>
<tr>
<th>Year</th>
<th>N  = 365</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year</td>
<td>123</td>
</tr>
<tr>
<td>Second year</td>
<td>121</td>
</tr>
<tr>
<td>Third year</td>
<td>50</td>
</tr>
</tbody>
</table>

Participants represented first, second and third year university students. The first year students (33.7%) and second year students (33.2%) accounted for almost the exact same percentage of the sample. The third year group consisted of 13.7% of the sample. Almost 19% of the sample did not indicate their year group. Based on the fact that the questionnaires were only distributed in undergraduate lectures, it is assumed that all these students were enrolled for
undergraduate programmes. The biographical questionnaire included a question pertaining to exposure to career development and counselling activities. This data can be useful in the discussion of the results pertaining to possible cross-cultural differences between the black and white groups and are therefore presented separately for the two groups. This information is presented in Table 4.4.

Table 4.4 Career Development and Counselling Exposure

<table>
<thead>
<tr>
<th>Type of exposure</th>
<th>Black group ( n = 221 )</th>
<th>White group ( n = 144 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career guidance and assessment</td>
<td>90</td>
<td>86</td>
</tr>
<tr>
<td>Career education at school</td>
<td>127</td>
<td>70</td>
</tr>
<tr>
<td>Job shadowing</td>
<td>45</td>
<td>50</td>
</tr>
<tr>
<td>Career interview</td>
<td>31</td>
<td>33</td>
</tr>
</tbody>
</table>

Approximately 41% of the black students and 60% of the white students indicated that they were previously exposed to career guidance and assessment procedures. More than half of the black students (57.5%) and almost half of the white students (48.6%) seem to have received career education at school. More white (34.7%) than black students (20.4%) indicated that they were previously exposed to job shadowing. More white participants (22.9%) also appear to have been involved in career interviews than the black participants (14%). These interviews presumably related to part-time positions.

4.4.2 Instruments

Participants completed a biographical questionnaire, the Student Self-Directed Learning Questionnaire (SSDL; De Bruin, 2008) and the Career Decision Self-Efficacy Scale-Short Form (CDSE-SF; Betz, Klein et al., 1996).

4.4.2.1 Biographical questionnaire

The biographical questionnaire obtained information regarding the participants’ age, ethnic group, year of study, and faculty in which they were registered. In addition, participants had to indicate whether they had any exposure to specific career development and counselling activities, including career education at school, career guidance and assessment, job
shadowing and job interviews. Information obtained by means of this questionnaire is presented in Tables 4.1 to 4.4 above.

4.4.2.2 Student Self-Directed Learning Questionnaire (SSDL)

The SSDL (De Bruin, 2008) is a uni-dimensional scale, designed to measure levels of self-directed learning amongst students in higher education settings. The questionnaire consists of 22 items, to be answered on a five-point Likert-type scale. De Bruin (2008) reports acceptable internal consistency reliabilities of > 0.70 (Tabachnick & Fidell, 2001) for samples of black (α = 0.91) and white (α = 0.90) university students. In this study, a Cronbach alpha coefficient of 0.88 was obtained for the total group, 0.87 for the black group and 0.88 for the white group. These coefficients appear to be satisfactory. The SSDL is currently a research instrument and continued data collection on this instrument is being implemented.

4.4.2.3 Career Decision Self-Efficacy Scale-Short Form (CSSE-SF)

In developing the original longer measure, Taylor and Betz (1983) integrated Bandura’s work on self-efficacy and Crites’s (1961, 1976, 1978) model of career maturity to define the domain of career decision competencies (Betz & Hackett, 2006). The instrument indicates the individual’s belief in his or her ability to successfully complete the tasks necessary to make career decisions.

Crites (1969, 1976, 1978; also see Westbrook et al., 1980) created a comprehensive theory of career development by integrating different developmental theories, especially the work of Super (1977), with whom he shares the assumption that career development is a lifelong process. His focus is on the processes of career decision making as opposed to the content of career decisions, with progress being related to maturational processes and occurring over time. Crites (1969, 1976, 1978) regards the most important career developments as taking place between the ages of 16 and 25 (similar to the ages of the participants in this study), and proposes that the development of five competencies are essential to make effective career decisions and achieve career maturity during this period: accurate self-appraisal, sufficient and accurate occupational information, formulation of academic and career goals, adequate planning, and an ability to solve problems. In applying these competencies to the CDSE, Taylor and Betz (1983) constructed a separate subscale for each competency. Items indicating
the individual’s perceived level of competence or mastery of the skills in question were developed and Bandura’s confidence response continuum was used to measure the individual’s self ratings. The Self-appraisal subscale includes items that reflect perceived self knowledge. Occupational Information measures confidence in learning with regard to the content of and requirements for various careers. Problem-solving assesses self perceptions of mastery in formulating alternative plans should initial choices be unattainable. Planning measures confidence for future career entrance and advancement tasks. Goal Selection refers to self perceptions of abilities to select a university major or career.

As discussed in Chapter Two of this study, problems with regards to the factor structure of the CDSE had been reported in various international studies. Problems with the factor structure of the instrument are however not new or unique to these diverse samples. When developing the scale, Taylor and Betz (1983) did not find a clear cut factor structure based on the five subscales. Instead, they noted a large general factor. Their conclusion was that the CDSE may be more appropriately viewed as a measure of self-efficacy expectations with regard to the general domain of career decision tasks and behaviours instead of the five competencies addressed by the subscales. In a subsequent study of the CDSE, Robbins (1985) proposed that it was a general measure of self-efficacy rather than of career decision efficacy. However, his findings also indicate that the CDSE measures something specific to the career domain of behaviours, contributing to information beyond a general factor of self confidence or self esteem. Taylor and Popma (1990a) conclude that the CDSE appears to be measuring efficacy expectations across a broad range of career decision behaviours and situations and may best be characterised as a generalised career self-efficacy measure, covering a multifaceted domain of career decision behaviours. Their conclusion was further substantiated by their finding that no significant relationship was evident between CDSE scores and career salience. This, they argue, indicates that the scale is measuring something specific to career decision making from a multifaceted dimension, in contrast to a general career efficacy measure or a measure of interest in career. Based on these inconsistencies, the use of the total score was recommended.

Despite problems with the subscales of this measure, the general total score has continued to prove a viable alternative in international samples (Creed et al., 2002; Hampton, 2005; Hartman & Betz, 2007). In addition, given the dearth of research and these inconsistent findings within this broader context, Hampton (2005) and Creed et al. (2002) strongly recommend that further research be conducted on the CDSE amongst international samples,
utilising the overall score and paying careful attention to the cultural equivalence of this measure. The CDSE has received extensive attention from researchers (Betz et al., 2005). Many of these studies have been integrated into the discussion on career decision self-efficacy in Chapter Two.

The short form of the CDSE was used in this research. The CDSE-SF (Betz, Klein et al., 1996) consists of 25 items measured on a five point Likert-type scale. The instrument measures an individual’s degree of belief that he or she can successfully complete tasks necessary to make career decisions. As in the case of the CDSE, the CDSE-SF comprises five subscales, namely Self-Appraisal, Occupational Information, Goal Selection, Planning and Problem Solving. These scales can be used separately or a total score can be obtained to give an indication of overall career decision self-efficacy. Betz, Klein et al. (1996) report Cronbach’s alpha internal consistency reliabilities ranging from 0.73 (Self-appraisal) to 0.83 (Goal Selection) for the subscales and 0.94 for the total score of the CDSE-SF. Chaney et al. (2007) found reliabilities ranging from 0.78 (Problem-solving) to 0.85 (Goal Selection) for a sample of black students. In the present sample the subscales did not provide acceptable internal consistency reliabilities above 0.70 (Tabachnick & Fidell, 2001). These coefficients are presented in Table 4.5 for the total group as well as separately for the black and white groups. Based on these unsatisfactory coefficients, as well as following recommendations from previous research (cf. Creed et al., 2002; Hampton, 2005), it was decided to only use the total score of the instrument which yielded a Cronbach’s alpha coefficient of 0.88 for the total group, 0.87 for the black group and 0.90 for the white group.

<table>
<thead>
<tr>
<th>CDSE Subscale</th>
<th>Total group</th>
<th>Black group</th>
<th>White group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$N = 365$</td>
<td>$n = 221$</td>
<td>$n = 144$</td>
</tr>
<tr>
<td>Self-appraisal</td>
<td>0.65</td>
<td>0.62</td>
<td>0.68</td>
</tr>
<tr>
<td>Occupational Information</td>
<td>0.63</td>
<td>0.60</td>
<td>0.66</td>
</tr>
<tr>
<td>Goal Selection</td>
<td>0.64</td>
<td>0.63</td>
<td>0.66</td>
</tr>
<tr>
<td>Planning</td>
<td>0.64</td>
<td>0.62</td>
<td>0.68</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>0.58</td>
<td>0.56</td>
<td>0.62</td>
</tr>
</tbody>
</table>

Inspection of Table 4.5 reveals that all the subscales of the CDSE-SF yielded marginally higher Cronbach alpha coefficients for the white group. However, no one of the subscale
coefficients for the total group, the black group and the white group, respectively, can be regarded as acceptable.

4.4.3 Procedure

The questionnaires were administered after lectures, as per permission from the lecturers. Data were also obtained from students in campus residences where participants completed the questionnaires during residence meetings. The participants were informed about the nature of the study as well as that participation was voluntary and confidential. Not taking part in the research would hold no negative consequences for them. The administration was performed by the researcher under supervision of a registered psychologist.

