THE EFFECT OF CORE SELF-EVALUATION AND CAREER ADAPTABILITY ON THE SUBJECTIVE CAREER SUCCESS OF HIGHER EDUCATION EMPLOYEES

by

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DECLARATION

I, Belinda Janeke, student number 2001025135, declare that this thesis, entitled "The effect of core self-evaluation and career adaptability on the subjective career success of higher education employees", is my own work, and that all the sources that I have used have been indicated and acknowledged by means of complete references.

I also declare that ethical approval to conduct the research has been obtained from the Department of Industrial Psychology and the University of the Free State.

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11 December 2023

Date

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ABSTRACT

The South African labour market has witnessed significant transformations in the post-apartheid era as the nation prepared to integrate into the global economy. Despite improvements in the years between 2000 and 2017, persistent disparities in unemployment rates, skills shortages, gender imbalances, and stagnant wages have remained a challenge. The outbreak of the COVID-19 pandemic exacerbated these inequalities, disrupting economies, societies and workplaces globally and accelerating pre-existing workplace trends such as the gig economy, digitalisation, and automation. In this context, organisations, particularly in higher education, face the imperative to nurture digital skills, resilience and adaptability among employees to navigate the evolving career landscape. Central to this study is the concept of career adaptability, encompassing attitudes, behaviours and competencies used to navigate work roles, within the framework of Career Construction Theory (CCT).

This research delves into the adaptation process of employees in a higher education institution, exploring how they can enhance their career experiences in dynamic work environments. Subjective career success, reflecting an individual's personal evaluation of his or her career achievements and fulfilment, is investigated as a key outcome affected by core self-evaluation (CSE) and career adaptability (CA).

The study hypothesises that higher levels of CSE (representing adaptive readiness) and CA (representing adaptability resources) would positively influence the perceived subjective career success of higher education employees. A quantitative and explanatory research design was employed to test these hypotheses. Ethical considerations were addressed, and established scales were used for data collection via an electronic survey, resulting in a sample of 242 participants.

The holistic model, supported by statistical fit indices, reveals that higher CSE positively influences SCS, with evidence supporting the connection between CSE and SCS in various dimensions. CSE demonstrates a positive relationship with the eight SCS sub-dimensions, including authenticity, growth and development, influence, meaningful work, personal life, quality work, recognition, and satisfaction. These findings emphasise the role of CSE in shaping career trajectories, decision-making, and overall life satisfaction. Contrarily, while CA shows a significant relationship with the growth and development sub-dimension of SCS, its influence on other dimensions is not statistically significant, emphasising the importance of individual dispositions, particularly CSE, as stronger predictors of SCS. The analysis of age-related differences in SCS reveals no statistically significant variations, challenging prior

findings and suggesting that factors beyond age significantly contribute to individuals' perceptions of career success.

This study contributes to the understanding of the complex interplay between core self-evaluation, career adaptability, and subjective career success in a rapidly changing work environment. The findings underscore the importance of self-belief and adaptability in shaping career outcomes, and offer valuable insights for individuals seeking to enhance their career prospects, as well as organisations aiming to cultivate a satisfied and successful workforce. Future research should further explore potential mediators and moderators of the relationship between career adaptability and subjective career success, providing a more comprehensive understanding of these dynamic constructs.

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CHAPTER 1: GENERAL INTRODUCTION

1.1. INTRODUCTION

The South African labour market was one of the facets addressed by the government post-apartheid in an attempt to re-establish the country within the global economy. According to Mosomi and Wittenberg (2020), significant improvements were made between 2000 to 2017; still, inequalities remained, and in matters such as unemployment, shortage of high-skilled workers, gender imbalances, and a lack of wage growth, there are still deficiencies.

Since these findings were made, the COVID-19 global pandemic has had a devastating impact on nations, societies, economies, education, and the labour market, due to lockdowns (restrictions on everyday work and social interactions) which resulted in some cases in the shutdown of businesses and loss of jobs (Bennett, 2021; Cotofan et al., 2021; International Labour Organization, 2021). The repercussions of COVID-19 exacerbated the existing socio-economic inequalities and accelerated the trends of change in the workplace (Cotofan et al., 2021; Kniffin et al., 2021). Inequalities included caregiving obligations that mainly fell on women or single parents, access to COVID-19 tests and vaccinations based on socioeconomic status, and access to technology and infrastructure to work remotely (Bennett, 2021; De Castro Nazaré et al., 2021; Kniffin et al., 2021). The pandemic accelerated workplace trends, including the gig economy[1], developments caused by the fourth industrial revolution, flexibility and mobility of employees, e-commerce and automation, and caused a need for global working adaptation (De Castro Nazaré et al., 2021; Kniffin et al., 2021; McKinsey & Company, 2021). Therefore, organisations, and specifically higher education institutions, must nurture their employees' digital skills, their cognitive, social, and emotional abilities, and their resilience skill sets to be able to successfully emerge from this global crisis (De Castro Nazaré et al., 2021; Sheppard, 2020).

In South Africa, the idea of career success has assumed a multidimensional and subjective dimension amid these huge societal disruptions and changes, mirroring global patterns following the COVID-19 pandemic (Hildred et al., 2023). Career success can be viewed as the accomplishments of desired work-related outcomes as per an individual's own definition and

[1] "Gig" refers to a short-term work arrangement or a project that an individual engages in to generate income. The tasks that underpin the gig economy are usually short, temporary, precarious, and unpredictable. An individual's performance, reputation, and delivery will determine whether an organisation will sign a deal – the next gig – again in future (Woodcock & Graham, 2020).

judgement thereof, at any point over the span of their lifetime (Arthur et al., 2005; Hedge & Rineer, 2017; Heslin, 2005). It can be defined in terms of objective career success (visible, tangible, and public) or subjective career success (feelings, values, and beliefs). Consequently, career success will differ from one person to another (Arthur, 1994; Arthur et al., 2005).

Objective career success refers to observable career accomplishments, whereas subjective career success focuses on individuals' perception of career attainment (Heslin, 2005; Ng & Feldman, 2014). Objective career success is measured in terms of financial and visible aspects of one's career, which people use as a means of judgement for success (Heslin, 2005; Hughes, 1958). Subjective career success is measured in terms of growth and development, meaningful work, or satisfaction (Ibrahim & Amari, 2018; Shockley et al., 2016), and can also be defined as an individual's perceived subjective career success. It is believed that career adaptability is a vital resource to achieving career success, especially subjective career success (Ibrahim & Amari, 2018).

In this changing world, career success is more frequently seen through a lens that includes adaptability, digital literacy, resilience, and the capacity to deal with a workplace that is changing quickly. People have been compelled to reconsider what success really is, in light of the unequal burden of caring duties, differences in access to healthcare and technology, and the blending of personal and professional lives. Finding a sense of fulfilment, balance, and purpose in one's work while maintaining one's personal and familial well-being is today considered by many to be a necessary component of career success.

In addition to a need to develop digitalisation skills, resilience, and flexibility, Sheppard (2020) and De Castro Nazaré et al. (2021) underscore the importance of career adaptability as a key requirement for employees to experience subjective career success.

Career adaptability is a vital skill for employees to manage unanticipated career and work changes, capitalise on those changes, and recover from unforeseeable outcomes (Lee et al., 2021; Maree, 2017). In essence, this skill can be defined as the attitudes, behaviours and competencies (ABCs) that individuals use to fit into work roles that suit them (Savickas, 2020). The scholarship on career adaptability has expanded over the past decade in an attempt to understand the dynamic way in which individuals navigate the 21st-century workplace with significant economic and job changes (Lee et al., 2021; Maree, 2017). Currently, it is known that career adaptability can assist individuals in identifying and capitalising on opportunities due to unanticipated changes and in recovering from unforeseeable outcomes (Lee et al., 2021; Rudolph, Lavigne, & Zacher, 2017).

Unanticipated or unforeseeable outcomes include economic changes that drive involuntary job changes, organisational restructuring, loss of jobs, or reskilling need to remain relevant in the industry (Lee et al., 2021; Rudolph, Lavigne, & Zacher, 2017). Two factors impact on career adaptability, namely, individual resources and environmental support (Duarte et al., 2017). Individual resources such as intrinsic and extrinsic motivators, or the willingness to learn, can encourage an individual to aim for career success (Bocciardi et al., 2017; Duarte et al., 2017; Monteiro et al., 2018). Environmental support or influences can also increase career adaptability through positive family and social support, economic opportunities, and the growing labour market (Bocciardi et al., 2017; Duarte et al., 2017; Monteiro et al., 2018).

Many organisations believe that by increasing career adaptability through education and training and deliberate career development programmes, more employees can be assisted in coping with workplace challenges during difficult times (Cotofan et al., 2021; Konstam et al., 2015). It has been found that higher career adaptability levels can help employees to reach beyond economic imperatives and social status, into well-being, life satisfaction, and identity (Bimrose et al., 2011; Duarte et al., 2017; Lee et al., 2021).

Career adaptability forms part of a more extensive adaptation process which will briefly be explained. Rudolph, Lavigne and Zacher (2017) propose a conceptual framework for the adaptation process that includes four components, namely adaptivity (adaptive readiness), adaptivity resources (career adaptability), adapting responses, and adaptation results. An individual's willingness to deal with career changes and transitions is considered their adaptive readiness, while adapting responses and results refer to how individuals adapt and what the outcomes are (Haenggli & Hirschi, 2020). In this research, the focus is placed on three of these components, namely career adaptivity, adaptivity resources, and adaptation results.

The first component, namely career adaptivity, can be measured through core self-evaluations based on four personality dimensions, namely self-esteem, generalised self-efficacy, locus of control, and emotional stability (Judge, 2009; Özer et al., 2016). Research findings show that high self-esteem is common amongst people with a positive attitude, good coping mechanisms, and ability to function with high standards for themselves and others (Judge et al., 2003). Generalised self-efficacy drives an individual's confidence in various situations and can include flexibility and the willingness to learn (Judge, 2009). Locus of control consists of external and internal components defined by an individual (Lefcourt, 1991). External locus of control means that an individual believes in outside forces that influence one's life, while an internal locus of control is centred around the control that an individual believes he/she has

over his/her own life (Judge, 2009; Özer et al., 2016). Emotional stability is displayed when one manages emotions of anger or anxiety, and can cope under pressure (Judge et al., 2003).

The second component, namely career adaptability, acts as an adaptivity resource that can assist individuals in dealing with current and future career development tasks, occupational transitions, unanticipated changes, and recovering from unpredictable outcomes (De Castro Nazaré et al., 2021; Lee et al., 2021; Savickas, 1997; Zyberaj et al., 2022). Savickas and Porfeli (2012) describe career adaptability as a resource consisting of concern, control, curiosity, and confidence. Research shows that employees with high levels of career adaptability resources will prepare for current and future career tasks (concern), take responsibility for career development (control), explore opportunities (curiosity), and show their ability (confidence) in solving career-related problems (Rudolph et al., 2017; Savickas, 1997; Savickas & Porfeli, 2012). Savickas (2020) refers to the difference in willingness to adapt as adaptivity, and the difference in the ability to adapt as adaptability skills. Both adaptivity and adaptability skills can assist individuals in engaging in positive career-related behaviours (adapting), which can then lead to successful adaptation results experienced as career success (Savickas, 2013).

According to research findings, the third component employed in this study, which is subjective career success, is expected to manifest when there is a rise in core self-evaluation (Gaile et al., 2022; Judge, 2009). This increase in core self-evaluation is anticipated to boost career adaptability, ultimately resulting in employees experiencing subjective career success (Hirschi & Valero, 2015).

Several researchers found that socio-demographic factors like age have an impact on the career adaptability of employees, which can lead to an increase or decrease in perceived subjective career success (Gaile et al., 2022; Rudolph et al., 2017; Tladinyane & Van der Merwe, 2015). It has been found that younger employees tend to have strong feelings of connection to their organisation, high levels of career adaptability, and are more willing to engage in self-development activities that will help them take advantage of opportunities in their job or career (Tladinyane & Van der Merwe, 2015). It has also been found that older employees (and those with more ample employment experience) are more likely to have a well-developed core self-evaluation and more work and career-related experience than younger employees (or those with less work experience) (Rudolph et al., 2017). However, due to less projected time at work and employment prospects during the course of their working life, older people (and those with more work experience) may be less adaptable in their career choices (Rudolph et al., 2017). Furthermore, it has also been found that subjective

career success can be affected by age (Koekemoer et al., 2023; Zhao et al., 2021) or not (Steindórsdóttir et al., 2023). More researchers found a positive correlation between age and subjective career success of employees over 50 years of age (Häfeli et al., 2021; Hildred et al., 2023; Van der Heijden et al., 2022).

1.1.1. Problem statement

Higher education workplaces that are evolving as universities increasingly have to contend with tightening funds and increased workloads, a rise in the number of short-term contracts, and a decline in the number of tenure-track and tenured posts (Czerniewicz, 2020; Saeed, 2020). This requires of employees to deal with the massification of higher education, the growing relevance of evaluations, auditing, and international rankings, as well as the growing emphasis on the economic usefulness of institutions (Farnell et al., 2021; Paterson, 2021). These occurrences, coupled with the diminished job security, have increased the expectations placed on academic and support staff, and could substantially jeopardise their capacity to sustain successful careers over the course of their lives (Van der Heijden et al., 2021).

Additionally, the global COVID-19 pandemic, with its major career shock for people all across the world, impacted negatively on higher education employees' (both academic and support staff) ability to manage their professional and personal lives (Akkermans et al., 2020; Watermeyer et al., 2021). The confinement restrictions implemented by the majority of the world's governments in reaction to the pandemic required a sudden shift to working remotely and online teaching and mentoring, and also had a significant impact on academics and third space professionals'[2] research efforts (Van der Heijden et al., 2021). For academics who were more accustomed to and at ease with in-person teaching practices and who needed agility and learning opportunities to protect the sustainability of their careers, found the abrupt demand to switch to online learning technologies, often with only days or weeks' notice, unsettling (Watermeyer et al., 2021) – thus it can be deduced that the pandemic had an impact on the career adaptability of academics.

Career adaptability can have other positive results for individuals, such as good work engagement, higher job satisfaction and job performance, transactional competencies and more psychosocial resources, employee well-being, successful career transitions, and eventually career success (Haenggli & Hirschi, 2020; Lee et al., 2021; Spurk et al., 2019).

[2] Third space professionals are employees who exist in the liminal region between academic and administrative domains and are positioned to move beyond these binaries (Smith et al., 2021).

Little research has been conducted on the impact of core self-evaluation or career adaptability on subjective career success in the workplace, although research shows that career adaptability is necessary for individuals to navigate their occupational landscape, which can influence their career success (Johnston, 2018; Rottinghaus et al., 2017; Savickas, 1997).

In this research, the focus was placed specifically on employees of higher education institutions as higher education institutions must train employees and develop their abilities and competencies to engage in career adaptation behaviours, especially in post-COVID working conditions (Hedding et al., 2020). The aim was to investigate the impact of two factors (components of), namely core self-evaluation and career adaptability on subjective career success at a South African higher education institution. It was important to investigate (a) whether employees possess the core self-evaluation and career adaptability to navigate their careers and experience subjective career success, and (b) whether there are differences in the levels of subjective career success experienced in different age groups.

1.2. RESEARCH QUESTIONS

From the preceding problem statement, the following research questions were identified:

1. Do core self-evaluation and career adaptability influence subjective career success among higher-education employees?
2. Does the Subjective Career Success Inventory[3] (SCSI) demonstrate measurement invariance/equivalence across age groups in a sample of higher education employees?
3. Are there statistically significant differences between scores achieved on subjective career success between age groups in a sample of higher education employees?

1.3. RESEARCH OBJECTIVES

This research aimed to examine the relationships between core self-evaluation, career adaptability, and subjective career success amongst higher education employees. Three research objectives were therefore formulated:

[3] The Subjective Career Success Inventory (SCSI) is a measurement tool that will be used to determine subjective career success experienced by employees, and will be discussed in Chapter 3. This is a prerequisite for the third research question.

1. To determine by means of structural equation modelling whether core self-evaluation and career adaptability influence subjective career success among higher education employees.
2. To investigate by means of measurement invariance, whether the Subjective Career Success Inventory (SCSI) demonstrates measurement equivalence across age groups in a sample of higher education employees.
3. To determine by means of one-way analysis of variance (ANOVA), whether differences exist in scores achieved on subjective career success across age groups in a sample of higher education employees.

1.4. OUTLINE OF THE STUDY

Chapter 1 has focused on the problem statement, research questions, objectives and possible hypotheses to be tested. In **Chapter 2,** the conceptual framework will be discussed. In **Chapter 3,** subjective career success will be considered, and an attempt will be made to explain why age of the population is also investigated. **Chapter 4** will examine core self-evaluation and discuss the link between subjective career success and core self-evaluation, as well as the link between core self-evaluation and career adaptability. **Chapter 5** will explore career adaptability and its four dimensions. In **Chapter 6,** the research methodology and methods of sampling, data gathering, and data analysis will be explained. The findings will be discussed in **Chapter 7,** and the limitations of this study, along with conclusions and recommendations for future research will be discussed in **Chapter 8**.

1.5. SUMMARY OF CHAPTER

Currently, the skill of career adaptability is essential for people to orient themselves and adapt to the changing work environment. It has been found that the higher the level of core self-evaluation and career adaptability, the more likely the individual will perceive a form of career success. This underlines that an individual's capacity to adapt effectively is pivotal in determining his/her career trajectory. Within this context, the study's primary focus is on the concept of subjective career success as an indicator of an individual's successful adaptation.

Career success can be measured through objective and subjective factors. In this research, the focus was specifically on the impact of two factors, namely core self-evaluation and career

adaptability on the perceived subjective career success of higher education employees. Objective career success was not measured as it focuses on weighing a person's career against societal norms such as salary, job level, promotions, and occupational prestige. As higher education institutions have specific job levels and wages that can't be negotiated or changed according to a person's skills or abilities, objective factors were not measured.

In this chapter, the effect of core self-evaluation and career adaptability on subjective career success was explored, explicitly referring to the higher education workplace. Then, the research problem, and the specific research questions, objectives, and hypotheses were stated.

In the next chapter, the conceptual framework and the concepts of subjective career success, career adaptivity, and career adaptability will be unpacked.

CHAPTER 2: CONCEPTUAL-THEORETICAL FRAMEWORK

2.1. INTRODUCTION

Career adaptability has, from various perspectives, received considerable attention in contemporary research. Currently, scholars seem to agree that it is part of a much more complex adaptation process (Haenggli & Hirschi, 2020; Rudolph, Lavigne, & Zacher, 2017; Savickas, 2020). Career adaptability is a construct that explains vocational behaviour and employers can use it to design interventions that can assist individuals in making changes in themselves or their situations (Hartung & Cadaret, 2017). These interventions can help individuals to navigate work while increasing their employability, promoting self-regulatory cognitions, and developing positive emotions, behaviours, and attitudes, which are vital for career satisfaction and success (Hirschi & Valero, 2015; Lee et al., 2021; Savickas, 2020).

However, it must be noted that career adaptability is part of a broader complex adaptation process that plays out over time and should be understood from a holistic perspective (Coetzee & Schreuder, 2021; Rudolph, Lavigne, & Zacher, 2017; Savickas, 2012). To better understand the career adaptation process, it is helpful to understand what the term career entails, and how individuals make career-related decisions.

A career can be defined as "the pattern of work-related experiences that span the course of a person's life" (Greenhaus, Callanan & Godschalk, 2018, p. 10). Careers are designed by individuals while being influenced by social expectations of preparing, entering, participating in, and exiting different work roles (Rudolph, Lavigne, & Zacher, 2017). Work-related experiences consist of objective factors such as work-related decisions, activities, positions and duties (Greenhaus et al., 2018), while subjective interpretations of work comprise aspirations, expectations, needs, and values within work experience (Greenhaus et al., 2018). Over an individual's lifespan, he or she will move through various phases characterised by unique sets of issues, themes, and tasks – which is regarded as career development (Greenhaus et al., 2018; Parsons, 1909).

The notion of career adaptability originated with Donald Super's (1957) work on career development throughout one's life in addition to interests, abilities, and personality traits. He established a theoretical foundation for studying career development through the operationalisation of career maturity that enables an individual to perform normative developmental tasks in adolescence (Jordan, 2018). Career maturity was used to refer to the

psychological readiness of adolescents and young adults to make career choices, and includes the developmental career task with which they are confronted (Coetzee & Schreuder, 2021). Super (1980) used the term career maturity to describe an individual's ability to sustain career-focused behaviour and confidence in making career decisions amid the challenging world of work (Coetzee & Schreuder, 2021). The limitation of the focus on adolescents was later recognised and addressed by Super and Knasel (2007) to broaden the construct and rename it career adaptability. Over the past two decades, empirical and conceptual work has advanced career adaptability over career maturity to a meta-competency[4] for career construction and life design (Atitsogbe et al., 2019; Savickas, 1997, 2020).

Currently, career adaptability can be defined as a psychosocial resource that enables individuals to cope with current and anticipated tasks by being resilient and adjusting to the volatile contemporary landscape of careers (Blokker et al., 2019; Hartung & Cadaret, 2017; Savickas & Porfeli, 2012). Furthermore, it is often conceptualised as the attitudes, behaviours and competencies (ABCs) that individuals use to fit into work roles to suit them (Savickas, 2020). These attitudes, behaviours, and competencies often manifest in what is referred to as the four C's of career adaptability resources: concern, control, curiosity, and confidence (Savickas, 1997).

It has been found that individuals with high levels of career adaptability will show concern about the future and what might come next, and will display control in taking responsibility for their career by using self-discipline (Savickas, 2020). It has also been found that individuals with high career adaptability will most likely show curiosity and an inquisitive attitude toward possible future selves and career opportunities, while demonstrating confidence to actualise choices for implementing life design (Savickas, 2020). These four dimensions of career adaptability will be explained further in Chapter 4.

The following section will focus on the theoretical foundation of this research.

2.2. CAREER CONSTRUCTION THEORY AND MODEL OF ADAPTATION

Career adaptability is a fundamental construct in career construction theory (CCT), which suggests that individuals differ in their willingness (adaptivity or adaptive readiness) and ability (adaptability resources or career adaptability) to develop career-related beliefs and engage in

[4] A meta-competency refers to an overarching quality and ability of a conceptual, interpersonal, and personal/professional nature (Bogo et al., 2014). It can comprise cognitive, critical, and self-reflective capacity (Bogo et al., 2014).

positive career-related behaviours that can lead to positive career responses and results (Savickas & Porfeli, 2012). In other words, when an individual has adaptivity skills and adaptability resources, they are likely to respond positively to career changes that can lead to career success. Adaptation behaviours enable the individual to respond effectively to environmental changes that can lead to successful adaptation, experienced as career success (Rudolph et al., 2017; Savickas, 2020; Savickas & Porfeli, 2012).

The conceptual framework of this study is based on the career construction model of adaptation, which is grounded in CCT (Hirschi et al., 2015; Savickas, 2013; Savickas & Porfeli, 2012). CCT will be discussed further in Chapter 4. In this chapter, the focus will be on the career construction model of adaptation. The model is based on the idea that an individual's adaptivity influences their career adaptability positively, while positively influencing adaptation responses and results (Figure 2.1).

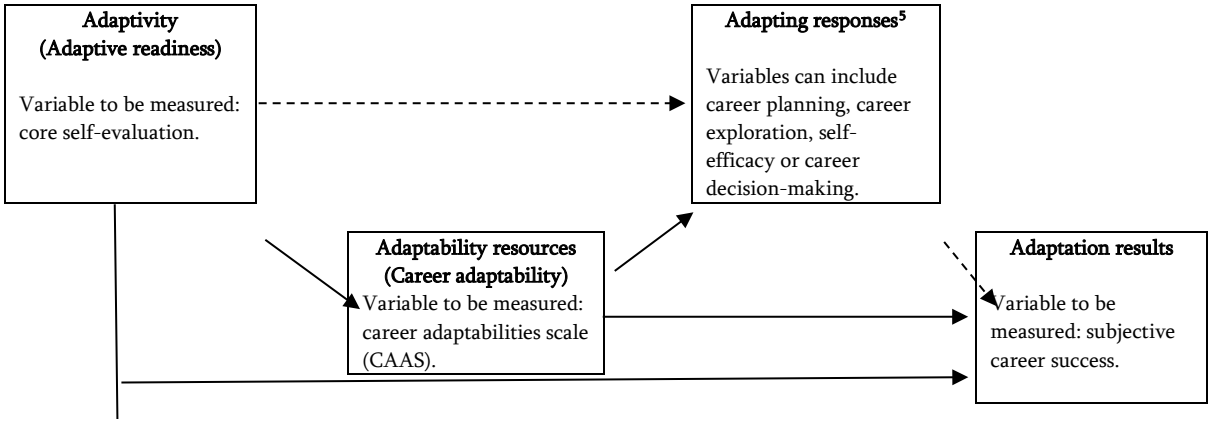

Figure 2.1: Conceptual framework of the career construction model of adaptation (Adapted from Rudolph, Lavigne, & Zacher, 2017)

Furthermore, it has been confirmed that adaptivity (readiness), adaptability (resources), responses, and results are conceptually distinct from one another (Hirschi & Valero, 2015; Tolentino et al., 2014). The adaptation model explains how adaptivity can directly influence adaptation resources and results, while indirectly impacting adapting responses. It also shows how adaptability resources can directly affect the adaptation responses, such as career exploration, and the adaptation results, including subjective career success (Haenggli & Hirschi, 2020). It may be deduced from the model that adapting responses will lead indirectly to adaptation results. For the purpose of this study, the focus is on the adaptivity and

[5] Note: this variable will not be measured in this study.

adaptability resources of higher education employees. Additionally, the impact of these adaptivity and adaptability resources on employees' subjective career success will be explored.

2.2.1. Adaptivity

Adaptivity is the psychological trait of an individual's readiness and willingness to respond to career changes (Rudolph, Lavigne, & Zacher, 2017). It influences the development and use of career adaptability resources to respond to unfamiliar, complex problems in one's career or work roles (Hirschi et al., 2015). Career adaptability resources are used as strengths to cope with job duties, tasks, career transitions, and changes (Hirschi et al., 2015). Adaptivity can be measured through various indicators, including cognitive flexibility, proactivity, or personality characteristics (Savickas & Porfeli, 2012). In this study, core self-evaluation will be used and assessed as an indicator of adaptivity, which has been positively related to career adaptability in previous studies (Haenggli & Hirschi, 2020; Hirschi et al., 2015).

Core self-evaluation is a higher-order trait that is relatively stable over time (Judge et al., 1998). It is helpful in understanding individual differences and allowing a self-assessment process to evaluate one's worthiness, effectiveness, and capability (Yoo & Lee, 2019). Individuals with higher levels of core self-evaluation have a higher overall evaluation of themselves (Xu & Yu, 2019), which enables them to deal better with changes and transitions in the workplace and display better career adaptability (Xu & Yu, 2019). Core self-evaluation consists of four sub-factors: self-esteem, generalised self-efficacy, locus of control, and emotional stability (Judge, 2009; Judge et al., 1998), which will be discussed in more detail.

Self-esteem refers to the overall value that is placed on oneself. When individuals accept themselves, they can appreciate their personality traits and identify aspects that can be developed (Özer et al., 2016). Generalised self-efficacy indicates how well one can perform in various situations with the belief and motivation that one can succeed in a job and use skills effectively (Judge et al., 2003). Locus of control, which consists of two components, namely internal and external locus of control, implies beliefs about one's own responsibility for behaviours and having control over aspects of life events or the surrounding environment (internal locus of control) (Özer et al., 2016). Emotional stability refers to how well one deals with negative emotions such as depression, anger, or anxiety. Individuals with high emotional instability (neuroticism) choose passive strategies to cope with stress, and those with high levels of emotional stability exhibit confidence, comfort and calmness during change or adverse events (Judge et al., 2003; Özer et al., 2016).

Core self-evaluation as an indicator of adaptivity examines the internal mechanism of adaptation and is positively related to career adaptability as it increases individuals' confidence to successfully manage career-related tasks and challenges (Rudolph, Lavigne, & Zacher, 2017; Yoo & Lee, 2019). The higher the levels of the core self-evaluation indicators of self-esteem, generalised self-efficacy, locus of control, and emotional stability, the more likely an individual will have adaptability resources that can positively affect career adaptability and the prediction of career success (Haenggli & Hirschi, 2020; Judge, 2009; Xu & Yu, 2019).

2.2.2. Adaptability resources

Hirschi et al. (2018) identify various career resources that encompass human capital, knowledge, skills, and motivational and environmental resources, all of which are critical for career success (Ng & Feldman, 2014). For this study, one adaptability resource, namely career adaptability, is highlighted and used to assist in understanding the effect it can have on employees' subjective career success.

Career adaptability can be utilised to manage career transitions (Savickas, 1997, 2020). Career adaptability resources are a self-regulated ability that can be capitalised on to solve complex problems that arise from career tasks, transitions, and trauma (Tolentino et al., 2014). This enables individuals to realise and improve their self-concept in their professional work roles, leading to various positive outcomes, including career success (Chen et al., 2020; Savickas & Porfeli, 2012).

From a conceptual viewpoint, career adaptability is perceived as a collective construct, and each sub-dimension contributes to the overall level of adaptability (Hirschi et al., 2015; Konstam et al., 2015; Savickas, 2020). Those sub-dimensions comprise concern, control, curiosity, and confidence (the 4 C's) and will be discussed comprehensively in Chapter 4 (Savickas & Porfeli, 2012). Existing research mainly uses a variable-centred approach[6] to explore the relationship between career adaptability predictors or dimensions and a range of antecedents, connections, and outcomes (Hirschi & Valero, 2015).

In previous studies confirmatory factor analysis indicated that the 4 C's are not interchangeable representations of career adaptability, but that different dimensions of career

[6] A variable-centred approach assumes that a sample is drawn from a single population in which a single set of averaged parameters can be estimated, whereas a person-centred approach includes multiple subpopulations within a different set of parameters, for a sample (Howard & Hoffman, 2018).

adaptability can be related to various potential predictors and outcomes (Guan et al., 2013; Hirschi & Valero, 2015; Rossier et al., 2012; Savickas & Porfeli, 2012). This seems important because the four specific resources that constitute career adaptability in terms of concern, control, curiosity, and confidence, are only some of many career resources that allow people to manage their careers successfully (Hirschi, 2011). When applied, career adaptability resources can positively influence the adapting responses that will ultimately lead to career success.

2.2.3. Adapting responses

Adapting responses are enacted behaviours that help individuals deal with changing conditions through career exploration and planning (Kirchknopf, 2020; Savickas & Porfeli, 2012). The career construction model of adaptation (see Figure 1) highlights the fact that career adaptability is positively related to adapting responses and mediates the relationship between adaptivity and adapting responses (Rudolph, Lavigne, & Zacher, 2017; Savickas & Porfeli, 2012).

These adaptability responses, including career exploration and planning, can contribute to life satisfaction, empowerment, stability, and realism in career aspirations (Haenggli & Hirschi, 2020; Hirschi et al., 2015). A response such as career planning benefits employers, as it can positively predict organisational loyalty and turnover intention – or the intention to find another job (Johnston, 2018). For individuals, the benefit lies within the openness to seek career counselling and guidance when making career decisions (Johnston, 2018).

Researchers found career adaptability to be positively related, but distinct from career exploration, career planning, career decision-making, and occupational self-efficacy beliefs (Bocciardi et al., 2017; Haenggli & Hirschi, 2020; Hirschi & Valero, 2015). Figure 2.1 indicates how adaptivity and adaptability resources can directly influence the adaptation results; therefore, this study will focus on the association between adapting responses and adaptation results. It is assumed that the display of adaptivity and adaptability resources will encourage adapting responses that will lead to adaptation results. However, as demonstrated in Figure 2.1, the effect of adapting responses is indirectly linked to adaptation results.

2.2.4. Adaptation results

CCT proposes that individuals with high career adaptability possess more competencies and resources that enable them to successfully adapt to and deal with career transitions, tasks, and changes (Savickas, 1997). When tested, this successful adaptation should lead to positive adaptation results that will reflect in work and life roles (Rudolph et al., 2017). Adaptation results are reflected by the congruence between an individual's needs and the environmental demands and opportunities, including indicators such as career success (Rudolph, Lavigne, & Zacher, 2017; Savickas, 2013). In this study, career adaptability is the self-regulatory resource that facilitates congruence and positive adaptation results such as career success, and more specifically for this study, it facilitates subjective career success (Haenggli & Hirschi, 2020; Mohammed et al., 2020).

2.3. SUMMARY

This chapter explored CCT and the conceptual framework that will be used to investigate the impact of career adaptability on career success. The CCT and model of career adaptation suggest that career adaptability is significantly related to adaptivity (i.e., self-esteem or optimism), adaptivity responses (i.e., career exploration and career planning), and adaptation results (i.e., career success) (Haenggli & Hirschi, 2020; Rudolph et al., 2017; Savickas, 2020; Tolentino et al., 2014).

In this study, core self-evaluation will be considered an indicator of adaptivity and the preceding factor of career adaptability. It is assumed that being ready and equipped with the necessary resources, individuals can respond with adaptive behaviours that will lead to adaptation results such as career commitment, job satisfaction, and career success (Hirschi, Herrmann & Keller, 2015).

In the next chapter career success will be discussed in further detail, with a specific focus on subjective career success.

CHAPTER 3: SUBJECTIVE CAREER SUCCESS

3.1. INTRODUCTION

Career success is perceived as the attainment of work-related outcomes over time; what it represents and how it is predicted is essential to both individuals and organisations (Hedge & Rineer, 2017; Spurk et al., 2019). The variety of work experience accumulated over a person's lifespan or career is focused on the relevance of time without the limitations of where people work or what represents career success (Arthur et al., 2005; Savickas, 1997). For individuals, it holds an idiosyncratic meaning regarding life satisfaction, psychological well-being, and accommodating work-life balance (Smale et al., 2019). On the other hand, employee career success is essential for organisations as it positively correlates with lower turnover intentions – or intentions to find other jobs – and increased support for organisational change (Smale et al., 2019).

In this chapter the nature and definition of career success are explored as well as the two components of career success, namely, objective and subjective career success. As mentioned previously, the focus will be placed on subjective career success in contemporary careers within the unpredictable work environment. Furthermore, subjective career success within higher education will be explored together with the need for a resource such as career adaptability for the successful attainment of employees.

3.2. THE NATURE AND DEFINITION OF CAREER SUCCESS

Career success has been measured by means of objective and subjective criteria of success (Hughes, 1958). Objective career success is measured against publicly observable (external) criteria such as income, titles, positions, situations, and status; and can therefore be easily verified (Heslin, 2005; Hughes, 1958). It relies on social milieu[7] landmarks that can be compared across people as a means of judgement for shared social understanding and success (Arthur et al., 2005; Heslin, 2005; Shockley et al., 2016). Subjective career success, on the other hand, is measured against personal (internal) success criteria, such as career aspirations, meaningful work experiences, satisfaction, and reactions to careers (Arthur et al.,

[7] The immediate physical social setting in which people live or in which something develops or happens, is called the social milieu. This includes social environment, social context, and sociocultural context (Speerforck & Schomerus, 2020).

2005; Heslin, 2005; Ng & Feldman, 2014). Therefore, it can be concluded that subjective career success is defined by an individual's reactions to their unfolding career experience (Heslin, 2005).

Previously, researchers such as Thorndike (1934) defined career success mainly as job satisfaction and used objective criteria such as money and status to measure career success. However, it has been found that high job satisfaction does not mean that people are happy with the impact of workload and its toll on health, family relationships, or other personal values (Heslin, 2005). Therefore, Edgar Schein (1978) proposes that career success should not only be measured against objective criteria such as progression and financial success, but also against subjective criteria for career success, which include reactions to actual and anticipated career-related outcomes.

These career-related outcomes can span a broader time frame rather than just immediate job satisfaction, and can include a more comprehensive range of outcomes, purpose, and work-life balance (Haenggli & Hirschi, 2020; Smale et al., 2019; Spurk et al., 2019). Although job satisfaction may contribute to subjective career success, career success has two distinct constructs: objective and subjective (Heslin, 2005). When job satisfaction is measured with hierarchical criteria of success or advancement, it limits relevance to measuring the career success of an increasing number of people who do not follow traditional career trajectories in organisations (Danner et al., 2019; Heslin, 2005). Non-traditional career trajectories or contemporary careers include people who work on a contract basis, run a small business, have reached a career plateau, or value other career features (Danner et al., 2019; Heslin, 2005). Therefore, it is also essential to consider using subjective criteria to measure career success.

Goffman (1959) proposes that there is little reason to assume that objective and subjective career success coincide in any dimension. He uses the examples of an artist and a salesman to illustrate his point of view. Artists perform art out of passion and would likely define career success in terms of the subjective gratification they receive for their work rather than in terms of objective rewards from the sales of their work (Arthur et al., 2005; Goffman, 1959). The salesman, on the other hand, would most likely define career success in terms of income rather than the intrinsic rewards of the work itself (Arthur et al., 2005; Goffman, 1959). Therefore, some researchers argue that career success should be evaluated by using both the objective and subjective criteria to explore the interdependence of individual roles and identities, as well as the institutional positions and expectations (Arthur et al., 2005; Hughes, 1958; Shockley et al., 2016).

Traditionally, objective criteria could be used as the work environment typically anticipated a lifelong upwardly mobile career trajectory within a single organisation (Shockley et al., 2016). Today, organisational hierarchies have become flattened, with limited opportunities for upward advancement (Arthur et al., 2005; Shockley et al., 2016). This change in the contemporary work environment has also had an impact on employees, requiring them to use subjective criteria to evaluate their career success (Arthur et al., 2005; Shockley et al., 2016).