Table 5.1 Data analyses

The data analyses were performed by using the Statistical Package for Social Sciences (SPSS version 15, 2007). The reliabilities of the instrument were determined by means of Cronbach alpha coefficients (Urbina, 2004). The first two research questions relate to the levels of self-directed learning and career decision self-efficacy and how these differ between black and white students. Analyses pertaining to these questions involved descriptive statistics (means and standard deviations) and independent samples t-tests to determine the significance of differences (Pallant, 2007), if any were to be found.

The other research questions focus on the relationship between self-directed learning and career decision self-efficacy amongst a sample of black and white female students and whether this relationship is different for the two groups. The relationship between the variables was determined by means of Pearson product-moment correlation (Pallant, 2007). According to Cohen (1988), correlations of about 0.10 may be regarded as small, correlations of about 0.30 as moderate and correlations of 0.50 and higher as large. These guidelines were followed in this research. The differences in this relationship were determined by means of moderated hierarchical multiple regression analysis (Kerlinger & Lee, 2000). The same analysis was used to determine the predictive effect of self-directed learning on career decision self-efficacy.
4.6 Ethical considerations

A proposal for this study, including ethical considerations, was approved by the Faculty of Humanities Higher Degrees Committee of the University of Johannesburg. Participants were informed about the nature and role of the study. They were also informed that participation was voluntary and they had the right to decline participation. Furthermore, they were informed that there were no deleterious consequences following their refusal to participate in the study. Confidentially was strictly upheld, and no personally identifying information was requested. The research results would be made available in printed and electronic format at the library of the University of Johannesburg.

Table 5.1 Conclusion

In this chapter an overview of the research method was provided. A survey design with correlation was used in this research. The biographical information of the participants (N = 365) were also described. The instruments used in this study (biographical questionnaire, SSDL and CDSE-SF) were discussed and their reliabilities reported. A description of the data analyses employed and ethical considerations concluded this chapter. The results of the study are reported in the next chapter.
CHAPTER 5

RESULTS

5.1 Introduction

One of the aims of this study was to determine the levels of self-directed learning and career decision self-efficacy in a group of black and white women university students, and whether these levels differ between these two groups of students. Another aim was to investigate the relationship between self-directed learning and career decision self-efficacy in the black and white students, and whether this relationship differs for the two groups. The final aim was to investigate the predictive relationship that self-directed learning has with career decision self-efficacy. In this chapter, the descriptive statistics (means and standard deviations) are presented. Thereafter the correlation coefficient for the relationship between self-directed learning and career decision-making is presented. The results of the multiple regression analysis to determine the moderating effect of group membership (race) are provided next. These results are also used to investigate the predictive effect of self-directed learning on career decision self-efficacy.

5.2 Levels of self-directed learning and career decision self-efficacy

The first aim of this study was to determine the levels of self-directed learning and career decision self-efficacy in a group of black and white women university students. A second aim was to determine differences in these levels amongst the two groups of women students. The descriptive statistics of the SSDL and CDSE-SF are presented in this section.

5.2.1 Descriptive statistics for the SSDL

The means and standard deviations of the SSDL scores were determined for the black and white groups respectively. These statistics for are presented in Table 5.1.
Table 5.1 **Mean Scores and Standard Deviations of the SSDL**

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>35.00</td>
<td>110.00</td>
<td>83.90</td>
<td>11.11</td>
</tr>
<tr>
<td>White</td>
<td>51.00</td>
<td>109.00</td>
<td>78.54</td>
<td>11.38</td>
</tr>
</tbody>
</table>

High scores on this instrument are indicative of high levels of self-directed learning. No previous research could be found in which the levels of self-directed learning (as measured with the SSDL) had been reported. The highest score possible on this instrument is 110. Mean scores such as those obtained in this research (> 70.00), can probably be regarded as relatively high. It thus appears that both groups of students in this sample were showing at least average to high levels of self-directed learning. Previous research has indicated that university students have higher levels of self-directed learning than for example high school students (cf. Reio & Davis, 2005). Although both groups of students appear to measure high in terms of self-directed learning, the black group had a higher mean score than the white group and therefore appears to be more self-directed with regards to their learning than the white group. Although an item analysis was not conducted in this study, De Bruin (2008) reports that white participants tended to obtain higher scores than black participants on items that focus on an internal locus of responsibility for learning (e.g. “I learn new things because I want to, not because I have to”) and black students typically scored higher on items that show a study involvement with others (e.g. “I network with other students to improve my knowledge”).

An independent samples t-test was conducted to compare the self-directed learning scores for the black and white students. There was a significant difference in scores for black women students ($M = 83.90$, $SD = 11.11$) and white women students [$M = 78.54$, $SD = 11.38$; $t(363) = 4.46$, $p < 0.001$]. The magnitude of the differences in the means was small (eta squared = 0.052) (Cohen, 1988). Approximately five percent of the variance in self-directed learning is explained by ethnicity/race.

5.2.2 **Descriptive statistics for the CDSE-SF**

The means and standard deviations of the CDSE-SF total score were determined for the black and white groups respectively. These statistics for are presented in Table 5.2.
Table 5.2 Mean Scores and Standard Deviations of the CDSE-SF

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>50.00</td>
<td>125.00</td>
<td>92.61</td>
<td>12.06</td>
</tr>
<tr>
<td>White</td>
<td>60.00</td>
<td>122.00</td>
<td>93.63</td>
<td>12.72</td>
</tr>
</tbody>
</table>

The possible range in score on this instrument is from 5 to 125. High scores on the CDSE-SF indicate high levels of career decision self-efficacy. The results in Table 5.2 indicate relatively high mean levels of career decision self-efficacy in both groups of students. Smith (2001) reports an average mean score of 3.9 (SD = 0.60) (overall mean score 97.5) for a sample of college students. This mean score was somewhat higher than the mean scores obtained in the current study. The mean score for career decision self-efficacy in this study was marginally higher for the white group of female students.

An independent samples t-test was conducted to compare the career decision self-efficacy scores for the black and white students. There was no significant difference in scores between black women students (M = 92.61, SD = 12.06) and white women students [M = 93.63, SD = 12.72; t(362) = -0.62, p = 0.537]. The magnitude of the differences in the means was very small (eta squared = 0.001) (Cohen, 1988). Only 0.1% of the variance in career decision self-efficacy is explained by ethnicity/race.

5.3 The relationship between self-directed learning and career decision self-efficacy

The third and fourth research questions of this study relate to the relationship between self-directed learning and career decision self-efficacy and whether this relationship is different for the black and white groups of women students. The relationship between the SSDL total score and the CDSE-SF total score was determined by means of Pearson product-moment correlations. The correlation coefficient is presented next, whereafter the results of the multiple regression analysis (to investigate possible differences in the relationship between the two variables for the black and white groups) are presented.

5.3.1 The correlation between the SSDL and CDSE-SF total scores

The relationship between self-directed learning (as measured by the SSDL) and career decision self-efficacy (as measured by the CDSE-SF total score) was investigated using
Pearson product-moment correlation. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The levels of significance of the correlations were considered at $p \leq 0.05$ and $p \leq 0.01$. The correlation coefficient is indicated in Table 5.3.

### Table 5.3 Correlation Matrix of the SSDL and CDSE-SF total scores

<table>
<thead>
<tr>
<th></th>
<th>CDSE-SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDSE-SF</td>
<td>1.00</td>
</tr>
<tr>
<td>SSDL</td>
<td>0.455**</td>
</tr>
<tr>
<td>Sig</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*Note: ** Correlation significant at the 0.01 level (2-tailed)*

There was a statistically significant positive correlation between the two variables ($r = 0.46$, $p < 0.001$), with high levels of self-directed learning associated with high levels of perceived stress. Cohen (1988) suggests that correlations between 0.30 and 0.49 should be regarded as medium correlations. In line with Tabachnick and Fidell’s (2001) recommendation, the obtained correlation of 0.46 can be regarded as psychologically meaningful.

#### 5.3.2 Difference in the relationship between self-directed learning and career decision self-efficacy for black and white women university students

Moderated hierarchical multiple regression analysis was used to assess whether the relationship between self-directed learning and career decision self-efficacy was different for the black and white groups. The dependent variable was career decision self-efficacy and the independent variables were self-directed learning and the product of self-directed learning and race (black or white). This analysis provides for the possible interaction effect of race on the relationship between the other two variables. The levels of significance of the relationships were considered at the $p \leq 0.05$ and $p \leq 0.01$ levels. The results of the multiple regression analyses are presented in Table 5.4.
Table 5.4 *Moderation Effect of Race in the Relationship between Self-Directed Learning and Career Decision Self-Efficacy*

<table>
<thead>
<tr>
<th>Model</th>
<th>$R$</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
<th>$F$ Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. $F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.450a</td>
<td>0.202</td>
<td>0.202</td>
<td>91.803</td>
<td>1</td>
<td>362</td>
<td>0.000</td>
</tr>
<tr>
<td>2</td>
<td>0.473b</td>
<td>0.224</td>
<td>0.022</td>
<td>10.050</td>
<td>1</td>
<td>361</td>
<td>0.002</td>
</tr>
</tbody>
</table>

a. Predictors: SSDL  
b. Predictors: SSDLxRace

The results firstly confirm a statistically significant positive relationship between self-directed learning and career decision self-efficacy, $R^2 = 0.202$, $F(1, 362) = 91.803$, $p < 0.001$. Self-directed learning explained approximately 20% of the variance in career decision self-efficacy. Inspection of Table 5.4 also shows that the relationship between self-directed learning and career decision self-efficacy is moderated by race, $\Delta R^2 = 0.022$, $F(1, 361) = 10.050$, $p = 0.002$. The interaction of self-directed learning and race explains an additional 2.2% of the variance in career decision self-efficacy. Jointly, self-directed learning and the interaction between self-directed learning and race accounted for approximately 22% of the variance in career decision self-efficacy.