It has been argued that criteria for objective evaluation of career success will differ amongst staff members due to the set structures of appointment levels, salary scales, and limited availability of promotions. Therefore, objective career success within one organisation (the higher education institution) cannot be accurately measured in a short period of time, as it will require a longitudinal study (Ebner & Paul, 2022). Hence, it has been assumed that subjective career success will provide a better indication of career success over a shorter period of time (Abele et al., 2011; Ebner & Paul, 2022).

3.3. SUBJECTIVE CAREER SUCCESS

Subjective career success depends on individuals' subjective evaluation of their own career goals and success by reflecting on the importance of their goals, attitudes, and values (Seibert et al., 2001; Shockley et al., 2016). Heslin (2005) proposes that the conceptualisation and measurement of subjective career success should include research on what employees want; determining how people conceptualise their career success; and obtaining more qualitative data to understand the needs of employees to achieve perceived career success. The latter can be determined through qualitative research and should be further explored. For the purpose of this study, however, quantitative research will be conducted to determine what higher education employees want and need for optimal career adaptability, and how they conceptualise their subjective career success.

3.3.1. Contemporary careers

To determine the needs of employees, what they want and how they conceptualise career success, the contemporary workplace and careers should be explored and considered, as these differ from the traditional workplace and career path (Aydogmus, 2019; Kundi et al., 2020; Zhou et al., 2016).

A traditional or linear career path focuses on an employee who climbs the corporate ladder with a career trajectory that moves upward (Hart & Baruch, 2022). Hierarchical positions are therefore often used to measure linear career success. Traditional symbols of success were a big office, more leadership responsibilities, or the power to influence others (Hart & Baruch, 2022). Therefore, traditional career paths are better measured through objective career success (Heslin, 2005).

In contrast to traditional career paths, a contemporary or non-linear career path is followed with one's "heart", a unique vision, and certain values (Heslin, 2005). Contemporary careers include many types of career paths, but most researchers are interested in and aligned with protean and boundary-less careers (Hart & Baruch, 2022; Heslin, 2005).

Individuals with a protean career will have a values-driven attitude and self-directed career management while assessing and comparing their career attainments to those of others around them (Hart & Baruch, 2022; Hedge & Rineer, 2017). Therefore, they will appreciate the objective career success visible and public to others (Hedge & Rineer, 2017; Spurk et al., 2019). People with protean careers aim for self-fulfilment and appreciate the importance of developmental progression, flexibility, freedom, continuous learning, and intrinsic rewards while navigating the modern career landscape (Hall, 1976; Volmer & Spurk, 2011).

Individuals with boundary-less careers will commit to lifelong skills, a periodic shift between related occupations or disciplines, or regular changes between unrelated careers (Hedge & Rineer, 2017; Spurk et al., 2019). A boundary-less career is independent of traditional organisational career arrangements, and the employee will engage in a sequence of job opportunities beyond the boundaries of a single organisation (Arthur, 1994; Volmer & Spurk, 2011). Hence, employees will value the subjective career success that allows them to navigate their career physically and psychologically across many organisations with high mobility (Shockley et al., 2016; Zhou et al., 2012, 2016).

Contemporary careers are a benchmark of our times, namely being responsive to the shifting boundaries in occupational, organisational, national, and international work arrangements (Aydogmus, 2019; Kundi et al., 2020). Organisations have reshaped into flatter and less hierarchical structures, and individuals are more concerned with independent rather than organisational goals (Hart & Baruch, 2022). This ignites effortless inter-organisational mobility between work roles or positions, resulting in higher employee goal-setting and career success (Ahn & Ok, 2019; Arthur et al., 2005; Volmer & Spurk, 2011). Inter-organisational mobility changes the traditional view that an organisation will provide lifetime employment and

confirms that both parties (employee and employer) understand that the employment relationship is unlikely to last forever (Ahn & Ok, 2019; Hart & Baruch, 2022).

Furthermore, organisations must be responsive to higher levels of uncertainty with greater individual agency, not only as a response to shifting boundaries and uncertainty but also because of the broader combinations of job experiences that can be incorporated into one career (Akkaya et al., 2022; Wilhelm & Hirschi, 2019).

3.3.2. Dimensions of Subjective Career Success

Subjective career success is a multidimensional construct that encompasses perceived job, interpersonal, financial, and life success (Ng & Feldman, 2014). One of the first multi-dimensional scales to measure subjective career success was created in China by Zhou et al. (2012) and focused on external compensation and intrinsic motivation.

In the United States, Shockley et al. (2016) created a multi-dimensional measurement that includes growth and development, personal life, and authenticity. This scale measures eight dimensions and has shown validity and reliability in other studies (Briscoe et al., 2021; Kundi et al., 2020; Smale et al., 2019). Many researchers have emphasised that subjective career success should be examined by focusing on specific dimensions rather than by treating it as an aggregate construct (Shockley et al., 2016; Smale et al., 2019; Zhou et al., 2012). The measurement consists of eight domains, namely, authenticity, growth and development, influence, meaningful work, personal life, recognition, satisfaction, and quality work (Shockley et al., 2016), all of which need to be explained.

Authenticity implies being true to oneself (Leroy et al., 2015), and helps a person to shape his or her career according to personal preference and needs, which are self-directed and based on their own terms (Shockley et al., 2016). When a person achieves a good fit between their true self and career work, it will lead to positive outcomes for the person and those around them who can be affected by their work (Hall & Mao, 2015).

Personal growth and development are perceived through past, current, and future coherent career trajectories and acquiring new knowledge and skills (Rothausen et al., 2017; Shockley et al., 2016). A positive career attitude will increase an individual's self-expression and personal growth and development in work (Vande Griek et al., 2018). Personal growth and development can be driven by having a purpose and doing meaningful work (Rothausen & Henderson, 2019).

Meaningful work allows an individual to engage in work that is personally and socially valued (Shockley et al., 2016). The more significant work is for an individual, the more passion and motivation he or she will have to keep going through changes and difficulties in work.

Satisfaction refers to the positive affection or feelings toward one's career (Shockley et al., 2016). Satisfaction with work is mainly measured with job satisfaction tools such as the Minnesota Satisfaction Questionnaire, and primarily focuses on the satisfaction with work tasks, work relationships, organisation, and rewards (Weiss et al., 1967). However, it should be noted that this domain can overlap with objective factors of career success like money. Therefore, this domain will be measured based on an individual's feeling of satisfaction which is part of subjective elements of career success (Shockley et al., 2016; Weiss et al., 1967).

Influence is perceived as impacting on people in an organisation or on the organisation itself (Shockley et al., 2016). Having influence can impact upon others and helps to build relevant networks through career attitudes and behaviours (Greenhaus et al., 2018) which can lead to better career opportunities.

Personal life refers to a career that positively impacts on life outside work (Shockley et al., 2016). People make sense of themselves through interactions in various roles across life domains such as family, spirituality, health, community, and recreation (Rothausen & Henderson, 2019).

Recognition can be received formally or informally through the acknowledgement of others, which serves as motivation to continue with good work and strive for career success (Shockley et al., 2016).

Finally, quality of work indicates the high-quality product or service provided at work (Shockley et al., 2016). Work environments where individuals engage their higher skills and abilities to be innovative and solve problems can contribute to the quality of work (Sahni, 2019).

In the higher education work environment, employees play an important role in successfully implementing the institution's vision and mission (Stankovska et al., 2017). The more universities pay attention to the development of staff and factors influencing their job satisfaction, the more likely staff will be committed, deliver quality work, and contribute to the institution's success (Stankovska et al., 2017).

3.4. SUBJECTIVE CAREER SUCCESS IN HIGHER EDUCATION

Higher education institutions must drive a high-performing work environment to succeed, while supporting employees to grow, develop, and achieve career success (Gander, 2018; Van der Heijden et al., 2021).

The concept and construct of career success (objective and subjective) have been researched and conceptualised since the late 1950s and have been measured in various industries and work environments (Briscoe et al., 2021; Heslin, 2005; Hughes, 1958). Career success is an intriguing construct that can harness an individual's actual internal standards and aspirations for self-motivation, satisfaction, performance, and commitment (Briscoe et al., 2021). Some career success studies reflect on both objective and subjective career success (Heslin, 2005; Hirschi et al., 2018; Spurk et al., 2019), while others emphasise subjective career success linked to various contributing factors such as career attitudes, emotional intelligence, psychological capital, and career adaptability (Aydogmus, 2019; Haenggli & Hirschi, 2020; Ibrahim & Amari, 2018). Career success is related to the context where a medical doctor, for example, will indicate career success based on the number of surgeries done or patients assisted. At the same time, an academic might measure career success by the number of publications or level of education and promotions, to mention but a few examples (Mohammed et al., 2020). In this study, subjective career success will be measured. Subjective career success is measured through employees' self-evaluation based on their own career success criteria (Maggiori et al., 2015). It can be attained when individuals use career adaptability resources to enhance their self-regulating strengths, competencies, and capacities to cope with current or unforeseen occupational changes in the work environment (Mohammed et al., 2020). In South Africa, recent studies have focused on mental health, job performance, organisational climate, turnover intention, and organisational commitment of higher education employees, to mention just a few (Coetzee et al., 2019; Grobler & Jansen van Rensburg, 2018; Poalses & Bezuidenhout, 2018; Zhuwao et al., 2019).

However, no studies were found that focused on the career success of South African higher education employees. Hence, there is a need to investigate subjective career success and how it can be influenced through training and development of career adaptability skills in a higher education environment.

3.5. SUBJECTIVE CAREER SUCCESS AND AGE

As mentioned in Chapter 1, age can have an effect on subjective career success and aught to be examined. Career construction theory (discussed in Chapter 2) explicitly proposes associations between subjective career success and demographic characteristics, including age (Ng et al, 2005; Shockley et al, 2015). Various factors associated with age, such as accumulated work experience, changing priorities, and evolving perspectives, can affect the way that individuals perceive and define career success (Nagy et al., 2019). Older individuals might prioritise factors like job satisfaction, work-life balance, and personal growth, leading to a different evaluation of career success compared to younger individuals who might prioritise career advancement and achievement (Shockley et al., 2016). Additionally, as people progress through different life stages, their definitions of success and the importance of various aspects of their careers can shift (Hirschi et al., 2018; Nagy et al., 2019).

For the purpose of this research, it is necessary to determine whether age plays a role in adaptation results such as subjective career success to help organisations to assist higher education employees in the development of sustainable careers (both academic and support staff) (Van der Heijden et al., 2021).

3.6. SUBJECTIVE CAREER SUCCESS AND CAREER ADAPTABILITY

In the realm of contemporary career development, one crucial factor that significantly influences subjective career success is an individual's core self-evaluation, particularly his or her adaptivity as defined in career construction theory (Savickas, 2013). This concept of adaptivity encompasses a person's ability to navigate the ever-evolving landscape of his or her career, responding effectively to changes, transitions, and new requirements (Ibrahim & Amari, 2018).

Research has shown that individuals possessing high levels of career adaptability (adaptivity resource), which can be seen as an extension of one's core self-evaluation (adaptivity readiness), are better equipped to excel in their professional careers (Haibo et al., 2017). This adaptability empowers them to address unforeseen challenges and solve complex problems, ultimately giving them a competitive edge in the labour market (Haenggli & Hirschi, 2020).

Savickas (2005) found that continuous adaptation to the work environment has a positive impact on career success. Various career success research studies that followed have shown that individuals with higher career adaptability resources have experienced higher levels of

perceived subjective career success (Haenggli & Hirschi, 2020; Ibrahim & Amari, 2018; Zhou et al., 2016).

In essence, core self-evaluation, encompassing adaptivity as a critical component, serves as the cornerstone of an individual's subjective career success. This adaptability acts as a bridge connecting an individual's professional potential to the realisation of their career aspirations (Blokker et al., 2019). As workplaces continue to undergo rapid transformation and professional paradigms continue to evolve, cultivating and harnessing one's core self-evaluation, particularly adaptivity, emerges as a pivotal factor in achieving both personal subjective career success and organisational excellence (Rudolph, Lavigne, & Zacher, 2017; Savickas, 2012).

3.7. SUMMARY

In this chapter, it has been argued that individuals define career success differently, depending on their needs, limitations, beliefs, and career goals. In the career construction model of adaptation (discussed in Chapter 2), career success is viewed as a key outcome of the adaptation process, achieved through adaptive readiness and career adaptability resources.

Career success can be measured through objective or subjective factors. The former are defined by direct or publicly measured outcomes such as income, status, titles, or positions; and the latter are defined by an internal evaluation of career aspirations, values, and reactions to career experience. Subjective career success was discussed in light of contemporary careers such as protean or boundary-less careers, where the subjective experiences of success might be more valued.

The eight dimensions of subjective career success were explored and aligned with how career adaptability may influence and increase career success. Subjective career success was described in the context of higher education, which is the primary focus of the study's empirical research.

In the next chapter, career adaptability (as an adaptability resource) will be examined.

CHAPTER 4: CAREER ADAPTABILITY

4.1. INTRODUCTION

Career adaptability is a resource that can help individuals to deal with career changes and transitions effectively (Chen et al., 2020). This resource forms part of a larger and more complex adaptation process as discussed in Chapter 2. In short, career adaptability is a central concept within the career construction theory model (Hirschi et al., 2015; Savickas, 2013). It represents an individual's capacity to proactively manage his or her career by drawing upon adaptability resources and employing adapting responses to achieve positive adaptation results (Rudolph, Lavigne, & Zacher, 2017).

This section will explore the nature and definition of career adaptability and the underlying theory and model. Furthermore, career adaptability within higher education will be explored.

4.2. THE NATURE AND DEFINITION OF CAREER ADAPTABILITY

Career construction theory (CCT) stipulates that people choose and use work through three types of vocational behaviour, namely, individual differences psychology ("what"), developmental psychology ("how"), and narrative psychology ("why") (Savickas, 2020). Individual differences psychology examines the content of vocational personality types and what different people prefer to do (Savickas, 2020). Development psychology examines the process of psychosocial adaptation and how individuals cope with vocational development tasks (Savickas, 2020). Narrative psychology examines the dynamic forces by which life themes impose meaning on vocational behaviour and why individuals fit work into their lives in distinct ways (Savickas, 2020).

CCT describes career adaptability as an individual having certain attitudes, beliefs, and competencies (ABCs) that shape problem-solving strategies and coping behaviours through the synthesising process between vocational self-concepts and work roles (Savickas & Porfeli, 2012). In essence, people's career adaptability prepares them to cope with current and anticipated occupational changes and transitions, as well as unpredictable adjustments prompted by changes in work and working conditions (Savickas & Porfeli, 2012; Tolentino et al., 2014).

4.2.1. Dimensions of career adaptability

In the contemporary work environment, the goal is for individuals to successfully navigate self-in-relation to changing environments and career needs (Hartung & Cadaret, 2017). Career adaptability develops along the lines of four dimensions, namely concern, control, curiosity, and confidence (the 4 Cs) (Savickas, 2020). These dimensions are related to crucial vocational development, which entails a primary adaptive goal that, when accomplished, builds a foundation for career success, future adaptability, and growth (Savickas, 2020; Savickas & Porfeli, 2012; Zyberaj et al., 2022). Career adaptability is organised into a structural model with three levels (ABCs) for each dimension (4 Cs) that shows the attributes needed to handle developmental tasks, career transitions and traumas (Table 4.1).

Table 4.1: Career adaptability dimensions and attributes (Adapted from Savickas, 2005)

Adaptability dimension	**Attitudes (A) and beliefs (B)**	**Competence (C)**	**Coping behaviours**	**Career problem**
Concern	Planful	Planning	Aware Involved Prepared	Indifference
Control	Decisive	Decision-making	Assertive Disciplined Wilful	Indecision
Curiosity	Inquisitive	Exploring	Experimenting Risk-taking Inquiring	Unrealism
Confidence	Efficacious	Problem-solving	Persistent Striving Industrious	Inhibition

The 4 Cs address certain career questions that individuals experience throughout their careers (Hartung & Cadaret, 2017). Concern is shown when a person starts thinking about whether they have a future. Control is displayed when a person strives for control over their future by taking ownership of it. Curiosity enables individuals to explore their possible selves by starting to think about what they want to do with their careers and future. Confidence is displayed when a person begins questioning whether they can achieve their career goals and overcome challenges (Hartung & Cadaret, 2017; Rudolph, Lavigne, & Zacher, 2017).

The first dimension, namely, career concern ("Do I have a future?"), engages an individual to be aware, involved and prepared for his or her future and to feel optimistic about it (Hartung & Cadaret, 2017; Savickas, 1997, 2020). Typical characteristics of a person showing career concern include being planful, forward-thinking, optimistic, hopeful, prepared, ready, and connecting present and future experiences, thoughts, and beliefs (Chen et al., 2020; Johnston, 2018). A high score on career concern indicates a thoughtful and proactive approach to achieving career goals (Rudolph, Lavigne, & Zacher, 2017). A low score on career concern highlights an individual's indifference toward or pessimism about the future and negative emotions, which reflects a lack of attitudes and competencies of concern (Vilhjálmsdóttir, 2017). Time perspective interventions can assist individuals in planning for what lies ahead while increasing career concern. The purpose of the interventions will be to create awareness and optimism and improve future planning orientation and behaviours (Hartung & Cadaret, 2017).

The second dimension, namely, career control ("Who owns my future?"), involves an increasing self-regulation through engagement and exerting control over one's future through decision-making, determination, and agency (Hartung & Cadaret, 2017; Savickas, 1997, 2020). Typical characteristics associated with career control include being independent, autonomous, decisive, assertive, accountable, trustworthy, persistent, self-reliant, and self-directed (Chen et al., 2020; Hartung & Cadaret, 2017; Johnston, 2018). On the other hand, a lack of career control can lead to indecisiveness and uncertainty in work and career choices, and therefore attitudes and competencies on this dimension should be strengthened to improve decision-making skills (Vilhjálmsdóttir, 2017). Decision-making interventions can be used to increase career control through the clarification of self-concept, decreasing anxiety and empowering individuals to deal with opposing opinions regarding their future (Hartung & Cadaret, 2017).

The third dimension, namely, career curiosity ("What do I want to do with my future?"), refers to career exploration and self-knowledge while attempting to fit realistically into the world of work (Hartung & Cadaret, 2017; Savickas, 1997, 2020). To adapt to changing contexts or situations, individuals must display an inquisitive attitude and engage in exploration through experimentation and risk-taking (Hartung & Cadaret, 2017). Typical characteristics associated with career curiosity include being investigative, self-reflective, future-oriented, explorative, and observant (Chen et al., 2020; Johnston, 2018). In contrast, a lack of career curiosity will limit career exploration and prompt unrealism, unrealistic expectations, and aspirations about

the future (Rudolph et al., 2017). Reality testing and information-based interventions increase career curiosity and reinforce explorative behaviour (Hartung & Cadaret, 2017). Reality testing prompts individuals with the necessary information and tools, to explore their careers and their self-knowledge, to determine what they are striving for in their careers.