The standardised regression weights, $t$-values, $p$-levels and semi-partial correlations of the independent variables with career decision self-efficacy are summarised in Table 5.5.

Table 5.5 *Regression Weights, t-Test and Effect Sizes of the Moderating effect of race*

<table>
<thead>
<tr>
<th>Model</th>
<th>Standardised Coefficients</th>
<th>t</th>
<th>p</th>
<th>Correlations β</th>
<th>Zero-order</th>
<th>Partial</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Constant</td>
<td>12.873</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SSDL</td>
<td>0.450</td>
<td>9.581</td>
<td>0.000</td>
<td>0.450</td>
<td>0.450</td>
<td>0.450</td>
</tr>
<tr>
<td>2</td>
<td>Constant</td>
<td>12.018</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SSDL</td>
<td>0.423</td>
<td>8.982</td>
<td>0.000</td>
<td>0.450</td>
<td>0.427</td>
<td>0.416</td>
</tr>
<tr>
<td></td>
<td>SSDLxRace</td>
<td>0.149</td>
<td>3.170</td>
<td>0.002</td>
<td>0.225</td>
<td>0.165</td>
<td>0.147</td>
</tr>
</tbody>
</table>
Inspection of Table 5.5 shows that in step two of the hierarchical multiple regression analysis, the interaction of self-directed learning and race ($\beta = 0.149$, $r = 0.147$, $t = 3.170$, $p = 0.002$) was significantly related to career decision self-efficacy in the presence of self-directed learning.

### 5.3.3 Predictive effect of self-directed learning on career decision self-efficacy

The results provided in Table 5.4 were relevant to investigate the fifth research question of this study. Table 5.4 indicated that $R^2 = 0.202$, $F(1, 362) = 91.803$, $p < 0.001$. Self-directed learning explained approximately 20% of the variance in career decision self-efficacy.

### 5.4 Summary of the results

The results of this study indicated that both black and white women students showed relatively high levels of self-directedness with regards to learning. However, there was a significant difference between their scores on the SSDL. Black women students appear to be more self-directed in terms of learning than white women students. The two groups of students also showed relatively high levels of career decision self-efficacy. There was no significant difference in terms of their scores on the CDSE-SF. The results further indicated a moderate positive correlation between self-directed learning and career decision self-efficacy. It appears as if this relationship is being moderated by the race of the participants. Self-directed learning explained a significant proportion of the variance in career decision self-efficacy.

The results of this study, limitations and recommendations for future research are discussed in Chapter 6.
CHAPTER 6

DISCUSSION AND CONCLUSION

6.1 Introduction

Career decision challenges have been highlighted in the current career literature as an area of career development requiring attention from higher education institutions as they prepare future recruits for the new and ever-changing boundaryless career landscape (Reese & Miller, 2006, Tinto, 1993). Career decision making is becoming complex and the work context more demanding. The negative impact of these new challenges on individuals within the career preparation stage of their career development has been reported both within South Africa (Stead & Watson, 2006b) and internationally (Reese & Miller, 2006). This study forms part of a broader initiative to identify those factors which could assist students within the higher education context with their career decision challenges and ensure that they are adequately prepared for the new world of work.

Career decision self-efficacy was used in this study as a measure of effective and adaptive career decision making, since it has consistently been correlated with numerous indices of this task (cf. Bergeron & Romano, 1994; Betz, 2005; Betz et al., 2005; Betz & Luzzo, 1996; Betz & Serling, 1993; Creed & Patton, 2003; Creed et al., 2005; Gloria & Hird, 1999; Gushue et al., 2006; Kraus & Hughey, 1999; Lent & Hackett, 1987; Luzzo, 1996; Luzzo & Day, 1999; Mau, 2000; Robbins, 1985; Sercis & Walsh, 2001; Taylor & Popma, 1990a). Self-directed learning was selected as the potential variable capable of enhancing career decision self-efficacy levels. Recent research has shown self-direct learning to facilitate career development in general (Ellinger, 2004) and career management within the information age and boundaryless career context (Confessore & Kops, 1998; Guglielmino & Murdick, 1997). It has also been indirectly linked to the career preparation stage of career development in a recent qualitative study. Wang et al. (2007) concluded self-directed learning facilitates the learning processes that give rise to self-efficacy beliefs regarding job search strategies. Based on these preliminary findings, it was hypothesised that self-directed learning would enhance career decision self-efficacy beliefs amongst the group of black and white women students comprising this sample. In addition, given the vulnerability of both black and white women to
additional career challenges resulting from the ongoing political, social and economic implications of their gender and racial-ethnic-socio-cultural identity, it was decided to include a cross-cultural study of women students only.

The purpose of this chapter is to discuss the results presented in Chapter Five and integrate them with previous research. The discussion of the results is arranged according to the research questions of this study, as presented in Chapter One. The implications of the results as well as the limitations and recommendations for future studies conclude this chapter.

6.2 Levels of self-directed learning and career decision self-efficacy

Research question 1: What are the levels of self-directed learning and career decision self-efficacy in a group of black and a group of white women university students?

6.2.1 Levels of self-directed learning

Both black and white women university students in this study displayed average to high levels of self-directed learning, achieving mean scores of 83.90 (SD = 11.11) and 78.54 (SD =11.38) respectively out of a possible total score of 110. It was partly anticipated that both samples would demonstrate low levels of learner self-directedness because of their exposure to an educational history, characterised by traditional pedagogy, as was found by Akerind and Trevitt (1999). However, the age, education level and gender of both groups of students and the developmental nature of self-directed learning (Candy, 1991; Grow, 1991) suggest that the opposite could also be true.

As reported in the review of the literature on self-directed learning, the teacher-directed approach to learning differs significantly from the self-directed learning approach. Knowles (1975) and Akerlind and Trevitt (1999) explain that not only is the developing self-directed learner required to acquire new generic and content skills, but he or she needs to make a significant shift in his or her paradigm about education and assume responsibility for his or her learning. Typically this change is accompanied by a problematic and challenging psychological and emotional adjustment process, characterised by initial resistance, frustration, anger and despair, which then progressively gives way to acceptance, responsiveness and confidence (Boyer & Kelly, 2005; Lunyk-Child et al, 2001; Schweikert-
Given the traditional teacher-directed nature of the South African education system, it is surprising that the participants in this study appear to consider themselves to display high levels of learner self-directedness. A possible explanation for this anomaly may lie with a limitation of convenience method of sampling used in this study. Significant portions of the sample comprising this study are currently or were previously participants in foundation programmes offered by the university. These programmes provide learner support, tutorial classes and life development skills. It may be that the generic self-directed skills, described by Candy (1991) as those skills which empower the individual to exercise his or her self-directedness trans-situationally, are inadvertently being taught and developed within this programme, and account for high levels of self-directedness in learning in this sample.

An alternative or additional explanation for these elevated levels of self-directed learning may lie with a consideration of the demographics of the sample of this research. As indicated in Chapter Three, self-directed learning has been demonstrated to have a developmental trajectory (Candy, 1991; Grow, 1991), with individuals’ levels of self-directedness increasing incrementally with their age (Hober & Sersland, 2000; Long & Agyekum, 1983; McCarthy, 1986; Reio & Davis, 2005), education level (Chuprina & Durr, 2006; Durr et al., 1996; Guglielmino et al., 2005) and the maturation of various cognitive and metacognitive constructs (Mok & Lung, 2005; Oliveria Simoes, 2006; Patterson et al., 2002). For example, in a study conducted by Reio and Davis (2005), university students between the ages of 17 and 20 displayed significantly higher levels of self-directed learning readiness, than high school students between the ages of 14 and 16. In addition, an age and gender interaction effect was revealed in Reio and Davis’ (2005) study, with females between the ages of 14 and 20 showing significantly higher levels self-directed learning readiness than their male peers. Given that both the black and white women in this sample reflect this demographic profile as women, undergraduate university students with a mean age of 19.74, these average to high levels of learner self-directedness, make sense.

Another possible contributing factor to these elevated levels of self-directed learning may be related to the high levels of career decision self-efficacy that have been recorded in this study. As noted in the review of literature pertaining to career decision self efficacy specifically, and SCCT in general, Niles and Sowa (1992) and Patton et al. (2003) report that career decision self-efficacy is the one form of career self-efficacy which has been found to be most strongly
related to generalised self-efficacy and global self-esteem. Pajares (1996) cites numerous studies which found that self-efficacy is related to self-regulated learning variables and learning strategies and Pintrich and De Groot (1990) concluded that academic self-efficacy plays a facilitative role in relation to self-direction in learning. Similarly, the self-directed learning literature review revealed that Hoban and Hoban (2004) and Ponton et al. (2005) reported a relationship between self-efficacy and self-directed learning and that Hoban and Sersland (1999, 2000) developed a scale to measure self-efficacy for self-directed learning. This measure demonstrated that self-efficacy for self-directed learning exists and can be measured. Considering the many possible links between high levels of self-directed learning and self-efficacy, further research which considers the predictive relationship between career decision self-efficacy and self-directed learning would be helpful in determining the validity of the hypothesis that high levels of career decision self-efficacy amongst this sample may have contributed to high levels of self-directed learning. Another significant parallel mentioned in the literature review of this study is between the personal orientation of the individual displaying high levels of career decision self-efficacy and the self-directed learner. This is discussed further below in the analysis of the predictive relationship between the self-directed learning and career decision self-efficacy.

6.2.2 Levels of career decision self-efficacy

As mentioned above, this study is part of a broader effort to address concerns raised in the current career literature that students are increasingly experiencing difficulties with career decision making. However, as will be evident below, the findings of this study do not support these concerns. Instead, both black and white women student samples in this study displayed equivalent and relatively high levels of career decision self-efficacy. Out of a possible total score of 125, the group of black women students achieved a mean score of 92.61 (SD = 12.06) and the group of white women a mean score of 93.63 (SD = 12.72). From the review of the literature pertaining to both the current world of work, locally and internationally as well as theoretical and empirical findings with regard to SCCT in general and career decision self-efficacy specifically, these elevated levels of career decision self-efficacy were not anticipated. Based on these reviews, it was envisaged that a combination of experiences shared and unique to each sample, would compromise their access to the four sources of self-efficacy, described by SCCT, and informing career decision self-efficacy levels.
The challenges shared by the black and white women university students in this sample include complex decision making processes (Reese & Miller, 2006) and associated increasing levels of career indecision (Stead et al., 2004; Stead & Watson, 2006b) as they prepare for the demanding, broader political, social and economic world of work (Nilssen et al., 2007; Peiperl, 1997; Sullivan & Arthur, 2006). In line with SCCT, it was expected that collectively these proximal contextual factors would negatively impact on these samples’ access to opportunities for performance accomplishments and their interpretation of their emotional arousal. In terms performance accomplishments, the revolutionary and rapid nature of the changes described as occurring within the world of work raise the concern that current traditional educational practises and career counselling services may not keep pace. The possible result may be that these services are unable to offer the future recruit current and adequate opportunities to practise and rehearse relevant skills or up to date and appropriate occupational information. In addition, anxieties generated by the reportedly overwhelming, complex and challenging nature of the career decision process and the increasing levels of career indecision were expected to impact on the fourth source of self-efficacy, namely emotional arousal. In line with SCCT, it was envisaged that career decision makers would interpret their anxiety resulting from these challenges as an indication of their lack of efficacy with regard to the competencies detailed in the CDSE scale, which would in turn contribute to low levels of career decision self-efficacy.

In terms of experiences unique to each sample that were expected to lead to low levels of career decision self-efficacy, contextual and person inputs unique to the South African context are relevant. With regard to the white women students in this sample, the findings by Patton et al. (2003) and Stead et al. (2004) suggest that a reported increase in perceived career barriers may compromise their confidence in their career decision making abilities. Patton et al. (2003) and Stead et al. (2004) found that white South African adolescents reported an increase in their perception of career barriers, which was correlated with low levels of career decision self-efficacy. In particular, affirmative action was identified as a significant hindrance in these students’ attempts to exercise personal agency in the career choice process.

In terms of the experiences of the black women student sample, empirical studies have identified a lack of self and occupational knowledge as an important hindrance to effective career decision making amongst this population (Stead, 1996; Watson et al., 1999). In addition, the legacy of the apartheid system appears to have continued to impact on previously
disadvantaged individuals, both in terms of ongoing socio-economic and educational challenges. Despite the introduction of the new dispensation in 1994 and various policies and legislation addressing previous inequities, Dass-Brailsford (2005) argue that the living conditions of this community remain challenging. The country’s wealth distribution post-1994 continues to be heavily skewed, so that 10% of the population, most of whom are white, continue to control 80% of the economy (Dass-Brailsford, 2005). The result is that the majority of black South Africans continue to experience poverty, homelessness and unemployment. In terms of educational challenges, the South African educational system also continues to prejudice the previously disadvantaged (Dass-Brailsford, 2005). A central tenet of the transformation processes implemented within the education system in the post-apartheid era, has been the necessity for the devolution of authority and the decentralisation of decision making from the central office of the government’s education department to the individual school level (Steyn, 2003). Kahn (2005) argues that with school governing bodies managing their own finances and raising and managing their own school funds, the previous racial stratification of the school system has inadvertently been replaced with a class stratification system. Schools in middle class to upper income areas have been able to use their additional financial capacity to hire additional, more qualified teachers, provide better resources and maintain their quality education, while those schools in poorer areas are left to rely exclusively on the grossly inadequate government funding. The result, Kahn (2005) asserts, is that performance within the academic context now differs along class lines. Those students of all races attending quasi private and private schools continue to show consistently higher university enrolment rates and achieve substantially greater performance in mathematics and physical science than those in state schools. Social class has replaced race as the differential in terms of access to quality education and sources of self-efficacy learning. The previously disadvantaged continue to receive an inferior primary and secondary education, characterised by inadequately trained teachers, severe shortages of resources and a poor infrastructure (Kahn, 2005; Vambe, 2005). The implication of these contextual restrictions or distal factors in terms of the individual’s career options is highly significant. Betz (2005, p.261) argues that education is a “vital gateway to occupational entrance and crucial to economic power, it increases options, while a lack of education closes them, without options the concept of choice has no real meaning”.

Given their compromised socio-economic conditions and inferior education system, black South African adolescents are exposed to a restricted range of opportunities for performance
accomplishments and roles models. In addition they also risk exposure to an additional source of negative self-efficacy information by means of the high levels of anxiety they are likely to experience as a result of these stresses. As pointed out in Chapter Two, Wang et al. (2006) argued that the consistently lower levels of career decision self-efficacy amongst students of colour may reflect their unique and shared experiences as members of oppressed, minority racial groups. They also found that the students of colour displayed higher levels of Neuroticism, which they speculated was in response to their struggles to negotiate societal factors such as oppression, racism, and discrimination and the associated biased educational and occupational structures.

Another concern expected to result in low levels of career decision self-efficacy, identified by De Bruin (1999) as a potential contextual factor circumscribing the South Africa black adolescents’ access to sources of career decision self-efficacy, is the fact that many of these students are first generation students. As first generation higher education students whose parents’ educational and so career opportunities were severely restricted under the apartheid system, these students are unlikely to have received any meaningful career information, guidance and vicarious learning experiences from their parents. De Bruin (1999) also points out that without this kind of practical direction and support, and so entering the university context unprepared, is likely to generate anxiety and a negative source of self-efficacy for these students.

In terms of the influence of race-ethnicity-cultural-social identity as a person input on career decision self-efficacy levels, research findings have been inconsistent amongst diverse populations, both within South Africa and internationally (Lindley, 2005). According to Lindley (2005), no clear trend has emerged in terms of mean CSDE scores. However, given the collectivist orientation of black South Africans, it was expected that CDSE scores would be low because of the incompatibility between collectivistic ideals and the individualistic nature of the some of the CDSE subscales. In addition, the collectivist orientation, which emphases family and community, has been associated with increased career difficulties and low levels of career decision self-efficacy in a study amongst Taiwanese undergraduates (Mau, 2000, 2001). According to Mau (2000; 2001) these students were less aware of their individual aspirations and needs, because of their collectivistic cultural emphasis on familialism and social conformity.
A final consideration drawn from the SCCT and career decision self-efficacy literature, which suggested the possibility of the black women in this sample reporting low CDSE scores, relates to the experiences peculiar to women of colour. Being a highly under-researched population, Betz and Fitzgerald (1987) and Yang (1991) have speculated that for women of colour, it is likely that the effects of gender on their career development may be more extreme and compounded by the socio-political and economic meanings of their racial-ethnic-socio-cultural identities. As noted in Chapter Two, Betz and Fitzgerald (1987) have referred to this possibility as the “double jeopardy” faced by African American women as they negotiate both sexism and racism. Along similar but more severe lines, Yang (1991) describes the experience of Asian American women as one of “triple jeopardy”. These women, she argues, confront racism, sexism as well as the discriminatory practises and beliefs associated with their Confucian patriarchal culture. Erasmus and Sadler (1999) and Letlaka-Rennert et al. (1997) suggest that women of colour within the South African context experience triple jeopardy too. Not only have they encountered many years of institutional racial and gender oppression, but they continue to experience customary forms of gender oppression perpetuated within the African patriarchal system. These cultural, gender and socio-political experiences were expected to contribute to low levels of career decision self-efficacy in the black women students in this sample.

It is difficult to imagine that with these multiple challenges confronted by both black and white South Africa women, and black women in particular, that the participants in this study would report high levels of career decision self-efficacy. Once again, experiences shared by both samples and ones unique to black South African women can be identified. In terms of the contribution of shared experiences to these unanticipated high levels of career decision self-efficacy, the fact that many were currently or had previously participated in foundation programmes offered by the university, is pertinent. In addition to providing learner support, tutorial classes and life skills development, participants in the foundation programmes also discuss aspects of career education and counselling. These experiences are likely to have provided important self and occupational knowledge and as a result, confidence in their career decision making abilities. In addition, an analysis of the biographical data of these two samples revealed that exposure to career guidance appears not only to have been limited to those participating in the foundation programmes. Approximately 58% of the black students and 49% of the white students in this sample reported having received career education at school. Although the nature and content of these experiences are unknown, it is likely that
they too provided important sources of self-efficacy information from which these students have formulated their beliefs about their career decision competence.