The last dimension, namely, career confidence ("Can I do it?"), involves problem-solving abilities and self-efficacy to overcome obstacles as individuals work to implement their career goals (Hartung & Cadaret, 2017; Savickas, 1997, 2020). Typical characteristics linked with career confidence include being efficient, persistent, productive, self-assured, reliable, proud, and self-confident (Chen et al., 2020; Johnston, 2018). Career confidence is demonstrated in how individuals deal with the numerous stressors that they may encounter along the career journey, while focusing on career goals and success (Rudolph et al., 2017). Self-efficacy can be used to pursue career aspirations and belief in one's ability to solve problems and overcome challenges (Rudolph et al., 2017). In contrast, a lack of career confidence can lead to inhibition, self-consciousness, and anxiety in approaching the future (Hartung & Cadaret, 2017; Vilhjálmsdóttir, 2017). Role-play, social modelling, and cognitive-behavioural interventions are used to encourage career confidence by increasing self-efficacy and self-esteem (Hartung & Cadaret, 2017).

Career adaptability is needed in the workplace to deal with the predictable tasks in a work role, and to make unpredictable adjustments prompted by career changes and conditions (Kirchknopf, 2020). It can also increase an individual's employability through the willingness and ability to change personal factors to meet the ever-changing demands of the world of work (Kirchknopf, 2020).

4.3. CAREER ADAPTABILITY IN HIGHER EDUCATION

Since career adaptability can assist individuals in all industries and work environments to achieve various work-related aspirations, efforts should be made toward the continuous development thereof (Hartung & Cadaret, 2017). Organisations should support their employees through interventions that can increase adaptivity and adaptability resources, which are valuable to the employees, while decreasing turnover intentions and increasing job satisfaction within an organisation (Johnston, 2018; Nota et al., 2012). Higher education institutions are no different regarding the need for employees' job satisfaction, low turnover intentions, and overall success of the institution (Gasser & Shaffer, 2014).

Various challenges and struggles existed within higher education before the COVID-19 pandemic (Landa et al., 2021). These challenges include, but are not limited to, competitive funding models, performance agendas, student protests, curriculum redesign to fit hybrid or online teaching, and connecting with students without the proper facilities and connectivity (Bossu et al., 2019; Landa et al., 2021). Higher education has turned into an industry that is driven like a business while trying to keep ahead, with technology changes in the institution as well as the classrooms (Carlson & Fleisher, 2007). In this regard, the specific higher education institution under investigation, conforms to the demographic changes of South Africa by the implementation of transformation principles to meet the BBBEE requirements of the labour law (Tivaringe, 2019).

To navigate such a turbulent labour environment, employees must possess the 4Cs of career adaptability, namely: concern, control, curiosity, and confidence (Haenggli & Hirschi, 2020). This requires of both academic and support staff to engage in the adaptation process as discussed in Chapter 2. They should utilise their career adaptivity and career adaptability resources to reach their own individual desires and outcomes in the form of adaptability results (Ferreira et al., 2014; Haenggli & Hirschi, 2020; Landa et al., 2021). However, little research has been conducted to investigate the career adaptivity and career adaptability resources of higher education employees.

It has been found that career adaptability, availability of resources and opportunities, social class, and socioeconomic status are influencers in developing a career within higher education (Gasser & Shaffer, 2014). In their study, Gasser and Shaffer (2014) found that 40% of higher education employees demonstrated career adaptability but were overlooked for promotion due to a lack of commitment to assist the employee in career development. Lee et al. (2021) emphasise the importance of employers providing training and support, increasing the employees' career adaptability; in return, the organisation can achieve its goals and show success.

4.4. CAREER ADAPTABILITY AND CAREER ADAPTIVITY

Savickas (2013) highlights the importance of career adaptivity (adaptive readiness) as it influences the development and use of career adaptability (adaptability resources) to deal with work problems or uncertainty in careers.

Core self-evaluation (CSE), as a measure of adaptivity, explores the internal mechanisms of adaptation and has a positive relationship with career adaptability since it boosts people's confidence in their capacity to handle activities and obstacles linked to their careers (Rudolph, Lavigne, & Zacher, 2017; Yoo & Lee, 2019). The higher the levels of the CSE, the more likely an individual will have adaptability resources that can positively affect career adaptability (CA) and the prediction of career success (Haenggli & Hirschi, 2020; Judge, 2009; Xu & Yu, 2019).

Positive correlations were found between CSE and CA (Rudolph, Lavigne, & Zacher, 2017; Rudolph et al., 2017). Individuals with higher levels of CSE have a higher overall evaluation of themselves to deal with career changes and transitions (Xu & Yu, 2019). Furthermore, it has been confirmed that adaptivity and adaptability resources contribute to the subjective career success of individuals (Haenggli & Hirschi, 2020).

4.5. SUMMARY

The importance of career adaptability has been explained, with a focus on its benefits for both employers and employees. Career adaptability can assist individuals in dealing with career transitions and changes.

The CCT that underpins the career adaptability construct describes a person's attitudes, beliefs and competencies (ABCs). This helps with solving problems, having coping mechanisms, and dealing with the work tasks at hand. The four dimensions (4 Cs) of career adaptability, namely, concern, control, curiosity, and confidence, were discussed. Furthermore, it was aligned with the ABCs to demonstrate how it plays out within the four dimensions and how it can contribute to solving career problems.

Although career adaptability is a well-known construct among human resource staff that must support employees, little is known about how higher education employees in South Africa engage their adaptivity and adaptability resources, to achieve career adaptability. Hence, the need to conduct this study and contribute to the body of knowledge.

In the next chapter, career adaptivity will be explained and discussed.

CHAPTER 5: CAREER ADAPTIVITY

5.1. INTRODUCTION

Career adaptivity is a trait-like psychological characteristic that determines the readiness, flexibility, and willingness to adapt to career changes (Nilforooshan, 2020; Rudolph, Lavigne, & Zacher, 2017). The adaptation model discussed in Chapter 2 refers to the four elements: adaptivity, adaptability, adapting, and adaptation. These four elements are interrelated where adaptivity and adaptability lead to adapting responses, that in turn lead to adaptation results (Nilforooshan, 2020). Career adaptivity serves as the bridge between an individual's adaptability resources and their adapting responses, ultimately shaping the outcomes in the form of adaptation results (Hirchi et al., 2015; Savickas, 2020). Career adaptivity reflects an individual's ability to proactively and effectively respond to changes in his or her career, making it a critical factor in career development and overall success (Nilforooshan, 2020).

This section will explore the nature and definition of career adaptivity and the underlying theory and model.

5.2. THE NATURE AND DEFINITION OF CAREER ADAPTIVITY

Adaptivity is a psychological trait of self-regulative tendencies to meet unfamiliar and complex problems experienced in work situations, tasks, and occupational changes and transitions (Hirschi & Valero, 2015; Nilforooshan, 2020; Rudolph, Lavigne, & Zacher, 2017).

Career adaptivity can be measured in various ways, including by means of indicators of cognitive flexibility, proactivity, the big five personality, self-esteem, core-self evaluations, future orientation, and dispositional positivity (Haenggli & Hirschi, 2020; Savickas & Porfeli, 2012; Tolentino et al., 2014). For the purpose of this research, core self-evaluation (CSE) was selected as an indicator of adaptivity, and therefore an antecedent of career adaptability (Hirschi & Valero, 2015).

Self-evaluation entails the evaluation of one's functionality, success, and value (Özer et al., 2016). CSE is a fundamental appraisal of one's worthiness, effectiveness, and competence as a worker, which has been positively related to different measures of career success (Hirschi et al., 2015; Judge et al., 2003). Individuals with high CSE are considered more ambitious

and confident in their careers, while actively engaging in career planning, exploration, and job search behaviours (Hirschi et al., 2015). This element consists of various dimensions.

5.2.1. Dimensions of core self-evaluation

CSE is one form of career adaptivity that can be determined through a self-evaluation process. The CSE is a broad, latent, high-order trait that consists of four elements, namely: self-esteem, self-efficacy, emotional stability, and locus of control (Gardner & Pierce, 2009; Judge et al., 2003).

The first dimension, namely, self-esteem, refers to the value an individual holds through the acceptance, respect, trust, and belief in self (Johnson et al., 2007). This is supported through attitudes, behaviours, and emotions of further development and valuing oneself (Özer et al., 2016).

The second dimension, namely, generalised self-efficacy, accounts for the belief and motivation to succeed in one's career by applying skills and delivering good performance (Özer et al., 2016). It indicates how well a person can perform across various situations (Judge, 2009).

The third dimension, namely, emotional stability, is displayed through confidence, comfort, and calmness in various career situations and events (Özer et al., 2016). A low emotional stability (or instability) occurs in stressed individuals and increases with negative emotions like depression (Özer et al., 2016). Such individuals will choose passive and incompatible strategies to cope with stress and might attribute more negative meanings to their situations or careers (Özer et al., 2016).

The fourth dimension, namely, locus of control, can be divided into an external and internal locus of control. Individuals with an internal locus of control will see events as contingent upon their own behaviour (Judge et al., 2003). They will tend to take responsibility for behaviours and actions while believing that there is a sense of control over their environment and a current situation or event. They have a sense of control over their own lives and will take greater responsibility if needed. An individual with an external locus of control will experience feelings of ineffectiveness and helplessness (Johnson et al., 2007) as they do not have a sense of control over their own lives.

Individuals with a positive CSE tend to believe they can do their work, perceive themselves as positive, talented, proficient, and as having control over their lives (Özer et al., 2016).

Researchers found that individuals with high CSE attain more complex jobs and can adapt better to change, leading to higher job satisfaction, reduced stress and burnout, and greater career success (Judge, 2009). On the other hand, it was found that individuals with a negative CSE tend to have low life satisfaction while believing that their inability leads to failure and that they cannot fulfil expectations (Özer et al., 2016). CSE is considered as high adaptivity when an individual shows high self-esteem, high self-efficacy, high emotional stability, and an internal locus of control (Judge et al., 1998).

5.2.2. Core self-evaluation theory

CSE theory is derived from the philosopher and clinical psychologist, Edith Packer, who argued that humans have broad, metaphysical assessments of themselves that subconsciously influence how they perceive particular people and situations (Packer, 1985). Extending these concepts, it was proposed that fundamental evaluations of the self can have an impact on all possible evaluations that people may have of themselves, of others, and of the world (Johnson et al., 2007).

The degree to which a trait involves evaluations rather than descriptions is referred to as evaluation-focus (Johnson et al., 2007). For instance, certain personality characteristics, like agreeableness, define a group of behaviours such as cooperating and demonstrating sympathy. Still other characteristics, like self-esteem, are assessments of the self that convey self-worth (Judge, 2009). According to his theory, evaluation-based attributes will be more directly and significantly correlated with job satisfaction than descriptive traits because evaluative features directly affect how one perceives and feels about oneself and the world around them (Johnson et al., 2007). For instance, people who are confident in themselves are more likely to feel appreciated at work and find their work important (Judge, 2009). This optimistic outlook systematically biases other attitudes and affective assessments (Johnson et al., 2007).

The second criterion, namely fundamentality, describes characteristics that are more basic to a person's self-concept (Judge et al., 1998). People with a strong sense of fundamental CSE attribute their successes and failures primarily to their own abilities and characteristics rather than to external factors like luck or circumstances (Judge, 2009). They tend to take personal responsibility for their actions and outcomes (Judge, 2009). In contrast, individuals with low fundamental CSE may be more inclined to attribute their achievements and failures to external factors (Johnson et al., 2007).

The final criterion is scope, which describes how broad or specific a quality is (e.g., self-worth as a person or employee) (Johnson et al., 2007). It might be argued that global traits have a more substantial impact on attitudes than narrow traits do, especially in regard to attitudes toward careers (Haibo et al., 2017). The concept of stronger correlations between traits and attitudes that both types of individuals share is consistent with the compatibility principle (Heslin, 2005; Liu et al., 2015).

Therefore, CSE traits have overarching influences on all appraisals because they are focus-based, fundamental and have a broad scope to assess. Each trait is saturated with the underlying CSE dimension, as demonstrated in Figure 5.1.

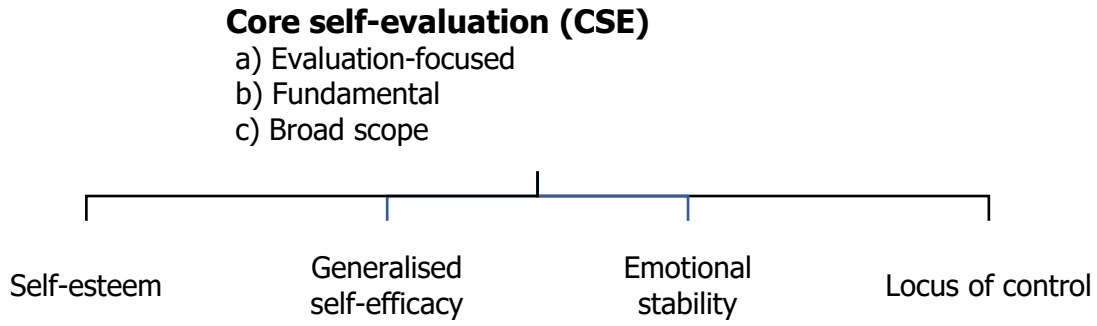

Figure 5.1: Model of core self-evaluation (Adapted from Judge et al., 1998)

5.3. CAREER ADAPTIVITY AND SUBJECTIVE CAREER SUCCESS

While various factors contribute to subjective career success, core self-evaluation, particularly as adaptivity readiness, emerges as a significant predictor of an individual's ability to navigate and thrive along their career journey (Khan et al., 2022).

In today's rapidly changing work environments, adaptivity readiness is crucial for career success (Haibo et al., 2017). It reflects an individual's capacity to respond effectively to evolving job demands, learn new skills, and embrace change (Johnson et al., 2007). Researchers found that employees with high core self-evaluation tend to possess a positive self-concept, believe in their abilities to influence career outcomes and exhibit resilience in the face of adversity (Fabio & Palazzeschi, 2020; Johnson et al., 2007; Judge, 2009). High levels of core self-evaluation enable individuals to view change as an opportunity for growth rather than a threat to their self-esteem (Johnson et al., 2007; Judge, 2009). Consequently, they are

more likely to proactively seek out career-enhancing experiences and capitalise on emerging opportunities (Khan et al., 2022).

As organisations continue to evolve, employees who possess high core self-evaluation and adaptivity readiness will be better positioned to achieve not only objective career success but also the subjective career success that brings personal fulfilment and contentment (Khan et al., 2022; Judge, 2009). Recognising and nurturing these qualities should be a priority for individuals and organisations alike in the pursuit of thriving careers and fulfilling lives.

5.4. SUMMARY

In this study, the primary independent variable of interest is core self-evaluation (CSE), which plays a central role in individuals' readiness to navigate the career adaptation process. CSE represents a set of predispositions that individuals possess, encompassing four critical dimensions: self-esteem, generalised self-efficacy, emotional stability, and locus of control. These dimensions serve as key self-assessment tools, and their measurement has been established as valid and reliable through various studies. It is noteworthy that high levels of CSE have consistently demonstrated associations with heightened job satisfaction and increased career success.

The theoretical foundation of CSE intertwines with the construct of career adaptivity, emphasising an individual's ability to assess their current and future career concepts. This self-assessment process is pivotal for the development and maintenance of adaptability resources, ultimately facilitating career success (in the bigger adaptation process). Career adaptivity is a well-recognised construct within the field of industrial psychology, particularly relevant in supporting employees as they navigate their careers.

However, despite its prominence, there remains a gap in our understanding of how employees in higher education institutions in South Africa engage their adaptivity and adaptability resources to achieve career adaptability. To address this gap and contribute to the existing body of knowledge, this study has been conducted with the aim of shedding light on the specific ways in which CSE, as the main independent variable, equips individuals for the adaptation process. It is important to recognise that having CSE is a crucial predisposition, but its effectiveness hinges on its correct application in the context of career adaptability subdimensions: concern, control, curiosity, and confidence. By exploring these dynamics, this research seeks to enhance the comprehension of how career adaptivity and adaptability

resources are harnessed by higher education employees in South Africa to achieve career adaptability and, consequently, career success.

In the next chapter, the research methodology will be explained and discussed.

CHAPTER 6: RESEARCH METHODOLOGY

6.1. INTRODUCTION

This chapter outlines the research methodology used for this study and will comprise the selection of respondents (test persons), data gathering methods, and statistical methods used for testing the research hypotheses during the data analysis phase.

6.2. RESEARCH DESIGN

A quantitative research approach and an explanatory design were used to investigate the effect of core self-evaluation and career adaptability's impact on the perceived subjective career success of higher education employees.

Explanatory research aims to empirically investigate the relationship between variables (Asenahabi, 2019; Creswell & Creswell, 2018). It can be explained as a cause-and-effect model that examines the patterns and trends in existing data (Asenahabi, 2019).

The empirical aim was to determine whether a statistically significant relationship exists between subjective career success (dependent variable), core self-evaluation (independent variable) and career adaptability (dependent variable). The objectives were:

1. to determine by means of structural equation modelling whether core self-evaluation and career adaptability influence subjective career success among higher education employees.
2. to investigate by means of measurement invariance, whether the Subjective Career Success Inventory (SCSI) demonstrates measurement equivalence across age groups of higher education employees; and
3. to determine by means of one-way analysis of variance (ANOVA), whether differences exist in scores achieved on subjective career success across age groups in a sample of higher education employees.

6.2.1. Research Hypotheses

6.2.1.1. Holistic structural model

A comprehensive exploration was conducted on the relationships between dependent and independent variables within the conceptual framework of the career construction model of adaptation (see Chapter 2). The primary focus was on the dynamic interplay among subjective career success (SCS), core self-evaluation (CSE), and career adaptability (CA).

The holistic model was examined to determine the influence exerted by CSE (an independent variable) on both CA and SCS (both dependent variables). This will respond to the first objective of this study: whether the proposed structural equation modelling on core self-evaluation, career adaptability, and subjective career success, demonstrates fit.

Null hypothesis (H_{01}): The holistic measurement model for core self-evaluation, career adaptability, and subjective career success, does not demonstrate a reasonable fit.

Alternative hypothesis (H_{a1}): The holistic measurement model for core self-evaluation, career adaptability, and subjective career success, demonstrate a reasonable fit.

$$H_{01:}\ \text{RMSEA}^{8} \geq 0.05$$

$$H_{a1:}\ \text{RMSEA} < 0.05$$

Null hypothesis (H_{02}): The holistic structural model for core self-evaluation, career adaptability, and subjective career success, does not demonstrate a reasonable fit.

Alternative hypothesis (H_{a2}): The holistic structural model for core self-evaluation, career adaptability, and subjective career success, demonstrate a reasonable fit.

$$H_{02:}\ \text{RMSEA} \geq 0.05$$

$$H_{a2:}\ \text{RMSEA} < 0.05$$

Null hypothesis (H_{03}): There is a statistically significant positive relationship between core self-evaluation ($\xi 1$) and subjective career success ($\eta 2$).