Another possible contributing factor to high levels of career decision self-efficacy amongst the black and white women students in this study, involves considering the construct of coping self-efficacy (Lent et al., 2002). Although numerous studies amongst black and white samples, both internationally and within the South African context, have reported on the influence of career barriers, no consideration has been given to coping efficacy as a potential moderating factor. The only reference to this construct within the SCCT literature was found in Lent et al.’s (2000, p. 46.) theoretical discussion of career barriers and supports. They define coping efficacy as “… reflecting one’s perceived capability to negotiate particular situational features, that obstruct or complicate either one of the career processes”. In this discussion it is considered in terms of it potential role in buffering the negative effects of barrier perceptions and moderating the relation of perceived barriers to career choice. Lent et al. (2000) hypothesise that depending on the perceiver’s perspective, a given environmental demand may be viewed alternatively as an insurmountable barrier or as minor obstacle, character building opportunity or a person challenge. In this framework how, the individual views a particular contextual factor and whether it deters or motivates their choice, may depend on both their content-specific self-efficacy beliefs as well as their confidence in their coping efficacy. Bandura (1997, p.141) concurs and notes that those with “… high coping efficacy are likely to view new social realities as a challenge, where as those with low coping efficacy may view the same events as a threat”. This construct would go some way towards explaining why these samples reported high levels of career decision self-efficacy in the presence of numerous, demanding obstacles. This line of reasoning may be particularly relevant in explaining the high levels of career decision self-efficacy amongst the black women sample. Given their exposure to an inferior education system, poor study facilities within their homes and communities, transportation and language difficulties, as well as financial constraints, they represent an elite minority, who posses high levels of coping efficacy and resilience. Dass-Brailsford (2005), in her qualitative study of previously disadvantaged students achieving high standards within a South African university context, suggests that these students share a number of personal attributes which would collectively resemble resilience. In her analysis of their educational autobiographies, she reports that these individuals tended to be highly goal orientated, displaying high levels of initiative and motivation as well as a strong sense of self as having agency. They viewed themselves as
autonomous and able to actively structure their lives and direct their future with self-confidence and determination. Other qualities included persistence, flexibility and planfulness and they demonstrated the ability to reflect on and appraise their circumstances, assess their personal capacity for action and predict its effects. She also reports that they took responsibility for the direction of their lives and the choices they made. They displayed a strong commitment to uplifting their economic status. Education was viewed by all participants in her study as vital to upward mobility and a form of protection against the deleterious effects of poverty. These personal characteristics strongly resemble the person inputs which have been consistently correlated with high levels of career decision self-efficacy (Gushue & Whitson, 2006; Nauta & Kahn, 2007; Niles & Sowa, 1992; Patton et al., 2002; Taylor & Popma, 1990b.). Specifically, individuals with high levels of career decision self-efficacy have been reported to display high levels of generalised self-efficacy and global self-esteem. They demonstrate high levels of motivation and commitment and take responsibility for and actively engaged in the tasks associated with career development (Creed et al., 2004; Gushue & Whitson, 2006; Niles & Sowa, 1992; Patton et al., 2002). Similarly, the personal orientation of the self-directed learner, the levels of which were found to be high for this student sample, reflects many of these descriptors. Thus, supported by the findings of Dass-Brailsford (2005) and the literature regarding career decision self-efficacy and person inputs as well as Lent et al.’s (2002) hypothesis regarding the role of coping efficacy, it is proposed that high levels of career decision self-efficacy amongst the black women students in this study may be attributable to the fact that they are a minority of resilient individuals. Their personal orientation appears to have facilitated their academic success and acquisition of self-efficacy information, despite the presence of numerous contextual obstacles. This hypothesis would need to be tested in further research examining the relationship between career decision self-efficacy, coping efficacy and resilience amongst previously disadvantaged black South African university students.

Another possible contributing factor to these high levels of career decision self-efficacy amongst both samples of women which would require further study, is the nature and extent of their identification with their gender. As discussed in the literature, career decision self-efficacy has been linked to high levels of androgyny, as opposed to a strong feminine or masculine orientation (Abdalla, 1995; Brown et al., 2006; Gianakos, 1995; Gushue & Whitson, 2006). It may be that a sizeable portion of the women students in this sample would identify with a more androgynous or empowered feminine status. This may be particularly
true for the black South African women students. These students are likely to have fought and won many battles on their journey to their current destination—which required the instrumental and expressive qualities and the sense of being empowered that describe this type of gender identification. However, this between-group difference was not investigated in this study. It is recommended that further studies include this variable as a potential moderator of both black and white, but particularly black women’s career decision self-efficacy levels.

Finally, it is proposed that although the collectivist orientation with its emphasis on family and community can compound the career decision process for black South Africans, it can also contribute to increases in career decision self-efficacy by means of the support and encouragement it offers. For example, Gloria et al. (1999) found that African American students were more likely to persist at predominantly white universities in the presence of social support. Quimby and O’Brien (2004) report that support added to the prediction of career decision self-efficacy levels in U.S.A. college women students, over and above the contribution of perceived career barriers. As noted in Chapter Two, social support has been noted to play an important role in the career development of diverse population groups (Gainor, 2006). Parental support was reported to provide significant sources of emotional and social encouragement (Ali & Saunders, 2006; Constantine et al.; Duffy & Lent, 2008; Flores & Obasi, 2005; Rogers et al., 2008). In addition, a number of studies have pointed to the positive influence of siblings and peers as sources of vicarious learning, especially in the case of first generation students (Ali et al., 2005). As noted above, in these instances parents lack the knowledge, experience and resources to provide adequate role modelling, direction and career information. Siblings and peers on the other hand engaging in similar challenges and are more likely to be equipped to provide relevant sources of efficacy information through vicariously learning opportunities; while parental support provides sources of self-efficacy information through the learning processes of verbal persuasion and encouragement.

Within the South African context the type of family support that has been shown to be central to the success of previously disadvantaged students negotiating an unaccommodating context, is described by Dass-Brailsford (2005) and Leibowitz (2009). Amongst a group of high achieving underprivileged black university students, Dass-Brailsford (2009) reports on the presence of a warm, nurturing and supportive family atmosphere, where parents had high expectations for their children even though they themselves had not been able to graduate from high school. An emphasis was placed on the value of education and a sense of the value
of books and knowledge. In Leibowitz’s (2009) study of a group of previously disadvantaged students, lecturers and academic support staff, a key difference for the less privileged was in terms of the instrumentality with which they viewed education. Instrumentality was expressed by equating education with an escape from poverty and crime.

In summary, although there were a number of theoretically and empirically based findings from the literature review which led to the anticipation of low levels of career decision self-efficacy for both samples and to a greater degree the black women student sample, this was not the case in this study. Instead, high and equal levels of career decision self-efficacy suggest the workings of another set of variables that are shared and unique to each group and which positively influenced their CDSE scores. These include exposure to career guidance and counselling at school and university. In addition, the possibility of a variable such as coping efficacy or resilience moderating the impact of reported challenges also need to be investigated as having a potential influence on career decision self-efficacy. Identification with an androgynous or empowered feminine status, which is characterised as an instrumental and expressive orientation and a sense of being empowered, may have also contributed to these high levels of self-efficacy. Finally, various forms of support offered by parents, siblings and peers appear to play a significant role amongst black South Africans students negotiating a disadvantaging context.

6.3 Differences regarding levels of self-directed learning and career decision self-efficacy

Research question 2: Are there differences in the levels of self-directed learning and career decision self-efficacy between a group of black and white women university students?

6.3.1 Differences in levels of self-directed learning

The black students in this study had a higher mean SSDL score of 83.90 (SD = 11.11) than their white counterparts, whose mean score was 78.54 (11.38). Although the magnitude of this difference is small, it was found to be significant (t(363)=4.46, p>0.001). These results suggest that approximately five percent of the variance in self-directed learning is explained by ethnicity/race. The literature regarding mean levels of self-directed learning amongst diverse population groups has reported inconsistent findings and ethnic identity has not been
considered in relation to self-directedness in learning. However, if the cultural orientation of these two groups of women is considered in relation to the individualistic assumptions on which the construct of self-directed learning is based, one would expect a reverse set of results. Typically, black South Africans have been viewed as subscribing to a collectivistic value orientation, which discourages self-reliance in favour of group identification, and white South Africans are understood to adhere to individualistic values and to prize autonomy (Stead, 1996). It was anticipated that the other-directedness of the black women in this sample would compromise their efforts to be self-directed in their learning. The self-orientation of the white women in this sample was anticipated to facilitate their learner self-directedness. However, the converse has proven to be true in this research, with the black women students displaying significantly higher levels of self-directedness in learning than the white women students.

While it may be that processes such as acculturation—which have not been accounted for in this study or in relation to self-directed learning in general—may contribute to these unexpectedly high levels of self-directed learning amongst the black women, it is also suspected that the distinctiveness of this sample of black women may be a contributing factor. As noted above, De Bruin (1999) and Stead (1996) propose that in addition to being challenged by inferior and inadequate educational infrastructure and resources, many of the current black high school and university students are first generation students. Growing up in the apartheid system with its associated limited access to educational opportunities, meant that the parents of the current generation of students have not been able to progress beyond their status as unskilled and semi-skilled workers. The consequence of this is that although they may willingly provide encouragement and support for their children’s educational efforts, they are unable to offer academic guidance and direction. Without adequate educational resources and facilities, guidance and mentoring, the success of the elite and select few who have attained entry to university, may thus be a reflection of their decision to actively take personal responsibility for their education and learning experiences. As noted above, Dass-Brailford (2005) has provided some insight and evidence into the possible role of autonomy and taking personal initiative and responsibility in facilitating academic learning and success within the university context by the previously disadvantaged students. In addition, she has reported on the presence of metacognitive, cognitive and personal factors in these students that parallel the characteristics reported to describe the self-directed learner. These include the ability to reflect, appraise and evaluate one’s learning experiences, and the tendency to be
highly goal-directed, self-motivated and self-disciplined as well as displaying high levels of persistence, flexibility and planfulness. Thus, it may be that in confronting their ethic-racial-socio-cultural educational challenges, black South African women university students, in the absence of others to rely on, become increasingly self-directed in their learning efforts. This self-directed learning orientation may then facilitate their academic success and account for their fairly unique and elite status as university students. A longitudinal study may be useful in examining the origins of these unexpectedly high levels of self-directed learning and its relationship to academic success within a disadvantaging context.