[8] RMSEA was assessed in combination with other fit indices. Inferences were drawn based on the full basket of evidence.

Alternative hypothesis (H_{a3}): There is no statistically significant positive relationship between core self-evaluation (ξ1) and subjective career success (η2).

$$H_{03}: \gamma_{21} = 0$$

$$H_{a3}: \gamma_{21} > 0$$

Null hypothesis (H_{04}): There is a statistically significant positive relationship between core self-evaluation (ξ1) and career adaptability (η1).

Alternative hypothesis (H_{a4}): There is no statistically significant positive relationship between core self-evaluation (ξ1) and career adaptability (η1).

$$H_{04}: \gamma_{11} = 0$$

$$H_{a4}: \gamma_{11} > 0$$

Null hypothesis (H_{05}): There is a statistically significant positive relationship between career adaptability (η1) and subjective career success (η2).

Alternative hypothesis (H_{a5}): There is no statistically significant positive relationship between career adaptability (η1) and subjective career success (η2).

$$H_{05}: \beta_{21} = 0$$

$$H_{a5}: \beta_{21} > 0$$

The hypotheses above are illustrated in Figure 6.1.

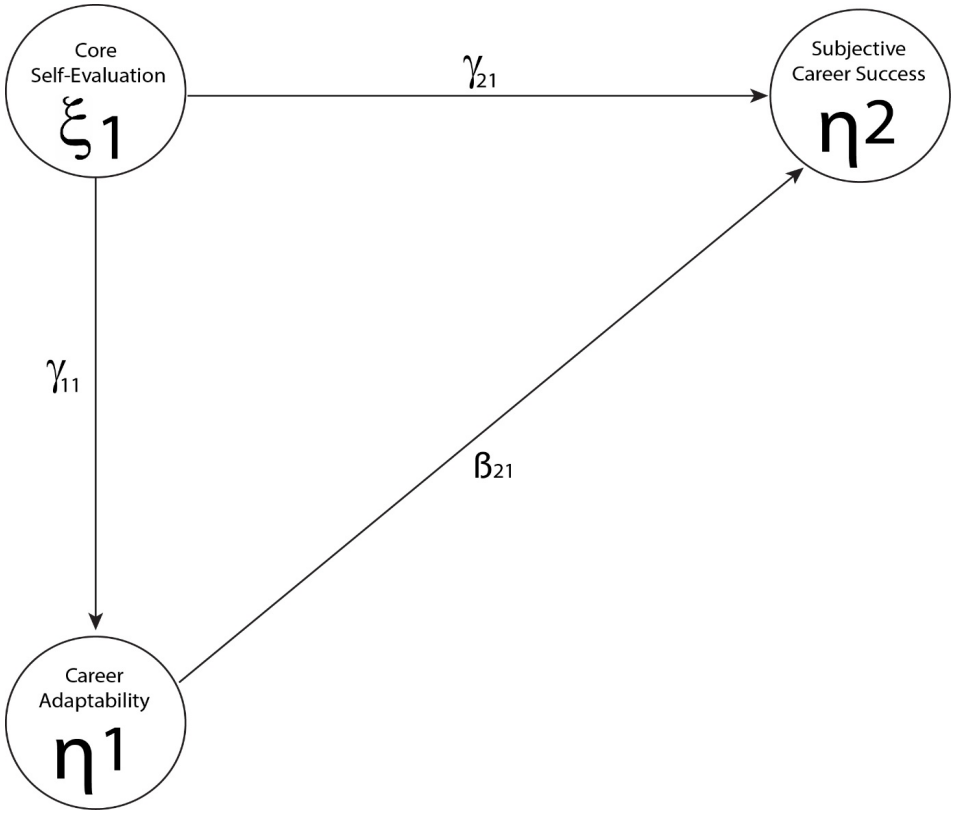

Figure 6.1: Holistic structural model of the study

Two variables are depicted in Figure 6.1, namely endogenous variables (η), which represent dependent variables (SCS and CA), and exogenous variables (ξ), which represent the independent variable (CSE) (Civelek, 2018; Deng et al., 2018; Mueller & Hancock, 2018).

6.2.1.2. Comprehensive structural model

The comprehensive structural model was also examined to determine the structural pathways between CSE and the sub-dimensions of SCS, as well as between CA and the sub-dimensions of SCS. Furthermore, the influence of CSE and CA was examined, recognising CSE's role as an independent variable and CA's status as the dependent variable. The conceptual framework posits that an individual's possession of CSE as an adaptivity resource shapes their CA, subsequently leading to certain adaptivity resources that will ultimately culminate in the manifestation of SCS as an adaptivity result. Therefore, the following substantial and statistical hypotheses were examined.

Null hypothesis (H_{06}): The proposed comprehensive measurement model for core self-evaluation and career adaptability, on the sub-dimensions of subjective career success, does not demonstrate a reasonable fit.

Alternative hypothesis (H_{a6}): The proposed comprehensive measurement model for core self-evaluation and career adaptability, on the sub-dimensions of subjective career success, demonstrates a reasonable fit.

$$H_{06:}\ \text{RMSEA} \geq 0.05$$

$$H_{a6:}\ \text{RMSEA} < 0.05$$

Null hypothesis (H_{07}): The proposed comprehensive structural model for core self-evaluation and career adaptability, on the sub-dimensions of subjective career success, does not demonstrate a reasonable fit.

Alternative hypothesis (H_{a7}): The proposed comprehensive structural model for core self-evaluation and career adaptability, on the sub-dimensions of subjective career success, demonstrates a reasonable fit.

$$H_{07:}\ \text{RMSEA} \geq 0.05$$

$$H_{a7:}\ \text{RMSEA} < 0.05$$

The following path-specific hypotheses were also examined:

Null hypothesis (H_{08}): Core self-evaluation (ξ1) has a statistically significant positive effect on authenticity (η1).

Alternative hypothesis (H_{a8}): Core self-evaluation (ξ1) has no statistically significant positive effect on authenticity (η1).

$$H_{08}: \gamma_{11} = 0$$

$$H_{a8}: \gamma_{11} > 0$$

Null hypothesis (H_{09}): Core self-evaluation (ξ1) has a statistically significant positive effect on growth and development (η2).

Alternative hypothesis (H_{a9}): Core self-evaluation (ξ1) has no statistically significant positive effect on growth and development (η2).

$$H_{09}: \gamma_{21} = 0$$

$$H_{a9}: \gamma_{21} > 0$$

Null hypothesis (H_{010}): Core self-evaluation (ξ1) has a statistically significant positive effect on influence (η3).

Alternative hypothesis (H_{a10}): Core self-evaluation (ξ1) has no statistically significant positive effect on influence (η3).

$$H_{010}: \gamma_{31} = 0$$

$$H_{a10}: \gamma_{31} > 0$$

Null hypothesis (H_{011}): Core self-evaluation (ξ1) has a statistically significant positive effect on meaningful work (η4).

Alternative hypothesis (H_{a11}): Core self-evaluation (ξ1) has no statistically significant positive effect on meaningful work (η4).

$$H_{011}: \gamma_{41} = 0$$

$$H_{a7}: \gamma_{41} > 0$$

Null hypothesis (H_{012}): Core self-evaluation (ξ1) has a statistically significant positive effect on personal life (η5).

Alternative hypothesis (H_{a12}): Core self-evaluation (ξ1) has no statistically significant positive effect on personal life (η5).

$$H_{012}: \gamma_{51} = 0$$

$$H_{a12}: \gamma_{51} > 0$$

Null hypothesis (H_{013}): Core self-evaluation (ξ1) has a statistically significant positive effect on quality work (η6).

Alternative hypothesis (H_{a13}): Core self-evaluation (ξ1) has no statistically significant positive effect on quality work (η6).

$$H_{013}: \gamma_{61} = 0$$

$$H_{a13}: \gamma_{61} > 0$$

Null hypothesis (H_{014}): Core self-evaluation (ξ1) has a statistically significant positive effect on recognition (η7).

Alternative hypothesis (H_{a14}): Core self-evaluation (ξ1) has no statistically significant positive effect on recognition (η7).

$$H_{014}: \gamma_{71} = 0$$

$$H_{a14}: \gamma_{71} > 0$$

Null hypothesis (H_{015}): Core self-evaluation (ξ1) has a statistically significant positive effect on satisfaction (η8).

Alternative hypothesis (H_{a15}): Core self-evaluation (ξ1) has no statistically significant positive effect on satisfaction (η8).

$$H_{015}: \gamma_{81} = 0$$

$$H_{a15}: \gamma_{81} > 0$$

Null hypothesis (H_{016}): Career adaptability (η9) has a statistically significant positive effect on authenticity (η1).

Alternative hypothesis (H_{a16}): Career adaptability (η9) has no statistically significant positive effect on authenticity (η1).

$$H_{016}: \beta_{19} = 0$$

$$H_{a16}: \beta_{19} > 0$$

Null hypothesis (H_{017}): Career adaptability (η9) has a statistically significant positive effect on growth and development (η2).

Alternative hypothesis (H_{a17}): Career adaptability (η9) has no statistically significant positive effect on growth and development (η2).

$$H_{017}: \beta_{29} = 0$$

$$H_{a17}: \beta_{29} > 0$$

Null hypothesis (H_{018}): Career adaptability (η9) has a statistically significant positive effect on influence (η3).

Alternative hypothesis (H_{a18}): Career adaptability (η9) has no statistically significant positive effect on influence (η3).

$$H_{018}: \beta_{39} = 0$$

$$H_{a18}: \beta_{39} > 0$$

Null hypothesis (H_{019}): Career adaptability (η9) has a statistically significant positive effect on meaningful work (η4).

Alternative hypothesis (H_{a19}): Career adaptability (η9) has no statistically significant positive effect on meaningful work (η4).

$$H_{019}: \beta_{49} = 0$$

$$H_{a19}: \beta_{49} > 0$$

Null hypothesis (H_{020}): Career adaptability (η9) has a statistically significant positive effect on personal life (η5).

Alternative hypothesis (H_{a20}): Career adaptability (η9) has no statistically significant positive effect on personal life (η5).

$$H_{020}: \beta_{59} = 0$$

$$H_{a20}: \beta_{59} > 0$$

Null hypothesis (H_{021}): Career adaptability ($\eta 9$) has a statistically significant positive effect on quality work ($\eta 6$).

Alternative hypothesis (H_{a21}): Career adaptability ($\eta 9$) has no statistically significant positive effect on quality work ($\eta 6$).

$$H_{021}: \beta_{69} = 0$$

$$H_{a21}: \beta_{69} > 0$$

Null hypothesis (H_{022}): Career adaptability ($\eta 9$) has a statistically significant positive effect on recognition ($\eta 7$).

Alternative hypothesis (H_{a22}): Career adaptability ($\eta 9$) has no statistically significant positive effect on recognition ($\eta 7$).

$$H_{022}: \beta_{79} = 0$$

$$H_{a22}: \beta_{79} > 0$$

Null hypothesis (H_{023}): Career adaptability ($\eta 9$) has a statistically significant positive effect on satisfaction ($\eta 8$).

Alternative hypothesis (H_{a23}): Career adaptability ($\eta 9$) has no statistically significant positive effect on satisfaction ($\eta 8$).

$$H_{023}: \beta_{89} = 0$$

$$H_{a23}: \beta_{89} > 0$$

Null hypothesis (H_{024}): There is a statistically significant positive relationship between core self-evaluation ($\xi 1$) and career adaptability ($\eta 9$).

Alternative hypothesis (H_{a24}): There is no statistically significant positive relationship between core self-evaluation ($\xi 1$) and career adaptability ($\eta 9$).

$$H_{024}: \gamma_{91} = 0$$

$$H_{a24}: \gamma_{91} > 0$$

Figure 6.2 illustrates the proposed structural model, with the specific structural pathways as listed above

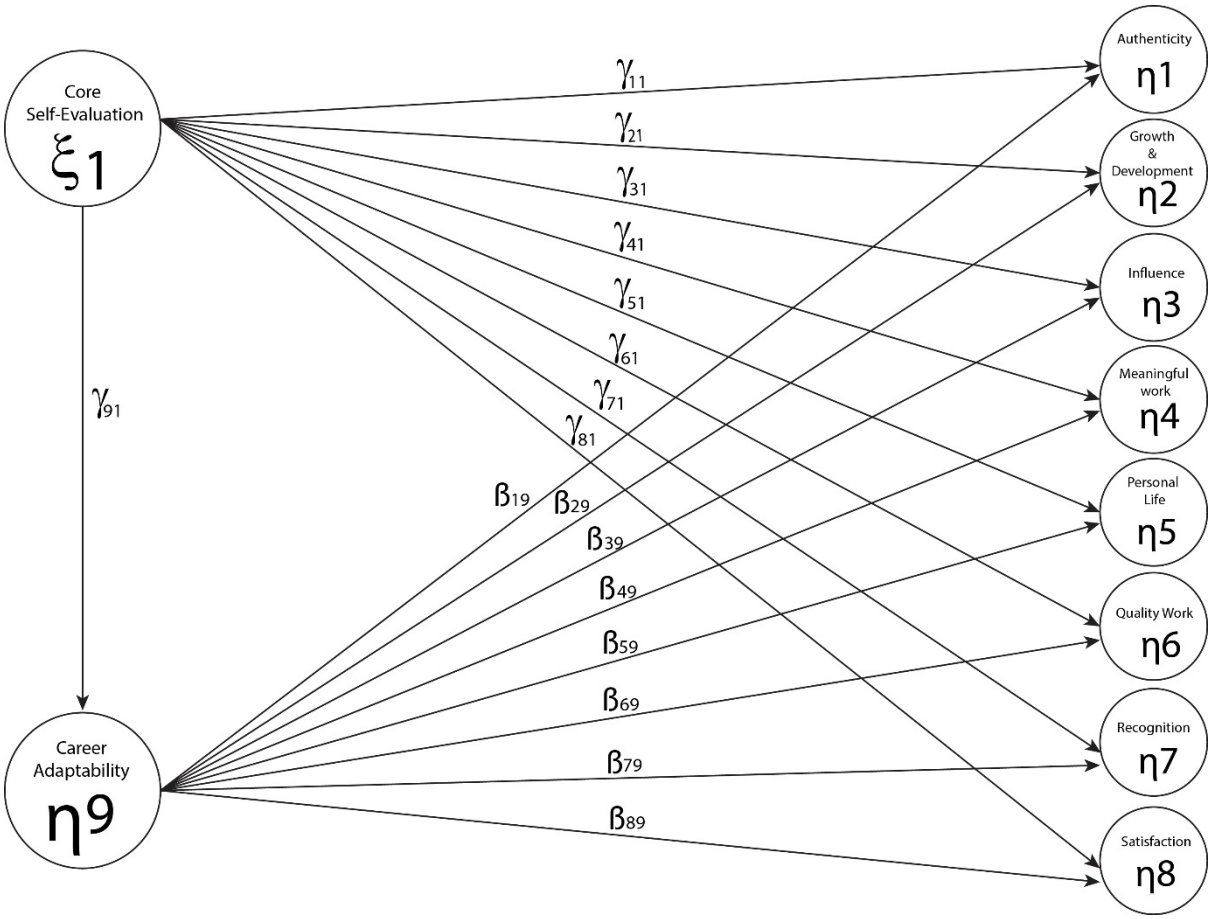

Figure 6.2: Comprehensive structural model of the study

The second objective investigated the measurement invariance of the Subjective Career Success Inventory (SCSI) between young and old employees:

Null hypothesis (H_{025}): The Subjective Career Success Inventory (SCSI) does not demonstrate measurement invariance/equivalence across age groups.

Alternative hypothesis (H_{a25}): The Subjective Career Success Inventory (SCSI) demonstrates measurement invariance[9]/equivalence across age groups.

[9] The statistical technique to investigate measurement invariance involves a multi-hurdle approach across different configurations of nested models. Each of these nested models represents a different type of invariance which will be explained in the methodology section.

$$H_{025:}\ \Delta\ RMSEA^{10} \geq 0.05$$

$$H_{a25:}\ \Delta\ RMSEA < 0.05$$

The third objective investigated mean differences in subjective career success across age groups:

Null hypothesis (H_{026}): There are no statistically significant differences in the scores achieved on subjective career success in relation to age among higher education employees.

Alternative hypothesis (H_{a26}): There are statistically significant differences in the scores achieved on subjective career success in relation to age among higher education employees.

$$H_{026}: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6 = \mu_7$$

$$H_{a26}: \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5 \neq \mu_6 \neq \mu_7$$

6.3. SELECTION OF TEST PERSONS

The term "sample design" refers to the strategies and methods that can be used to select a sample from the target population and includes the estimation technique formula for computing the sample statistics (Kabir & Rashid, 2017).

There are two significant types of sampling design, namely, probability and non-probability sampling (Sekaran & Bougie, 2016). Probability sampling refers to the probability that members of a population have a known and usually equal chance of being selected as subjects. Non-probability sampling refers to a sampling technique where the probability of being selected into the sample is unknown (Vehovar et al., 2016). Non-probability sampling is advantageous because it is a useful, appropriate, and convenient sample selection technique (Etikan & Bala, 2017). Non-probability sampling is used to study existing theoretical insights or to develop new ones. It is considered less expensive, less complicated, and easy to apply compared to its counterpart (Yadav et al., 2019).

[10] Even though the difference in RMSEA is used to represent the invariance hypothesis, a combination of various fit indices were used to evaluate measurement invariance.

However, there are disadvantages, including that the findings lack generalisability, or when findings apply to a particular group studied, they may not apply to a sample beyond the chosen one (Yadav et al., 2019).

The questionnaires were sent to all academic and support staff employed by the specific university. All staff members had a chance to participate; therefore, non-probability sampling was used. More specifically, convenience sampling was used due to easy accessibility, geographical proximity, timing, and willingness to participate (Singh, 2003).

6.3.1. Higher education population

Over one million students registered at South African universities in 2022 (Chawula, 2022). The pressure to deliver quality education and support for all students has risen in higher education institutions, impacting on both academic and support staff (Morrish, 2019). Academic staff must focus mainly on teaching, research, and administration, while support staff focus on supporting academics and students, as well as managing all operations within a university (Morrish, 2019). Workloads have increased, human resources are not necessarily increasing due to budget constraints, and inflation and economic pressures are also contributing to budget limitations even though more students are registered (Morrish, 2019; Swartz et al., 2018). The more challenging work becomes, the more stressful, exhausted, and disengaged the workforce becomes. Because students rely heavily on both academic and support staff to perform and complete qualifications, both groups deserve to be researched to determine whether employees have the necessary adaptivity and adaptability resources to invest in their careers, that can result in subjective career success (Poalses & Bezuidenhout, 2018).

For the purpose of this research, a higher education institution was selected with a population of approximately 3000 staff members that are either permanently appointed or have a contract of more than 12 months. Both academic and support staff were included in the research.

6.3.2. Sampling design and size

Non-probability sampling methods include convenience sampling, purposeful sampling, quota sampling, and snowball sampling (Etikan & Bala, 2017). This study used convenience sampling for explanatory research purposes, by collecting information from the conveniently available

population, to access quick and timely information (Sekaran & Bougie, 2016). The advantages of convenience sampling are the cost-effectiveness and efficiency to select and survey (Sekaran & Bougie, 2016). The disadvantage is that the sample can lack generalisability when making conclusions (Sekaran & Bougie, 2016).

To determine the minimum sample needed, a structural equation model (SEM) sample size calculator was used (Jacob et al., 2002). This tool is used to determine the appropriate sample size required for conducting a SEM analysis (Jacob et al., 2002; Soper, 2023). The calculator takes into account various factors, such as the complexity of the model, the desired statistical power, the level of significance, and the number of latent variables and observed indicators in the model (Soper, 2023).

The calculator needs specifics such as the number of latent and observable variables, statistical power, expected effect size, and the p-value (Jacob et al., 2002). For this study ten latent variables and 30 indicator variables were used. Statistical power refers to the ability of a study to detect true effects or relationships. According to Jacob et al. (2002), the desired level of statistical power to ensure that the study has a high chance of detecting significant relationships if they exist, should be equal to or greater than 0.8. The level of significance (often denoted as alpha, α) determines the threshold for determining statistical significance. The most common value is 0.05, indicating a 5% chance of falsely rejecting the null hypothesis. Furthermore, the expected effect size, which quantifies the magnitude of the relationships between latent variables and observed indicators was also indicated at 0.5 (Jacob et al., 2002).

Based on the inputs provided, the calculator employs statistical formulas and algorithms to estimate the required sample size. These calculations take into account the complexity of the model, the desired statistical power, the level of significance, and other specified parameters. For this study, a minimum of 200 participants was needed to achieve the desired statistical power and level of significance, to evaluate the basic structure of the model.

In addition, it should be noted that since structural equation models (SEMs) rely on observed and reproduced covariance matrices, it can also increase sample size requirements. The size of factor loadings and the number of variables are essential elements in obtaining a good confirmatory factor analysis (CFA) in SEM model (Kyriazos, 2018; Wolf et al., 2013). Moreover, the parameter estimates, chi-square tests and general goodness of fit indices are also sensitive to sample size (Kyriazos, 2018). Although CFA and SEM are generally considered large sample techniques, research has demonstrated that when robust parameter estimates are used and

variables have high reliability, smaller samples can work (Wolf et al., 2013). Furthermore, Kline (2016) argues that it is difficult to set a minimum sample size, and that one should rather use a median of n=200. However, n=200 may be too low for a complex model with missing data, for instance. For the multi-group CFA, the minimum sample size suggested for each group is n=100 (Kline, 2016).

Based on the above recommendations, the current sample of n=242 was deemed appropriate for assessing the proposed model structure, though recognition is given for the fact that smaller effect sizes might not be identified as statistically significant.

6.4. DATA GATHERING

For this study, questionnaires were used as the appropriate data-gathering instrument. The questionnaire consisted of a set of closed-ended items, designed to retrieve information from respondents related to specific topics of interests (Pahwa, 2021). The advantages of using questionnaires include cost-effectiveness, a fast manner of gathering data from a large population, and receiving objective input from respondents with less bias from the researcher (Creswell & Creswell, 2018; Dannels, 2018; Pahwa, 2021). Limitations include inadequate recognition of the information that can be gathered through observation such as emotions, behaviour, and feelings; the absence of an explanation for answers given; and the truthfulness of respondents (Creswell & Creswell, 2018; Dannels, 2018).

The data were collected using an online electronic questionnaire. After obtaining institutional permission from the higher education institution, an email invitation with the questionnaire link was sent to all academic and support staff. The email contained general information about the study, such as the purpose and time requirements. The anonymity and voluntary nature of the study were emphasised in the invitation email, and again repeated in the electronic consent form presented to participants after they had clicked on the link taking them to the online questionnaire. The ethical considerations are discussed in more detail under Section 6.7. It was estimated that the completion time of the questionnaire would, on average, be 20 minutes.

The invitation and link to the questionnaire were emailed to all staff at the selected higher education institution twice, once during February 2023 and once during March 2023.

6.4.1. Measurement Instruments

The questionnaire consisted of three sections, namely:

a) informed consent form;

b) biographical information (age only); and

c) three psychological scales consisting of sixty closed-ended questions.

The three psychological scales included the Core Self-Evaluation Scale (CSES) (Judge et al., 2003), the Career Adapt-Ability Scale (CAAS) (Savickas & Porfeli, 2012), and the Subjective Career Success Inventory (SCSI) (Shockley et al., 2016). The data were captured in EvaSys, a cloud-based survey automation tool.

6.4.1.1. Subjective Career Success Inventory

Shockley et al. (2016) stipulates that the changing landscape in the world of work necessitates a change in how employees view career success by shifting their focus from objective to subjective factors. The Subjective Career Success Inventory (SCSI) has 24 statements (see appendix A: Section A) that measure eight dimensions, namely, authenticity, growth and development, influence, meaningful work, personal life, quality work, recognition, and satisfaction (Shockley et al., 2016). All items are presented with the stem "considering my career as a whole…" and are measured on a five-point Likert scale ranging from "strongly disagree" to "strongly agree".

Shockley et al. (2016) ran their validation process on the SCSI scale by means of confirmatory factor analysis (CFA) on two groups. The first group had 298 participants and the model demonstrated an acceptable fit where the goodness of fit index (CFI=0.955) was greater than 0.9; the Root Mean Square Error of Approximation (RMSEA=0.052) was smaller than 0.08; and the Tucker Lewis index (TLI=0.945) fell between 0 and 1, with a value closer to 1, indicating a better fit (Shockley et al., 2016). The second group had 247 participants and the model demonstrated an acceptable fit (CFI=0.930; RMSEA=0.066; TLI=0.914) (Shockley et al., 2016).

In research conducted by Ibrahim and Amari (2018), the internal consistency reliability for the SCSI scale was assessed using Cronbach's alpha, and the coefficient was found to be 0.83. This suggests a high degree of consistency among the items in the scale (Cronbach, 1951). The eight-factor model showed a reasonable and acceptable fit (CFI=0.98; RMSEA=0.05)

(Ibrahim & Amari, 2018). This is in accordance with Hu and Bentler's fit criteria (Hu & Bentler, 1998; Kline, 2005).

In both studies, emphasis was placed on the importance of considering the individual dimensions and the global construct, which further confirms why this dependent variable was measured as a multidimensional construct (Shockley et al., 2016).

6.4.1.2. Career adaptability

A systemic review of career adaptability research and literature by Johnston (2018) indicates eight measurement instruments, namely the:

- Career Adapt-Abilities Scale (Savickas & Porfeli, 2012)
- Career Adapt-Abilities Scale Short Form (Maggiori et al., 2015)
- Career and Work Adaptability Questionnaire (Nota et al., 2012)
- Career Maturity Inventory Form C (Savickas & Porfeli, 2012)
- Career Adaptability Inventory (Ferreira et al., 2014)
- Student's Career Construction Inventory (Savickas et al., 2018);
- Career Futures Inventory (Rottinghaus et al., 2011)
- I-Adapt Scale (Ployhart & Bliese, 2006).

This study used the Career Adapt-Abilities Scale (CAAS) based on Savickas and Porfeli's (2012) work due to its proven validity in numerous countries, including South Africa. The validation studies indicated that the conceptual structure can be replicated in different contexts with adequate construct validity (Johnston, 2018). The internal reliability of the CAAS was 0.92 when developed, and the subscale reliabilities ranged from 0.74 to 0.85 (Savickas & Porfeli, 2012). The four-dimension structure showed positive confirmatory analysis (RMSEA = 0.52; SRMS = 0.40) (Savickas & Porfeli, 2012).

Adaptability was measured as a unidimensional construct which has indicated an internal consistency value for the overall scale of 0.92 (Merino-Tejedor et al., 2016; Savickas & Porfeli, 2012). Myszkowski et al. (2022) argue that career adaptability is organised in a network with a set of interconnected resources. The Career Adapt-Abilities Scale (CAAS) consists of four

scales, each with six items. The four scales measure the dimensions of concern, control, curiosity, and confidence as psychosocial resources for managing career transitions, developmental tasks, and work traumas (Savickas & Porfeli, 2012). See appendix A (Section C) for the 24-item questionnaire.

6.4.1.3. Core self-evaluation

Core self-evaluation was measured using the Core Self-Evaluation Scale (CSES) (see appendix A: Section B). This is a 12-item questionnaire with a unidimensional factor structure that is reliable (Judge et al., 2003). CSES consists of six positively worded items and six negatively-worded items that are rated on a five-point Likert scale. Positive wording examples include "I am confident I get the success I deserve"; while negative wording includes "I am filled with doubts about my competence" (Gu et al., 2015).

The CSES showed adequate measurement reliability and validity in various studies (Farčić et al., 2020; Gu et al., 2015; Özer et al., 2016).

Judge et al. (2003), the creators of the scale, conducted their research on four groups (group 1=280 participants; group 2=175 participants; group 3=205 participants; group 4=126 participants). The averages of the fit statistics were: RMSEA=0.08; CFI=0.92 (Judge et al., 2003). Furthermore, it displayed convergent validity with the four core traits of CSES (Judge et al., 2003).

Gu et al. (2015) had 449 participants and Cronbach's alpha (α) was 0.80, which indicated that the unidimensional model showed an acceptable fit (CFI=0.93; RMSEA=0.063; SRMR=0.68). The Standardised Root Mean Square (SRMR) is below 0.08 and indicates a good fit (Hu & Bentler, 2009). Özer et al. (2016) had 319 participants and the CSES showed a good model fit with fit statistics: RMSEA=0.034; CFI=0.98; and Cronbach's alpha (α) as 0.754. Farčić et al. (2020) had 584 participants and Cronbach's alpha (α) was 0.74, which indicated a good model fit.

6.4.1.4. Item analysis

Item analysis (based on classical test theory) was performed on each scale or subscale to determine whether items accurately represented their underlying constructs (McCrae, 2015). Items were considered problematic if they failed to discriminate between relatively small

differences in standing on the focal latent variable or did not respond to the same source of systematic variance as the other items on the scale or subscale (Bandalos, 2018; Enders, 2022). The presence of problematic items was scanned by descriptive and reliability measurements (Bandalos, 2018; Enders, 2022).

Cronbach's alpha (α) was calculated as a provisional measure of the internal consistency of the scales (Cronbach, 1951; Tavakol & Dennick, 2011). Additionally, Cronbach's alpha was reported alongside the coefficient omega (ω) (McDonald, 1999) due to widely held concerns with Cronbach's alpha when working with multidimensional variables (McDonald, 2013). McDonald's coefficient omega (ω) is sometimes preferred over Cronbach's alpha (α) as a measure of internal consistency reliability due to less stringent assumptions surrounding factor structure and homogeneity (Bandalos, 2018; Enders, 2022). Cronbach's alpha assumes tau equivalence and that all items have relatively equal factor loadings, which implies that they contribute equally to the measurement of the latent construct (Tavakol & Dennick, 2011). However, items may have different magnitudes in factor loadings, where some items can have a strong relation to the construct and others do not (Enders, 2022). Omega estimates reliability independent from these assumptions, which provides a more accurate measure of reliability (McDonald, 2013).

Therefore, omega is a logical alternative with better accuracy and will be reported on alongside the more traditional alpha. Omega will be assessed with the following formula:

$$\omega = \frac{\sum_{j=1}^{k}\left(\sum_{i=1}^{p}\lambda_{ij}\right)^2}{\sum_{j=1}^{k}\left(\sum_{i=1}^{p}\lambda_{ij}\right)^2 + \sum_{i=1}^{p}e_i},$$

The formula for ω (omega) is calculated as the sum of the squares of two summations: the first summation iterates from i = 1 to k and computes the squared sum of λi values (eg λ1), while the second summation also iterates from i = 1 to k and calculates the squared sum of individual λi values. These two summations are then divided by the sum of squares of e values (eg ei), where the summation ranges from i = 1 to p. The proportion of systematic variance in relation to total variance is determined, and these calculations yields the value of ω.

6.5. CONFIRMATORY FACTOR ANALYSIS

Confirmatory factor analysis (CFA) is a covariance-based technique to assess the validity of a measurement instrument (Hair et al., 2020). The purpose of a CFA is to verify the underlying factor structure of a set of observed variables and to test whether the observed variables are indeed indicators of the latent factors they are intended to measure (Harerimana & Mtshali, 2020). CFA is particularly helpful for evaluating multidimensional scales, while it can also be used to evaluate unidimensional scales (Brown, 2015). Therefore, CFA was performed on all three scales to confirm the appropriate factor structure and overall model fit of the three psychological scales used (Core Self-Evaluation, Career Adaptability, and Subjective Career Success).

6.6. STRUCTURAL EQUATION MODELLING

Structural equation modelling (SEM) is a second-generation multivariate analysis technique used in the social sciences to investigate and specify direct and indirect relationships among multiple variables (Asparouhov et al., 2017). Given that this study aimed to examine the relationships between core self-evaluation, career adaptability, and subjective career success, SEM was chosen as the most appropriate analysis technique. The statistical software program, Jamovi, was used for structural equation modelling. This program assisted in evaluating both the proposed measurement as well as structural models (Bido et al., 2014).

The question of whether the specified model "fits" the data, is one of the most important steps in SEM (Hooper et al., 2008). Fit indices view model fit as a point along a continuum reflecting better fit at one end and poorer fit at the other end (Peugh & Feldon, 2020).

6.6.1. Fit Indices

Fit indices are statistical measures used to assess the fit of a statistical model to the observed data in structural equation modelling (SEM) (Shi et al., 2018; Shi & Maydeu-Olivares, 2019). These indices provide an objective evaluation of how well the model matches the observed data and indicate the degree to which the hypothesised model adequately represents the relationships among variables (Shi & Maydeu-Olivares, 2019).

Table 6.1 below indicates the various fit indices that were used in this study, as well as their cut-off values as recognised by researchers (Hooper et al., 2008). The RMSEA shows how well

the model would fit the population's covariance matrix (Hooper et al., 2008). Various cut-off points for the best estimate have been reported (MacCallum et al., 1996), and the cut-off value is recognised at 0.06 with a stringent upper limit of 0.07 (Hu & Bentler, 2009). An advantage of RMSEA is the ability for a confidence interval to be calculated around its value, by looking at the known distribution values and testing the null hypothesis (poor fit). Therefore, the reporting should include a value with cut-offs 0 to 0.08 (Hooper et al., 2008; Peugh & Feldon, 2020).

SRMR is the standardised square roots of the difference between the residuals of the sample covariance matrix and the hypothesised covariance model. Values for SRMR range from 0-1; an SRMR of 0 indicates perfect fit, although this is often an unrealistic expectation (Hu & Bentler, 2009). SRMR is likely to be higher when there is a high number of parameters or in models with large sample sizes, given the increased probability of larger residuals (Hu & Bentler, 2009). CFI (comparative fit index) and TLI (Tucker-Lewis index) are all commonly used fit indices in structural equation modelling (SEM) to assess the goodness of fit of a model (McDonald & Ho, 2002; Mueller & Hancock, 2018). While they serve a similar purpose, there are slight differences in their calculation and interpretation.

CFI compares the fit of the hypothesised model to that of a null model, of which the latter represents the worst possible fit (Shi & Maydeu-Olivares, 2019). It ranges from 0 to 1, with values closer to 1 indicating a better fit over the null model (Hu & Bentler, 2009). CFI values above 0.90 are generally considered acceptable, while values above 0.95 indicate a good fit (Peugh & Feldon, 2020; Shi et al., 2018). CFI is a normed index and therefore takes into account the degrees of freedom and sample size. The Tucker-Lewis index (TLI), also known as the non-normed fit index (NNFI), assesses the relative fit of the hypothesised model compared to the null model (Cai et al., 2021). TLI values range from 0 to 1, with values closer to 1 indicating a better fit (Shi et al., 2018; Shi & Maydeu-Olivares, 2019). TLI values above 0.90 are generally considered acceptable (Brosseau-Liard & Savalei, 2014; Shi et al., 2018).

While CFI and TLI are similar in concept and measure the relative fit of a model, they may yield slightly different results due to variations in their calculation formulas and statistical properties (McDonald & Ho, 2002; Mueller & Hancock, 2018). In general, it is advised to take a holistic perspective when evaluating model fit, and to rely on more than one index to make a final judgment.

Table 6.1: Fit indices and cut-off values

Measure	**Name**	**Cut-off value for a good fit**	**Cut-off value for acceptable fit**	**Cut-off value for a mediocre fit**	**Cut-off value for a poor fit**
$\chi 2$	Chi-square	>0.05	0.05	0.05	<0.05
RMSEA	Root mean square error of approximation	<0.05	0.05 – 0.08	0.08 – 0.1	>0.1
SRMR	Standardised root mean square residual	<0.05	0.05 – 0.08	0.08 – 0.1	>0.1
CFI	Comparative fit index	>0.95	0.90 – 0.95	0.85 – 0.90	< 0.85
TLI	Tucker-Lewis index	>0.95	0.90 – 0.95	0.85 – 0.90	< 0.85

6.6.2. Item Parcelling

As previously indicated during the sample size discussion, SEM is a large sample analysis technique. As the complexity of the models increase, so too does the sample size requirement. This is particularly problematic with multidimensional scales which typically have many items across multiple dimensions. To simplify these factor structures and to reduce the large sample size requirements, item parcelling is typically proposed as a practical solution for overcoming model estimation challenges (Brown, 2015; Little et al., 2022).

Two popular parcelling approaches are typically used, namely facet-representative parcelling or domain-representative parcelling (Little et al., 2022). Facet-representative parcelling involves aggregating items into parcels based on specific facets or dimensions of interest (Little et al., 2022). These facets could be specific characteristics, features, or variables that are considered important in the context of the research (Chen & Weng, 2019). The goal is to create groups that are representative of these facets, allowing for a more detailed and nuanced analysis of the data (Chen & Weng, 2019). On the other hand, domain-representative parcelling involves aggregating items into parcels based on broader domains or categories (Little et al., 2013, 2022). Instead of focusing on specific facets, this approach aims to create parcels that are representative of the entire domain or overarching theme within the data (Little et al., 2013). The choice between these approaches depends on the research goals, the nature of the data, and the level of granularity required for the analysis. Since the current goal was to evaluate the broader theme of career adaptability and core self-evaluation, domain representative parcelling was used for these two constructs. In contrast, there was a

specific interest in the subdimensions of subjective career success and as such no parcelling was applied to this construct.