6.3.2 Differences in levels of career decision self-efficacy

No significant difference with regards to levels of career decision self-efficacy was found between the black and white women student samples in this study. The black students’ average score was 92.61 (SD = 12.06) and the white students’ average score was 93.63 (SD = 12.72). The magnitude of this difference is very small and insignificant according to independent samples t-test.

As noted within Chapter Two, empirical studies amongst diverse population groups with regard to career decision self-efficacy levels have been inconsistent and no clear trend has been identified (Lindley, 2005). In view of the continuing disadvantaged educational and socio-economic status of black South African students, it was expected that the opportunity structure available to these students would be compromised. With opportunities for performance accomplishments and vicarious learning being restricted by processes of discrimination, oppression and racism amongst this population, it was posited that these students’ access to positive sources of self-efficacy information for building high levels of career decision self-efficacy, would be hampered. Reports of low levels of self and occupational knowledge (Stead, 1996), career decision problems (Stead & Watson, 2006b) and the perceived career barriers (Stead et al., 2004) amongst this population was considered to be support for this hypothesis. However, in contrast to these predictions, the career decision self-efficacy levels of the black women students in this same were equivalent to those of the white women student sample. It is hypothesised that both the significantly high levels of self-directedness amongst the black women as well as the resilience attributed to black students who have, despite numerous contextual barriers and obstacles attained entry to university, may offer some explanation in this regard. High levels of learner self-directedness and
resilience are proposed to equip these students to overcome the numerous distal and proximal constraints associated with their racial-ethnic-cultural-social identity within the South African context. As mentioned above, the personal characteristics described by Dass-Brailsford (2005) as resilience, mirror the qualities that have been empirically and theoretically attributed to the self-directed learner. It is thus suggested that these personal qualities provided the black students in this study with a personal orientation that enables them to navigate their disadvantaged position and acquire positive sources of self-efficacy information from which to build career decision self-efficacy beliefs comparable to those of the white students. Specifically this personal orientation is hypothesised to provide these students with an optimal learning approach and attitude to the numerous sources of self-efficacy information available to them as they negotiate the challenges that come with their gender and racial-ethnic-cultural-social identity. Consistent with findings in the career decision self-efficacy literature regarding diverse population, these findings emphasise the necessity of examining the unique socio-political context in which career decisions are being made when attempting to understand the career decision self-efficacy of diverse ethnic and minority groups.

6.4 Relationship between self-directed learning and career decision self-efficacy

Research questions 3, 4 and 5 all relate to the relationship between the two measured variables and are therefore discussed together in this section.

Research question 3: What is the relationship between self-directed learning and career decision self-efficacy in a group of black and a group of white university students?

Research question 4: Is the relationship between self-directed learning and career decision self-efficacy different for black and white women university students?

Research question 5: To what extent does self-directed learning predict career decision self-efficacy in a group of black and a group of white women university students?

As proposed, Pearson product-moment correlation showed a psychologically meaningful relationship to exist between self-directed learning and career decision self-efficacy amongst the black and white women students of this sample. Moderated hierarchical multiple
regression analyses revealed that self-directed learning accounted for approximately 20% of the variance in career decision self-efficacy, that race was a moderating factor in the relationship between the two variables and that the interaction between race and self-directed learning explained an additional 2.2% of the variance in career decision self-efficacy. Thus, together self-directed learning and the interaction between self-directed learning and race accounted for approximately 22% of the variance in career decision self-efficacy.

6.4.1 The predictive relationship between self-directed learning and career decision self-efficacy

In the review of the literature on self-directed learning and career decision self-efficacy, it became evident that the personal orientations of the individuals who show high levels of these variables, are very similar. According to the Personal Responsibility Orientation (PRO) Model of Self-Directed Learning, assuming personal responsibility is defined as a central feature of the internal characteristics of the self-directed learner (Brockett & Hiemstra, 1991). Similarly, empirical studies of career decision self-efficacy report that assuming personal responsibility for the career decision process is an important contributing factor to high levels of efficacy and thus adaptive career decision making (cf. Brown et al., 2003; Paulsen & Betz, 2004; Taylor & Popma, 1990b). Based on the findings of these literature reviews and the PRO model, it was hypothesised that a significant relationship may exist between the two variables. Utilising the SCCT framework, self-directed learning is conceptualised as a person input interacting with other person inputs, behavioural and environmental factors to shape the individual’s career decision self-efficacy beliefs. Firstly, in view of the parallels between the personal orientation of the self-directed learner, the individual with high levels of career decision self-efficacy and Dass-Brailsford (2005) and Leibowitz’s (2009) report of resilience in previously disadvantaged students, it is posited that a superordinate personality factor may serve as a precursor to both self-directedness in learning and career decision self-efficacy. This factor may serve as a buffering person input which moderates both distal and proximal contextual influences. Alternatively, it was postulated that the personal orientation of highly self-directed learners engenders in career decision makers an optimal approach to their experience and application of those learning experiences which inform their levels of career decision self-efficacy. The underlying emphasis on the self-directed learner assuming personal responsibility for learning—as stipulated in the PRO model—means that career decision makers with this self-directed learning personal orientation are more likely to take
personal responsibility for the learning that is required for them to attain confidence in the
career decision tasks delineated within the career decision self-efficacy construct. Their
metacognitive and cognitive abilities as well as their personal tendencies towards being self-
disciplined, responsible, conscientious, emotionally stable, curious, open to new learning and
confident learners (Creed et al., 2004; De Bruin, 2007; Gushue & Whitson, 2006; Lounsbury
et al., 2005; Niles & Sowa, 1992; Patton et al., 2003; Tokar et al., 1998) may facilitate the
necessary initiative and regulation of their attention, emotional and behavioural impulses and
enable their persistence in these learning activities.

Although the focus of this study has been on the internal dimension of the self-directed
learner, it may well be that the external characteristics or self-directed learning activities and
processes—described within the PRO model and the self-directed learning literature—may
also contribute to individuals’ levels of confidence in their ability to make effective career
decisions. For example, it was proposed in Chapter Three that self-directed learning activities
and processes require the learner to take on the role of decision maker for all learning related
choices and processes (Candy, 1991). This role and its related activities, are likely to provide
the career decision maker with the opportunity to rehearse and perfect their decision making
skills as well as acquire significant self-efficacy information about the decision making
process from related performance accomplishments, vicarious learning experiences,
persuasion and emotional arousal. Further research, specifically addressing the process aspect
of self-directed learning and career decision self-efficacy would be useful in exploring this
hypothesis.

6.4.2. The moderating effect of race/ethnicity in the relationship between self-directed
learning and career decision self efficacy

With regard to the moderating effect of race on the relationship between self-directed learning
and career decision self-efficacy, the picture is somewhat more complex. As reported above,
the review of international literature pertaining to self-directed learning and career decision
self-efficacy has produced mixed findings with regard to the mean levels of both these
variables amongst diverse population groups. A similar conclusion has been drawn within the
South African context for career decision self-efficacy and no studies could be found that
examined the levels of self-directed learning amongst the previously disadvantaged South
African population. In line with SCCT (Lent et al., 1994, 2000), and given the socio-political
and economic implications of race/ethnicity within the South African context both in the past and present, one would expect race/ethnicity to operate as a significant person input and possibly distal and proximal barrier, negatively moderating the pathway between learner self-directedness and career decision self-efficacy levels. However, in this study race/ethnicity was found to be positively related to levels of self-directedness, with the black women students reporting higher levels of self-directed learning than their white counterparts. The interaction between self-directed learning and race/ethnicity was found to account for an additional 2.2% of the variance in career decision self-efficacy.

It is hypothesised that the black women students in this sample who, despite being challenged by a lack of socio-economic resources and failed by the traditional education system, have mastered their schooling experience and attained university entrance, are an unrepresentative and minority proportion of the black South African population. It is their elite and unique status that provides a clue to the moderating role of ethnicity/race on the relationship between self-directed learning and career decision self-efficacy levels in this research.

Empirical studies of previously disadvantaged students as well as studies using post-1995 data are rare within the South African context (Leibowitz, 2009). The two studies that were located and discussed above (Dass-Brailsford, 2005; Leibowitz, 2009) attribute the successes of previously disadvantaged students in negotiating their numerous ethnic/racially based contextual barriers and obstacles to protective or resilience factors within these individuals (Dass-Brailsford, 2005) or their context (Leibowitz, 2009). Although the samples in these studies may differ somewhat from the current sample of black women (because the former’s socio-economic status and academic performance is known, whereas this information was not recorded in this study), it is suggested that they may offer insights into the prototypic qualities of the previously disadvantaged student within the South African university context. Dass-Brailsford (2005) and Leibowitz (2008) note that personal agency and the tendency to take personal responsibility for the direction of their lives and the choices they make, are typical characteristics of resilient disadvantaged university students. It is this sense of self-directedness in negotiating their ethnic/racial contextual challenges within the South African education system and broader South African society which is believed to contribute to increased levels of self-directedness in learning. These elevated levels of self-directedness in learning are then hypothesised—through its influence on the four sources of self-efficacy
learning experiences—to positively impact on these individuals’ self-efficacy beliefs regarding their career decision making competencies.