6.7. ONE-WAY ANOVA

The one-way analysis of variance (ANOVA) test allows for the comparison of two or more groups at the same time, to determine whether statistically significant differences exist between them (Ross & Willson, 2017a). The one-way ANOVA can be used to examine the age effects on subjective career success by comparing the means of subjective career success across different age groups (Babbie, 2021). The sample was divided into six groups or categories, group 1 (ages 18-24), group 2 (ages 25-34), group 3 (ages 35-44), group 4 (ages 45-54), group 5 (ages 55-64) and group 6 (over 65). The ANOVA will test the null hypotheses (Hypotheses 2 and 3) that there are no significant differences in subjective career success between the age groups. If the ANOVA reveals a significant difference, it suggests that age has an effect on subjective career success (Minitab Express, 2022; Ross & Willson, 2017a).

6.8. ETHICAL CONSIDERATIONS AND VALUE OF THE RESEARCH

This study went through an ethical screening process, including the General Human Research Ethics Committee (GHREC), and review at a specific higher education institution. The study was approved (approval number: UFS-HSD2022/1620). Data collection commenced after approval.

In conducting research, adherence to data protection regulations is paramount to safeguard the privacy and rights of individuals. The Protection of Personal Information (POPI) Act is a crucial legislative framework in South Africa designed to regulate the processing of personal information. In this study, the Human Resource Department of the university played a pivotal role in upholding data protection standards during the research process. To solicit voluntary participation from staff, the department employed the official communication channel, namely email, to distribute invitations. This method ensured that the researcher did not have direct access to sensitive staff information, thus mitigating the risk of violating the provisions outlined in the POPI Act. The use of the university's official communication platform not only facilitated a seamless invitation process but also demonstrated a commitment to ethical research practices in alignment with prevailing data protection legislation.

All employees were emailed and asked to participate in the survey, and they were requested to sign an informed consent form (see appendix B) before continuing with the questionnaire. Responses were captured using pseudonyms. Participation was voluntary; therefore, the respondents had the choice of withdrawing from the study at any time without any repercussion (Sarantakos, 2013). No participants withdrew.

Committees like the Committee on Publication Ethics agree that ethics is not a side note to any research study; it is an integral part of research that needs to be a top priority that considers all aspects of conducting ethical research (Enago Academy, 2023). Sekaran and Bougie (2016) describe ethics as a code of conduct for expected societal norms of behaviour. Ethical considerations include (but are not limited to) validity, voluntary participation, informed consent, anonymity, sampling, confidentiality throughout the research process, risk of harm, research methods, analysing and reporting on data, plagiarism, and not presenting fake data (Babbie, 2021; Enago Academy, 2023).

Data were statistically analysed, and the researcher did not attempt to omit or manipulate data. The researcher has acted in an unbiased manner, with no personal prejudices influencing the analysis (Bairagi & Munot, 2019). The researcher intends using the findings for academic purposes in the field of Industrial Psychology, mainly to understand core self-evaluation, career adaptability, and subjective career success in the higher education environment, and how it can be improved or developed. Furthermore, the potential links between variables were examined to enhance the body of knowledge.

6.9. SUMMARY

This section has provided details on the research methodology used in this study by elaborating on sampling methods, sample size and sample design. It was indicated that data gathering consisted of a questionnaire with three sections, namely a) informed consent, b) biographical information, and c) questionnaire items of the Core Self Evaluation Scale, Career Adapt-Ability Scale and the Subjective Career Success Inventory. Various analysis techniques such as CFA, SEM and ANOVA, which were used to empirically test the statistical hypotheses were also highlighted. The ethical considerations were discussed.

CHAPTER 7: RESEARCH FINDINGS

7.1. INTRODUCTION

This study aimed to investigate the impact of core self-evaluation and career adaptability on subjective career success amongst higher education employees. To this effect, the aim was to investigate whether employees at an institution for higher education possess the core self-evaluation and career adaptability needed to navigate their careers and experience subjective career success. Since research shows that age can also play a role, the difference in levels of subjective career success in different age groups, was also explored.

The research objectives and hypotheses were stated in Chapters 1 and 6, and the results and findings are presented in this chapter.

The first section of the chapter explains how the participant data were gathered and prepared for data analysis. A review of the data cleaning techniques and the descriptive statistics of the observed variables that comprise the final data set is also provided. The method for handling missing values is then described, followed by the age distribution of the sample which was the only demographic variable relevant to this study.

The psychometric properties of the scales are investigated with specific emphasis on their factor structures and the operationalisation of the latent variables by their indicator variables. After discussing the psychometric properties of the various scales and subscales, the process of creating composite indicator variables (parcels) is detailed and motivated, followed by a discussion of the measurement model parameter estimations and fit statistics. Furthermore, the fit of the structural model[11] is assessed and the magnitude and statistical significance of the hypotheses posed in Chapter 6 (section 6.2) is evaluated. Finally, the measurement invariance was assessed and the one-way ANOVA was used to determine the outcomes of substantial hypotheses highlighted in Chapter 6.

[11] The comprehensive structural model included both the structural relationships hypothesised to exist between the latent variables and the relationships between the composite indicator variables and their appropriate latent variables. Testing the comprehensive measurement model is a prerequisite to testing the comprehensive structural model.

7.2. DATA COLLECTION, ANALYSIS AND PREPARATION PROCESS

The research questionnaire was converted into an online electronic survey on EvaSys (a survey tool). The informed consent formulation and survey instructions were presented on the first page of the questionnaire. Participants were automatically led to an exit page if they chose not to provide informed consent. Participants who gave their consent continued to the question sections. Age-related demographic data were gathered in Section A, and the various scales and subscales were included in Section B (see Appendices A–C). The population consisted of academic and support staff from a South African institution for higher education, as described in Chapter 6.

For data cleaning, the original 242 observation within the data set was exported from the online survey platform to Microsoft Excel. For the core self-evaluation measure, negatively worded items were reverse-scored (Arias & Arias, 2017). Negatively worded items in psychological assessments, including those related to core self-evaluation, were reverse-scored to counteract response biases, enhance measurement precision, and provide a more comprehensive and discriminating assessment of the construct (Arias & Arias, 2017). The data set was also checked for any unusual values as suggested by Youn et al. (2018).

During the initial screening, 35 out of a total of 14,753 data points had missing values as shown in Figure 7.1. This is equivalent to about 0.298% of the dataset. It was discovered that the missing values occurred at random, and that there was no systematic pattern or cause for their absence. It is important to note that 99.7% of the dataset, consisting of 14,718 cases, contained complete values, showing that the amount of missing data was relatively small. This shows that the overall analysis may not be significantly affected by missing data. The presence of a few single missing values (0.3%) dispersed throughout the data set was not viewed as problematic, but was imputed none the less with the nearest neighbour imputation technique, in order to use all 242 cases in the final analysis (Santos et al., 2020).

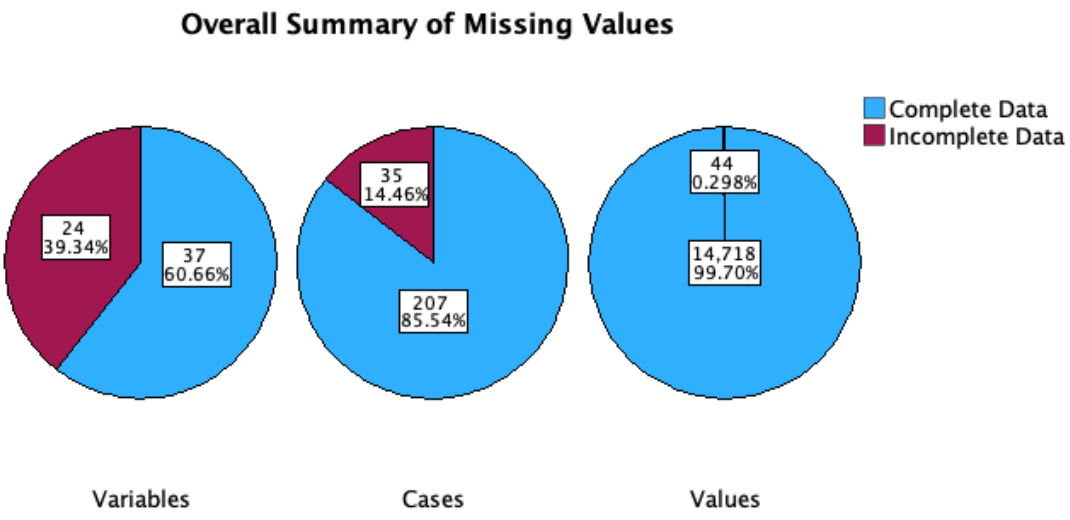

Figure 7.1: Summary of missing values

7.2.1. Demographics

Descriptive statistics are used to describe and summarise data by using measures of central tendency (mean) and variability (variance), and the results are typically presented visually in the form of scatter plots (Pajankar, 2022).

Only age was used for biographical data. Figure 7.2 provides a graphical representation of the age of the participants (n=242) included in the study.

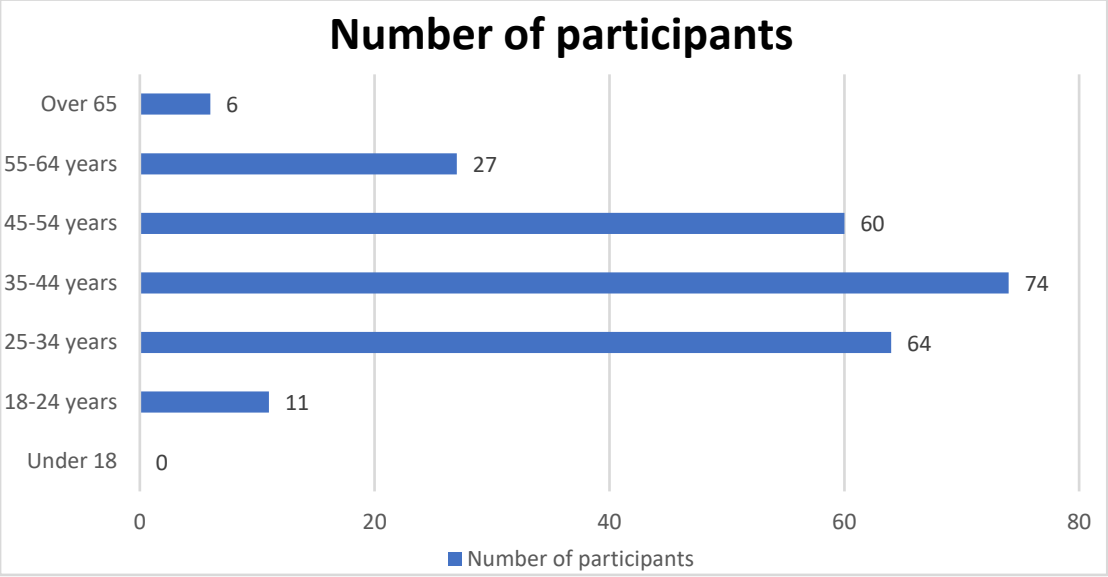

Figure 7.2: Number of participants (n=242)

The age distribution of the participants in this study reveals that the bulk of the sample is concentrated in the middle adulthood age range. Specifically, eleven participants (4.5%) were between the ages of 18 and 24, 64 participants (26.4%) were aged 25 to 34, and 74 participants (30.6%) fell within the age range of 35 to 44. Moreover, 60 participants (24.8%) were in the age range of 45 to 54, while 27 participants (11.2%) were between 55 and 64 years of age. Only a small proportion of the sample, comprising 6 participants (2.5%), were 65 years and older.

It is important to note that this skewed age distribution towards middle adulthood may limit the generalisation of the study's findings to other age groups. Nevertheless, these age categories will be taken into consideration during subsequent analyses to explore any potential age-related trends and associations within the data.

To assess normal distribution, various techniques were employed. Visual evaluation through histograms and box plots was conducted first (Frankfort-Nachmias et al., 2021). The histogram (see Figure 7.3) indicates a possible non-normal distribution, as it lacked a bell-shaped appearance.

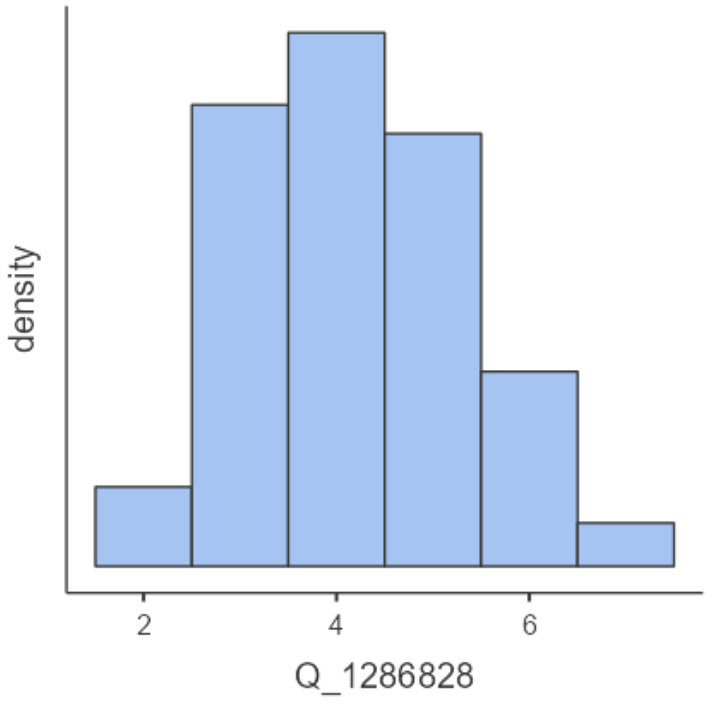

Figure 7.3: Histogram indicating age distribution

Skewness and kurtosis values were also calculated for each variable (Jammalamadaka et al., 2021). A skewness value of 0.275 suggests a slightly positively skewed distribution, indicating a tail towards higher ages. The kurtosis value of -0.473 indicates a platykurtic distribution, with fewer outliers and lighter tails compared to normal distribution (Wulandari et al., 2021). While the skewness and kurtosis values indicate a nearly normal distribution, it deviates slightly from perfect normality.

It is important to note that the normality for each of the scale items will be discussed in detail during the psychometric properties section.

7.3. INFERENTIAL STATISTICS

Inferential statistics are employed to draw conclusions and make inferences about a population based on sample data (Allua & Thompson, 2009; Simonsohn et al., 2015). These statistical methods go beyond mere description and allow researchers to test hypotheses, examine relationships between variables, and make predictions (Sahu et al., 2015; Simonsohn et al., 2015).

Firstly, the measurement scales of the study were evaluated. This evaluation encompasses various aspects, including item analysis, reliability analysis, and factor analysis. Confirmatory Factor Analysis (CFA) was employed as a statistical technique to examine factor structures of the measurement scales.

Secondly, the holistic model was evaluated to determine model fit as per hypothesis 1 (H_{01}), followed by an analysis of hypotheses H_{01a}, H_{01b}, and H_{01c}, which shows the links between the variables of core self-evaluation, career adaptability, and total subjective career success.

Thirdly, upon confirming the validity and reliability of individual measurement scales, the next phase involved assessing the full measurement model. This stage entailed the integration of the three scales into a unified measurement model. Through this evaluation, the overall compatibility and coherence of the combined scales were examined, as was the appropriateness of the item parcels.

Fourthly, having established the adequacy of the measurement model, the subsequent step entailed the evaluation of the full structural model. Emphasis was placed on assessing both the overall model fit and the specific pathways within the model. The primary objective was to ascertain the appropriateness of the model to explain the relationships between the variables of interest.

Fifthly, following the analysis of model fit and pathways, the acceptance or rejection of the formulated hypotheses was reported. This involved examining the empirical results in relation to the proposed theoretical hypotheses. To determine whether the instrument shows bias was a prerequisite for the third objective of this study (measurement invariance).

Finally, attention was directed towards the second objective, which involved testing measurement invariance. Once the steps above were completed, an analysis of variance (ANOVA) was conducted for the total subjective career success across various age groups.

7.3.1. Subjective Career Success

Subjective career success (SCS) refers to an individual's personal evaluation and fulfilment of their experiences in their professional life (Shockley et al., 2016). It is a measure of how satisfied and accomplished an individual feels in relation to their career goals, work-life balance, and alignment with values and interests (Kundi et al., 2020; Spurk et al., 2019). To operationalise SCSE, the 24-item Subjective Career Success Scale (SCSS) was utilised with a 5-point Likert scale (Shockley et al., 2016).

SCS is considered a multidimensional construct that consists of eight first-order latent variables, namely recognition, quality work, meaningful work, influence, authenticity, personal life, growth and development, and satisfaction (Shockley et al., 2016). The second-order factor was labelled SCS and the items were labelled as SCS_1 to SCS_24. Furthermore, the three items that make up a variable (i.e., three items for 'recognition') were also grouped together as shown in Table 7.1.

Table 7.1: The eight-factor model and items of subjective career success

Latent variables of subjective career success	**Items**
Factor 1 (F1): Recognition (items 1, 2, 3)	SCS_1 + SCS_2 + SCS_3
Factor 2 (F2): Quality work (items 4, 5, 6)	SCS_4 + SCS_5 + SCS_6
Factor 3 (F3): Meaningful work (items 7, 8, 9)	SCS_7 + SCS_8 + SCS_9
Factor 4 (F4): Influence (items 10, 11, 12)	SCS_10 + SCS_11 + SCS_12
Factor 5 (F5): Authenticity (items 13, 14, 15)	SCS_13 + SCS_14 + SCS_15
Factor 6 (F6): Personal life (items 16, 17, 18)	SCS_16 + SCS_17 + SCS_18
Factor 7 (F7): Growth and development (items 19, 20, 21)	SCS_19 + SCS_20 + SCS_21

Factor 8 (F8): Satisfaction (items 22, 23, 24)	SCS_22 + SCS_23 + SCS_24

7.3.1.1. Descriptive and normality statistics

Firstly, the descriptive statistics were investigated and normality assumptions were assessed. The analysis includes the calculation of the mean, standard deviation, skewness, and kurtosis to describe the distribution of the items. Additionally, the Shapiro-Wilk test was employed to assess normality assumptions for each item (González-Estrada et al., 2022).

Table 7.2 represents the mean and standard deviations of each item for the SCS scale. The mean score ranged from 3.57 – 4.42, indicating that data are skewed slightly to the upper end of the 5-point Likert scale. The standard deviation values ranged from 0.679 to 1.173. A wider range of opinions among respondents may be shown by items with higher standard deviations (such as SCS_1, SCS_14), which imply greater variability or dispersion of responses on these two questions. Items with smaller standard deviations (such as SCS_19 and SCS_20) indicate greater consensus or agreement among the responses on these questions.

Skewness measures the asymmetry of the distribution (Hair et al., 2010). Positive skewness indicates a longer tail on the right, and negative skewness implies a longer tail on the left (Jammalamadaka et al., 2021). A skewness value of 0 indicates a perfectly symmetrical distribution (Byrne, 2012; Hair et al., 2010). The majority of the items have negative skewness values, which suggest the distribution tapering off to the left side. This shows that respondents had a tendency to rate the Likert scale items high overall. The negative skewness values of some items, such as SCS_4, however, indicate a greater concentration of responses on the higher end of the scale. All items' skewness values are between -2 and 2 and therefore indicate an acceptable asymmetry (Byrne, 2012; Hair et al., 2010).