Alternatively the apparent overlap in the personal orientation of those with high levels of self-efficacy, career decision self-efficacy and resilience in previously disadvantaged university students suggests the influence of an overarching person input or predisposition, which facilitates not only higher levels of self-efficacy, but also facilitates a resilient response to the challenges associated with their racial and socio-economic status. The opportunities for performance accomplishments, made possible by this resilient response, are then hypothesised to contribute additional self-efficacy information to these individuals’ sense of themselves as self-directed learners. The literature on self-directed learning shown that high levels general self-efficacy are correlated with self-directed learning (Hoban & Hoban, 2004; Hoban & Sersland, 1999, 2000) and a measure of self-efficacy for self-directed learning has demonstrated that this construct exists. Although the nature of the relationship between self-efficacy and self-directedness in learning remains unclear, it has been suggested that self-efficacy beliefs influence the level of learning goals that individuals set for themselves when directing their own learning, ensuring persistence in self-directed learning endeavours (Bandura, 1995; Ponton et al., 2005) and setting in motion a self-reinforcing cycle. These elevated levels of learner self-directedness then enhance career decision self-efficacy levels amongst these previously disadvantaged students by providing an optimal learning orientation and attitude.

To conclude, predisposed towards taking initiative and personal responsibility for their learning experiences, the black women students in this sample have successfully negotiated various socio-economic and educational distal and proximal ethnic/racial contextual barriers to arrive at university. Through the numerous opportunities for mastery of various obstacles and challenges in their self-directed learning endeavours, the modelling provided by peers and siblings within the same context (Ali et al., 2005) and social, ideological and emotional encouragement of their broader family support system (Ali & Saunders, 2006; Constantine et al., 2005; Duffy & Lent, 2008; Leibowitz, 2009) these individuals have built a reservoir of self-efficacy information from which their learner self-directedness has been enhanced. These elevated levels of learner self-directedness in turn engender in career decision makers an optimal approach to their experience and application of those learning experiences which inform their levels of career decision self-efficacy. In this way the interaction of self-directed
learning and race is understood to account for a portion of the variance in career decision self-efficacy.

6.5 Limitations of the study

This research has initiated the process of addressing areas of neglect identified within SCCT within the South African context and the broader career landscape. Cross-cultural, gender and contextual variables (Lent, 2005; Wang et al., 2006), person inputs such as personal orientation or predisposition (Larson & Borgen, 2006) and the content of career interventions (Reese & Miller, 2006; Sullivan & Mahalik, 2000; Uffelman et al., 2004) have been reviewed. With regard to the broader career landscape, career decision processes have been considered (Brown & Lavish, 2006; Reese & Miller, 2006; Uffelman et al., 2004). However, a number of limitations have been identified with regard to its design, the generalisability of its findings and the potential for the influence of a number of confounds. Shortcomings related to cross-cultural and gender components of this study have also been detailed below.

Firstly, in terms of the design and technical aspects of this study a number of shortcomings are evident. These include the inevitable challenges associated with utilising retrospective self-report measures, a cross-sectional and correlational design as well as challenges associated the CDCE-SF (Betz et al., 1996) used in this study. With the behaviour described in the items of the career decision self-efficacy and self-directed learning measures, not being observed, these retrospective self-report reports may be confounded by social desirability pressures (Pervin & Oliver, 1997) or the emotional state of the test taker (Gushe, 2005; Sullivan & Mahalik, 2000). For example, the fact these questionnaires were administered within an academic context, may have increased the possibility of students faking good. Based on their context, these students may have concluded that their responses would be evaluated and the results be contributing to their overall academic assessment. Another possibility is that concerns and anxiety about assessment may have served as an additional source of self-efficacy information, suggesting to them a lack of competence in completing these questionnaires and so negatively biasing their responses.

In terms of the cross-sectional and correlation aspects of this research, limits are evident with regard to conclusions drawn about the causal relationships (Pervin & Oliver, 1997) proposed between self-directed learning and career decision self-efficacy. In addition, the cross-
sectional design suggests the potential for cohort effects confounding the results. Given that the South African context is in a state of flux and transition, the potential influence of cohort confounds is expected to be considerable. A longitudinal study would address these potential cohort effects and experimental research may be useful in contributing to our understanding of causal relationships between these variables.

Within the SCCT literature, concerns unique to self-efficacy self report measures have been identified. Betz and Hackett (1987) explain that when assessing complex social behaviour, as is the case with the process domain of career decision making, the actual assessment of self-efficacy may increase individuals’ perception of their competence. The test taker is provided with additional sources of self-efficacy information concerning their possible response to the situation, positively influencing their self assessment and so career decision self-efficacy levels. However in that, a fundamental premise of the SCCT framework is that individuals’ cognitive beliefs impact on their behaviour and it is the participants’ phenomenological experience that is relevant rather than objective records of typical behaviours.

A final consideration with regard to the technical aspects of this study relates to the instruments utilised in this study, specifically the CDSE-SF (Betz et al. 1996). In both the black and white women samples the subscales of this measure did not provide adequate internal consistency reliabilities above 0.70. Although the total score yielded acceptable Cronbach’s alpha coefficients of 0.88 for the total group and was considered to be an acceptable indication of the group’s career decision self-efficacy levels, it is important that the lack of cross cultural equivalence of these subscales within the South African context be investigated further.

In terms of the generalisability of the findings, limitations relating primarily to the status of both the black and white student samples as university students, are relevant. Sample biases as a result of their associated socio-economic status (Leong & Serafica, 2001; Lounsbury et al., 2005), education and acculturation level (Wang et al., 2006) are expected. As university students, it is likely that the participants in this study are from middle to upper income socio-economic families, and as such do not accurately represent and experience the challenges confronted across the spectrum of socio-economic classes. Conducting this research across a number of sites at less privileged higher education institutions would minimise the impact of this potential confounding factor. However, it should be remembered that part of the
motivation for this study was to address the career decision challenges experienced by individuals within the university context and the need for research that will assist these institutions in their endeavours to adequately prepare the future recruit for the ever-changing boundaryless career landscape. The presence of career challenges and preparation concerns amongst alternative less privileged post-school institutions would need to be established.

Within the South African university context, because of restorative policies and legislation such as affirmative action in the post-apartheid era, it is expected that the black university population may be more diverse in terms of socio-economic status, and so more representative of the broader population than in the international context. However, the application of other exclusionary criteria such as school academic performance mean that the confounding effects of socio-economic status are shifted to the school context, where as discussed previously, race has been replaced by class as a significant division within the education system. The majority of the previously disadvantaged continue to be constrained by access to an inferior education system at the primary and secondary level. These experiences then significantly prejudice their opportunities to attain entry to the university context. The result is that only an elite minority, who have been described by scholars (Dass-Brailsford, 2005; Leibowitz, 2009; Letlaka-Rennert et al., 1997) as highly resilient individuals, reach this level of education. Thus it is posited that the representativeness of the black women student sample is particularly limited for these reasons. Perhaps replicating this study with a less elite and more representative sample of black South African women attending alternative higher education facilities with less academically stringent standards would enhance the generalisability of findings amongst this population.

As mentioned in the discussion section of this study, the generalisability of both the black and white women student samples has also been compromised as a result application of the convenience method of sampling. Subsequent to the administration of this study, it was noted that a sizeable but unrecorded number of the students who participated in this study, were currently or previously enrolled in university foundation programmes. With its learner support, tutorial classes, life skills programmes and career education and counselling services, it is proposed that these foundation programmes may have provided participants with an unrepresentative skill set. It would have been useful to provide for the inclusion of this information in the biographic questionnaire so that the influence of this training could be
quantified and its confounding effect limited. Alternatively, a more representative sample of university students would have averted this problem.

Another aspect of the university context which potentially limits the generalisability of findings from the black women student sample is the potential for bias amongst this sample with regard to their level of acculturation. As pointed out in the literature review of this study, acculturation is a within-group difference that may moderate various content-specific-domains of self-efficacy across diverse population groups (cf. Brown et al., 2006; Byars-Winton, 2006; Flores & O’Brien, 2002; Gianakos, 1995; Mau, 2000, 2001; Tang et al., 1991). The university from which these students were sampled, historically served the white Afrikaans community within the region exclusively. The deracialisation of this institution and social, political and ideological transformation process that began with the new dispensation in 1994, is still unfolding. With the current status of acculturation influences and shifts in racial/ethnic ideology unknown, the representativeness of these black women students remains questionable. Including a measure of these individuals’ level of acculturation or racial-ethnic-cultural social identity would be useful in identifying and quantifying the impact of these variables.

With regard to the cross-cultural and gender components of this study, the focus on global differences has meant that gender and ethnic-racial-cultural within-group differences may mistakenly be rendered to error variance. This limitation has been reported in numerous studies with diverse population groups in the context of career research (Leong & Serafica, 2001). Empirical findings reported in Chapter Two note that gender identity (cf. Abdalla, 1995; Brown et. al., 2006; Gianakos, 1995) and ethnic-racial-cultural-social identity have been consistently found to influence career decision self-efficacy and other content specific career self-efficacy domains (Byars-Winton, 2006; Flores & O’Brien, 2002; Mau, 2000, 2001; Tang et al., 1991). No studies examining the relationship between these variables and self-directed learning were found. It may have been useful to consider these potential additional within-group variables and include a measure of gender role identity and level of acculturation and/or ethnic-racial-cultural-social identity. Lent and Brown (2005) argue that substantial differences are evident amongst individuals belonging to a particular racial-ethnic group on the basis of their generational status, acculturation, racial-cultural identity development, immigration patterns and socio-economic status. Within the American context, Gainor and Lent (1998) point to the necessity of considering ethnic identity amongst
university samples of minority population groups in particular. Their argument rests on the view that since these contexts tend to endorse the internalisation of the dominant culture, minority university students tend to be further along in the acculturation process and so unrepresentative of their non-university minority peers. Similarly, the broader dichotomous categorisation of cultural orientation as either collectivist or individualist is also problematic and does not capture the breadth of potential cultural variation. It may be that these processes vary non-linearly and qualitatively, possibly explaining the apparently individualistic responses amongst the black women students with regard to the CDSE and SDL items and their unexpectedly high overall scores on these measures. Future studies within this context should include various measures of racial-ethnic-cultural-social identity as well as qualitative measures to accurately describe the individual’s cultural orientation as a moderating factor.

In terms of gender, as pointed out in the literature review of this study, gender role identity has been reported to impact on women’s levels of career decision self-efficacy with significant positive correlations being reported between an androgynous orientation and career decision self-efficacy (Abdalla, 1995; Brown et al., 2006; Gianakos, 1995; Gushue & Whitson, 2006). Once again no study that investigated gender role identity in relation to learner self-directedness was located. As mentioned in the discussion of this results, this orientation may be particularly relevant to the black student sample in this study. It is speculated that the instrumental and expressive qualities and the sense of being empowered that describes this identity status, may have been particular useful to individuals in their negotiation of their disadvantaging socio-economic and education context. This androgynous orientation may go some way towards explaining the unexpected high levels of learner self-directedness and career decision self-efficacy amongst the black women sample and to a lesser extent the white women sample. It is recommended that further studies include this variable as a potential moderator of both black and white, but particularly black women’s career decision self-efficacy levels and learner self-directedness.

A final limitation, which has been typical of many cross-cultural studies, is that socio-economic variables have been ignored (Blustein, 2001; Worthington et al., 2005). Without controlling for, measuring or reporting on participants’ socio-economic status, the racial-ethnic-cultural identity of this sample may have been confounded with their socio-economic status. The result is that the impact of class will be obscured or underestimated as a potential independent variable. This is particularly pertinent in the South African context amongst the
previously disadvantaged for whom previous racial struggles have been reorganised along social class lines (Kahn, 2005). It is therefore recommended that further cross-cultural studies in this domain include a measure of socio-economic status.

In summary, this study displays limitations in terms of its methodology, the generalisability of its findings and with respect its cross-cultural and gender components. Longitudinal studies and experimental research were suggested as two possibilities for addressing the limits associated with the cross-sectional and correlation aspects. Further research was suggested to address problems with the CDSE-SF subscales. To advance the generalisability of future research in this field it was recommended that measures of potential confounding variables such as gender role identity, racial-ethnic-cultural-social identity and socio-economic status be included. These potential within-group differences would also be useful in addressing the concerns raised in relation to the cross-cultural and gender components of this study. Finally, alternative sites for the collection of data were recommended to provide for the generalising of findings across individuals with diverse socio-economic and educational levels. Less elite and privileged higher education institutions, with less academically stringent standards at a number of different sites, would be beneficial.

6.7 Recommendations for further research

In light of the findings of this research the following further studies are recommended:

The unanticipated high levels of learner self-directedness reported by participants in this study, especially amongst the black female sample, contradict both the traditional teacher-directed nature of the South African education system in which these participants were educated and the cultural orientation attributed to these students. Firstly, tracking the origins and developmental pathway of self-directed learning amongst South African black students, possibly using a longitudinal study, may be useful in bringing understanding to this contradiction and to how learners become self-directed in a teacher-directed education system. Secondly, it would be useful to explore the hypothesised relations between the resilience and the coping efficacy of the previously disadvantaged South African student population, their contextual barriers and challenges and their development of learner self-directedness. A qualitative approach to explore the phenomenological experiences of this population’s collectivist cultural orientation, in relation to individualistic aspects of learner
self-directedness, may also serve efforts to understand how these contradictory premises are integrated. It is anticipated that these insights will supplement the understanding of acculturation and social identity processes in a context such as South Africa, which is rebuilding and constantly transforming its political and social ideology. Similarly, examining the proposed relationship between high levels of career decision self-efficacy, resilience and coping efficacy amongst previously disadvantaged university students within the South African context, may provide some insight into the unexpectedly high levels of career decision self-efficacy reported by the black women student sample of this research.

As mentioned above, the construct of coping efficacy has been explored theoretically by Lent et al. (2000) as a possible buffer or moderating variable between contextual demands and self-efficacy expectancies. Considering coping efficacy as a possible moderator of career decision self-efficacy and learner self-directedness and a possible buffer with regard to contextual challenges within South Africa for both black and white women students, will provide further insight into the reported unanticipatedly high levels of these two constructs amongst both samples in this study.

Although this research reported that learner self-directedness predicted 20% of the variance in career decision self-efficacy levels, the nature and developmental pathway of this relationship remains unknown. It is recommended that the relationships between learner self-directedness and the four sources of self-efficacy information be examined, possibly utilising Schaub and Tokar’s (2005) Learner Experience Questionnaire. It is however important to note that the cultural equivalence of this scale has yet to be established and that current internal reliability consistencies have proved problematic (Williams & Subich, 2006). A path analysis of learner self-directedness, the four sources of career decision self-efficacy and career decision self-efficacy levels would also contribute to understanding this relationship. Including measures of contextual variables and other person and behaviour inputs as well as coping efficacy, would assist in providing a more comprehensive model to test the hypotheses that learner self-directedness serves as precursor and optimiser of the learning experiences that inform individuals’ levels of career decision self-efficacy. Initiating this project with a qualitative study may assist in identifying relevant contextual challenges, person and behaviour inputs, especially given that cross-cultural research has shown that contextual variables operate differently in different contexts (Lindley, 2005). The alternative hypothesis proposed in this study, namely that given the parallels between the personal orientation of the self-directed
learner, the individual with high levels of career decision self-efficacy and resilient university students, it may be that a superordinate personality factor is serving as a precursor to the high levels of learner self-directedness and career decision self-efficacy. This hypothesis would also need to be investigated. In addition to exploring these hypotheses, it is important to examine the relationship between the process components of self-directed learning as providing access to additional sources of self-efficacy information with regard to decision making in general.

The interaction between race-ethnic-cultural-social identity and self-directed learning reported in this study, suggests the need to examine the role of ethnicity as both a person input and contextual variable in relation to learner self-directedness. Inclusion of socio-economic measures and possible between-group differences such as acculturation level, cultural orientation and social identity status are essential to preventing potential confounds typically evident in cross-cultural research.

Finally, in view of the numerous parallels between the personal profile of the self-directed learner and individuals with high levels of career decision self-efficacy as well as the many links that have been reported between various forms of self-efficacy and self-directed learning (Hoban & Hoban, 2004; Hoban & Serlsand, 2000; Pajares, 1996; Pintrich & De Groot, 1990; Ponton et al., 2005), it is recommended that the possibility of a predictive and/or reciprocal relationship between career decision self-efficacy and self-directed learning be explored. Confidence in the one’s ability to acquire and appraise self and occupational knowledge, problem solve, select goals and plan (competencies of those with high levels of self-efficacy for making career decisions) may generate in these individuals perceptions of themselves as capable self-directed learners. As noted in the literature, self-efficacy in one’s learner self-directedness has been reported to increase levels of self-directed learning (Hoban & Hoban, 2004; Hoban & Serlsand, 1999, 2000). Thus it may be that either career decision self-efficacy directly predict learner self-directedness or that this relationship is mediated by the construct of self-efficacy in learner self-directedness. This research would be helpful in determining the validity of the hypothesis that high levels of career decision self-efficacy amongst this sample may have been a contributing factor to the high levels of learner self-directedness reported in this study.
This research contributes to the growing, yet limited body of research (Lent, 2001) which examines the career experiences of women and people of colour within the South African context. In particular, it addresses the call by Brown and Lavish (2006) for research which identifies factors which are associated with successful and efficacious career decision making amongst people of colour and Uffelman et al.’s (2004) concern that there is very little research literature which provides guidance with regard to how to increase clients’ confidence in their career decision abilities. In this study the self-directed learning orientation, described as a tendency to take personal responsibility for one’s learning and to be self-managing, disciplined and conscientious, was found to significantly predict and enhance the participants’ confidence in their abilities to make career decisions. On the basis of this finding it is suggested that efforts to improve an individual’s career decision self-efficacy should include a focus on person inputs and in particular to fostering the attributes comprising this personal orientation. Further research examining the nature of the relationship between these two variables, specifically whether the self-directed learning personal orientation filters or facilitates the learning experiences informing career decision self-efficacy, would assist in mapping this developmental process.

In terms of conclusions regarding the cross-cultural nature of this study, it would seem that both self-directed learning and career decision self-efficacy have relevance within the South African context for both black and white women. The high levels of both these constructs amongst the black women student sample, who have been traditionally considered to be the most vulnerable population group both internationally and within South Africa to career challenges, were unanticipated. The role of internal resilience reflected in their academic success as part of an elite minority of black women attending university, and/or the construct of coping efficacy as a possible moderator of the learner self-directedness and career decision self-efficacy relationship, have been offered as a possible explanation. Thus, career interventions addressing career decision challenges amongst the black South African population would need to give consideration to how race/ethnic may influence these individuals’ coping efficacy and resilience in the context of contextual demands. However, at this stage the nature of the interactive relationship between learner self-directedness, ethnicity/race and career decision self-efficacy remains unknown and further study is required.
REFERENCES


Barak (Eds.), *Contemporary models of vocational psychology* (pp. 167-199). Mahwah, NJ: Erlbaum.