Kurtosis measures the heaviness (DeCarlo, 1997) of the tails and the presence of outliers (Hair et al., 2010). Positive kurtosis suggests heavier tails and a sharper peak, while negative kurtosis suggests lighter tails and a flatter peak (Jammalamadaka et al., 2021). A kurtosis value of 0 indicates a perfectly normal distribution, and in this case kurtosis values varied across items. Positive kurtosis indicates peaked distributions with heavier tails for some items (such as SCS_4, SCS_7), whereas negative kurtosis indicates flatter distributions for others (such as SCS_16, SCS_17). However, the majority of the kurtosis values are close to zero, which points to distributions that approximate a normal distribution. Byrne (2012) argues that

kurtosis between -7 and 7 can be considered acceptable. In this case, all items fall in the normal range.

The Shapiro-Wilk test was conducted to assess the normality assumption of the item scores (González-Estrada & Cosmes, 2019). A significant p-value ($p<0.05$) suggests that the data deviates from normality. The distributions of responses for all questions appear to deviate considerably from a normal distribution ($p\leq0.05$). This suggests that the data could not conform to the assumption of normality (González-Estrada et al., 2022).

Table 7.2: Descriptive statistics for the items of the Subjective Career Success Scale

						Skewness		Kurtosis		Shapiro-Wilk	
	Mean	Median	SD	Minimum	Maximum	Skewness	SE	Kurtosis	SE	W	p
SCS_1	3.98	4.00	1.014	1.00	5.00	-1.130	0.156	1.077	0.312	0.815	< .001
SCS_2	3.69	4.00	1.131	1.00	5.00	-0.730	0.156	-0.200	0.312	0.866	< .001
SCS_3	3.57	4.00	1.173	1.00	5.00	-0.674	0.156	-0.422	0.312	0.868	< .001
SCS_4	4.42	5.00	0.753	1.00	5.00	-1.929	0.156	5.826	0.312	0.682	< .001
SCS_5	4.07	4.00	0.933	1.00	5.00	-1.222	0.156	1.786	0.312	0.800	< .001
SCS_6	4.18	4.00	0.858	1.00	5.00	-1.465	0.156	3.156	0.312	0.760	< .001
SCS_7	4.35	4.00	0.732	1.00	5.00	-1.617	0.156	4.735	0.312	0.709	< .001
SCS_8	4.31	4.00	0.763	1.00	5.00	-1.163	0.156	1.709	0.312	0.765	< .001
SCS_9	4.13	4.00	0.825	1.00	5.00	-0.827	0.156	0.745	0.312	0.823	< .001
SCS_10	3.82	4.00	1.002	1.00	5.00	-0.851	0.156	0.578	0.312	0.854	< .001
SCS_11	3.58	4.00	1.058	1.00	5.00	-0.836	0.156	0.244	0.312	0.855	< .001
SCS_12	3.77	4.00	0.873	1.00	5.00	-1.016	0.156	1.528	0.312	0.822	< .001
SCS_13	3.75	4.00	0.967	1.00	5.00	-0.792	0.156	0.349	0.312	0.852	< .001
SCS_14	3.53	4.00	1.164	1.00	5.00	-0.525	0.156	-0.630	0.312	0.884	< .001
SCS_15	3.78	4.00	1.013	1.00	5.00	-0.804	0.156	0.112	0.312	0.847	< .001
SCS_16	3.33	3.00	1.154	1.00	5.00	-0.287	0.156	-0.790	0.312	0.906	< .001
SCS_17	3.52	4.00	1.131	1.00	5.00	-0.468	0.156	-0.607	0.312	0.892	< .001
SCS_18	3.81	4.00	0.948	1.00	5.00	-0.887	0.156	0.676	0.312	0.841	< .001
SCS_19	4.23	4.00	0.679	1.00	5.00	-0.964	0.156	2.460	0.312	0.753	< .001
SCS_20	4.13	4.00	0.749	1.00	5.00	-1.111	0.156	2.528	0.312	0.769	< .001
SCS_21	4.15	4.00	0.753	1.00	5.00	-1.193	0.156	3.052	0.312	0.766	< .001
SCS_22	3.85	4.00	1.033	1.00	5.00	-0.918	0.156	0.479	0.312	0.845	< .001
SCS_23	3.88	4.00	1.026	1.00	5.00	-0.993	0.156	0.670	0.312	0.835	< .001
SCS_24	4.10	4.00	0.921	1.00	5.00	-1.203	0.156	1.425	0.312	0.790	< .001

7.3.1.2. Reliability and validity

The reliability and validity of the scale were also evaluated. The reliability analysis of the SCSS yielded high internal consistency. The Cronbach's alpha coefficient for the scale was 0.909, indicating very good reliability. Additionally, the omega coefficient was calculated to be 0.913, further confirming the scale's strong internal consistency. Table 7.3 shows the fit statistics for the measurement model of SCS.

Table 7.3: Item analysis output for the Subjective Career Success Scale

Reliability statistics	
Cronbach's alpha (α)	**McDonald's omega coefficient (ω)**
0.909	0.913

When considering the sub-dimensions of SCS, reliability was confirmed for all factors as per the coefficient alpha (α), omega (ω), and average variance extracted (AVE) as shown in Table 7.4.

Table 7.4: Item analysis output for the eight-factor model of subjective career success

Reliability statistics			
	Cronbach's alpha (α)	**McDonald's omega coefficient (ω)**	**AVE**
SCS Factor 1	0.855	0.868	0.689
SCS Factor 2	0.848	0.854	0.661
SCS Factor 3	0.850	0.851	0.656
SCS Factor 4	0.747	0.777	0.538
SCS Factor 5	0.792	0.794	0.570
SCS Factor 6	0.830	0.860	0.681
SCS Factor 7	0.797	0.829	0.606
SCS Factor 8	0.899	0.907	0.761

All factors have a coefficient alpha and omega above 0.7, and the AVE is above 0.5 for all factors. This suggests that the items of each dimension fit together and explain a sufficient amount of variance in their respective factors.

7.3.1.3. Overall model fit and estimates

Table 7.5 and Figure 7.4 display and visualise the factor loadings and residual error indicators for the eight-factor model of SCS.

Table 7.5: Factor loadings and residuals of subjective career success (SCS)

Item	Residual	p-value	Factor loadings lambda (λ)
SCS_1	0.51	<0.001	0.70
SCS_2	0.19	<0.001	0.90
SCS_3	0.28	<0.001	0.85
SCS_4	0.34	<0.001	0.81
SCS_5	0.32	<0.001	0.83
SCS_6	0.36	<0.001	0.80
SCS_7	0.28	<0.001	0.85
SCS_8	0.24	<0.001	0.87
SCS_9	0.49	<0.001	0.72
SCS_10	0.51	<0.001	0.70
SCS_11	0.31	<0.001	0.83
SCS_12	0.63	<0.001	0.61
SCS_13	0.43	<0.001	0.76
SCS_14	0.36	<0.001	0.80
SCS_15	0.52	<0.001	0.69
SCS_16	0.34	<0.001	0.81
SCS_17	0.08	<0.001	0.96
SCS_18	0.63	<0.001	0.61
SCS_19	0.56	<0.001	0.66
SCS_20	0.46	<0.001	0.73
SCS_21	0.19	<0.001	0.90
SCS_22	0.26	<0.001	0.86
SCS_23	0.15	<0.001	0.92
SCS_24	0.32	<0.001	0.82

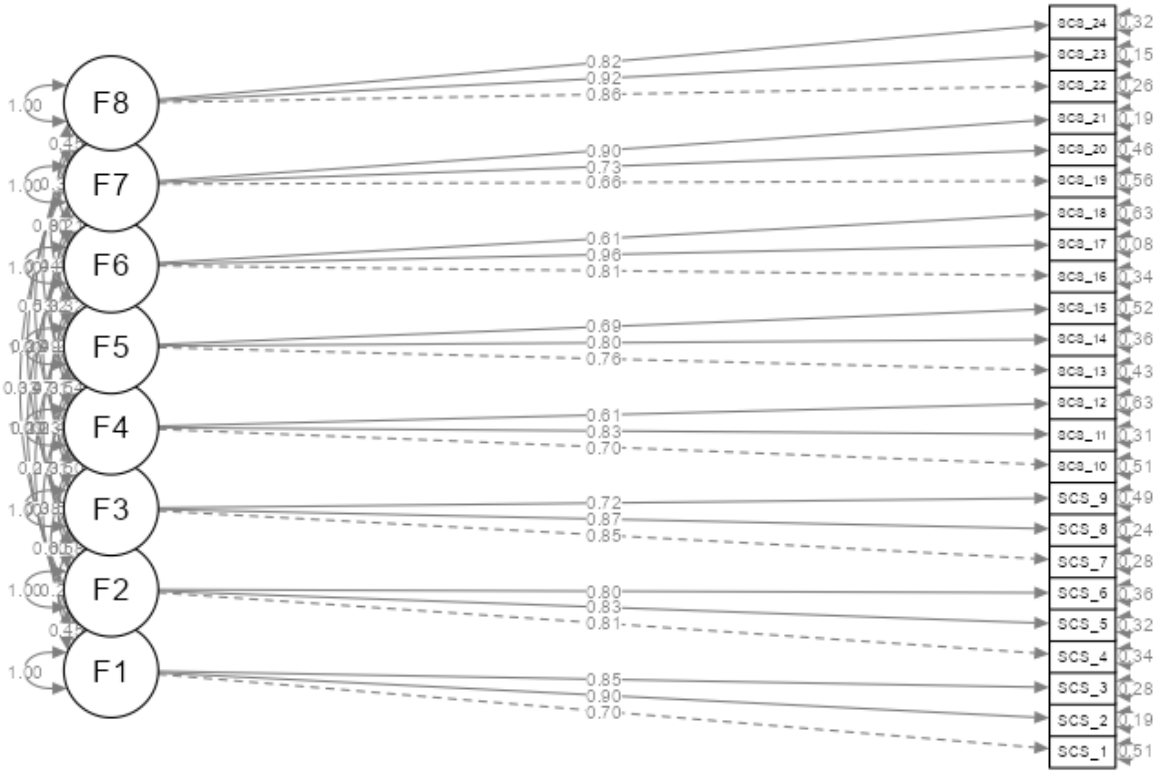

Figure 7.4: Factor loadings and residuals of the eight-factor model of subjective career success (SCS)

Factor loadings represent the strengths and direction of the relationship between each item and the underlying factor (Frankfort-Nachmias et al., 2021). In the factor analysis, the factor loadings lambda (λ) ranged from 0.61 to 0.96, indicating a strong association between the items and their underlying factors (Frankfort-Nachmias et al., 2021).

Residual errors are represented as the amount of unexplained variance in each item after accounting for the shared variance with the factor (Brown, 2015; Sun, 2017). The residual errors ranged from 0.08 to 0.63, reflecting the amount of unexplained variance in each item after accounting for the shared variance with the factor (Brown, 2015). Most items reflect low residual error, which is indicative of low measurement error for the SCS. The p-values for all factor loadings were less than 0.001, indicating statistical significance (Brown, 2015).

Table 7.6 indicates the fit statistics for the SCS scale. The Satorra-Bentler chi-square (S-B $\chi 2$) statistic ($\chi 2=304$; $p<0.05$) is found to be significant with a SRMR score of 0.056 (<0.08) which suggests an acceptable model fit to the data. The model's goodness-of-fit was further assessed using the RMSEA (0.038; $p = 0.987$), indicating an acceptable fit between the model and the observed data. Furthermore, the CFI of 0.929 and TLI of 0.913 demonstrates an

acceptable fit and suggests that the model accurately represents the relationships among the variables.

Table 7.6: Fit of the eight-factor measurement model of the Subjective Career Success Scale

	S-B χ2		RMSEA		SRMR	CFI	TLI
Value	**df**	**p**	**Value**	**p (close fit)**			
304*	224	<0.001	0.038	0.987**	0.056	0.929	0.913

Note. S-Bχ2 = Satorra-Bentler scale chi-square; RMSEA = root-mean-square error of approximation; SRMR = standardised root-mean-square residual; CFI = comparative fit index; TLI = Tucker-Lewis index. *p < .01. **p < .05.

When considering the full basket of evidence, the SCS instrument can be regarded as a reliable scale to use in the context of this study, and to operationalise the underlying construct.

7.3.2. Career Adaptability

Career adaptability (CA) was defined as an individual's ability to effectively manage and navigate their career in the face of challenges, transitions, and changes (Hirschi et al., 2015; Rudolph, Lavigne, & Zacher, 2017). To operationalise CA, the 24-item Career Adapt-Ability Scale (CAAS) was utilised with a 5-point Likert scale (Maggiori et al., 2015; Savickas & Porfeli, 2012). CA is considered a unidimensional latent variable. The 24 items were labelled CA_1 to CA_24.

7.3.2.1. Descriptive and normality statistics

Table 7.7 indicates the mean and standard deviations of each item on the scale.

Table 7.7: Descriptive statistics for the items of the Career Adapt-Ability Scale

						Skewness		Kurtosis		Shapiro-Wilk	
	Mean	Median	SD	Minimum	Maximum	Skewness	SE	Kurtosis	SE	W	p
CA_1	3.50	4.00	1.105	1.00	5.00	-0.410	0.156	-0.4330	0.312	0.898	< .001
CA_2	3.85	4.00	0.978	1.00	5.00	-0.823	0.156	0.5275	0.312	0.854	< .001
CA_3	3.63	4.00	1.020	1.00	5.00	-0.378	0.156	-0.5043	0.312	0.894	< .001
CA_4	3.68	4.00	1.028	1.00	5.00	-0.521	0.156	-0.1472	0.312	0.884	< .001
CA_5	3.64	4.00	1.055	1.00	5.00	-0.514	0.156	-0.3349	0.312	0.888	< .001
CA_6	3.45	4.00	1.255	1.00	5.00	-0.400	0.156	-0.8561	0.312	0.892	< .001
CA_7	3.50	4.00	0.991	1.00	5.00	-0.373	0.156	-0.2788	0.312	0.896	< .001
CA_8	3.81	4.00	0.899	1.00	5.00	-0.697	0.156	0.4871	0.312	0.858	< .001
CA_9	4.22	4.00	0.778	1.00	5.00	-0.998	0.156	1.5336	0.312	0.792	< .001
CA_10	4.10	4.00	0.879	1.00	5.00	-0.758	0.156	0.0350	0.312	0.828	< .001
CA_11	4.14	4.00	0.821	1.00	5.00	-0.756	0.156	0.3249	0.312	0.822	< .001
CA_12	3.67	4.00	1.033	1.00	5.00	-0.444	0.156	-0.4085	0.312	0.889	< .001
CA_13	3.45	4.00	1.066	1.00	5.00	-0.274	0.156	-0.6587	0.312	0.903	< .001
CA_14	3.94	4.00	1.005	1.00	5.00	-0.872	0.156	0.3556	0.312	0.844	< .001
CA_15	4.03	4.00	0.918	1.00	5.00	-0.797	0.156	0.3509	0.312	0.840	< .001
CA_16	3.97	4.00	0.957	1.00	5.00	-0.871	0.156	0.4308	0.312	0.841	< .001
CA_17	3.78	4.00	1.005	1.00	5.00	-0.529	0.156	-0.2541	0.312	0.877	< .001
CA_18	3.89	4.00	1.018	1.00	5.00	-0.837	0.156	0.4006	0.312	0.850	< .001
CA_19	4.10	4.00	0.809	1.00	5.00	-0.847	0.156	1.0315	0.312	0.819	< .001
CA_20	4.22	4.00	0.761	1.00	5.00	-1.133	0.156	2.5915	0.312	0.776	< .001
CA_21	3.97	4.00	0.873	1.00	5.00	-0.841	0.156	0.9811	0.312	0.837	< .001
CA_22	4.07	4.00	0.873	1.00	5.00	-1.117	0.156	1.8001	0.312	0.807	< .001
CA_23	3.95	4.00	0.863	1.00	5.00	-0.686	0.156	0.5585	0.312	0.847	< .001
CA_24	4.10	4.00	0.826	1.00	5.00	-0.882	0.156	0.9644	0.312	0.821	< .001

All items scored higher than 3.44, with items CA_9 (4.22) and CA_20 (4.22) as the highest, suggesting that most participants had slightly elevated levels of CA. The standard deviation indicates the dispersion of variability of the item scores, and items CA_9 (0.778) and CA_20 (0.761) were the lowest. Therefore, these two items may also not differentiate sufficiently between participants.

Skewness values ranged from -0.998 to -1.117, suggesting an acceptable asymmetry. Kurtosis values ranged from 2.5915 to -0.8561, suggesting an acceptable distribution range. The Shapiro-Wilk test results revealed that all items showed a significant deviation from normality ($p<0.05$) (González-Estrada et al., 2022). This suggests that the assumption of normality has not been met for any of the items.

7.3.2.2. Reliability and validity

The reliability for CA produced a coefficient alpha value of 0.946; and an omega of 0.937. The AVE of 0.424 indicates an adequate fitted model, when considering the large number of items and the fact that it is a unidimensional scale. The AVE is also an indication of convergent validity; therefore, the more items there are included, the more likely they are to diverge in nuanced ways (Carlson & Herdman, 2012). Table 7.8 shows the fit statistics for the measurement model of CA.

Table 7.8: Item analysis output for the Career Adapt-Ability Scale

Reliability statistics

Cronbach's alpha (α)	**Mc Donald's omega coefficient (ω)**	**AVE**
0.946	0.937	0.424

7.3.2.3. Overall model fit and estimates

In Table 7.9 and Figure 7.5, the factor loadings and residual error indicators are displayed and visualised for the model of CA.

Table 7.9: Factor loadings and residuals of career adaptability (CA)

Item	**Residual error**	**p-value**	**Factor loadings lambda (λ)**
CA_1	0.67	<0.001	0.57
CA_2	0.65	<0.001	0.59
CA_3	0.54	<0.001	0.68
CA_4	0.61	<0.001	0.63
CA_5	0.59	<0.001	0.64
CA_6	0.81	<0.001	0.44

CA_7	0.68	<0.001	0.57
CA_8	0.68	<0.001	0.57
CA_9	0.59	<0.001	0.64
CA_10	0.69	<0.001	0.56
CA_11	0.50	<0.001	0.71
CA_12	0.68	<0.001	0.56
CA_13	0.61	<0.001	0.63
CA_14	0.47	<0.001	0.73
CA_15	0.58	<0.001	0.64
CA_16	0.47	<0.001	0.73
CA_17	0.55	<0.001	0.67
CA_18	0.47	<0.001	0.73
CA_19	0.45	<0.001	0.74
CA_20	0.51	<0.001	0.70
CA_21	0.49	<0.001	0.72
CA_22	0.36	<0.001	0.80
CA_23	0.36	<0.001	0.80
CA_24	0.45	<0.001	0.74

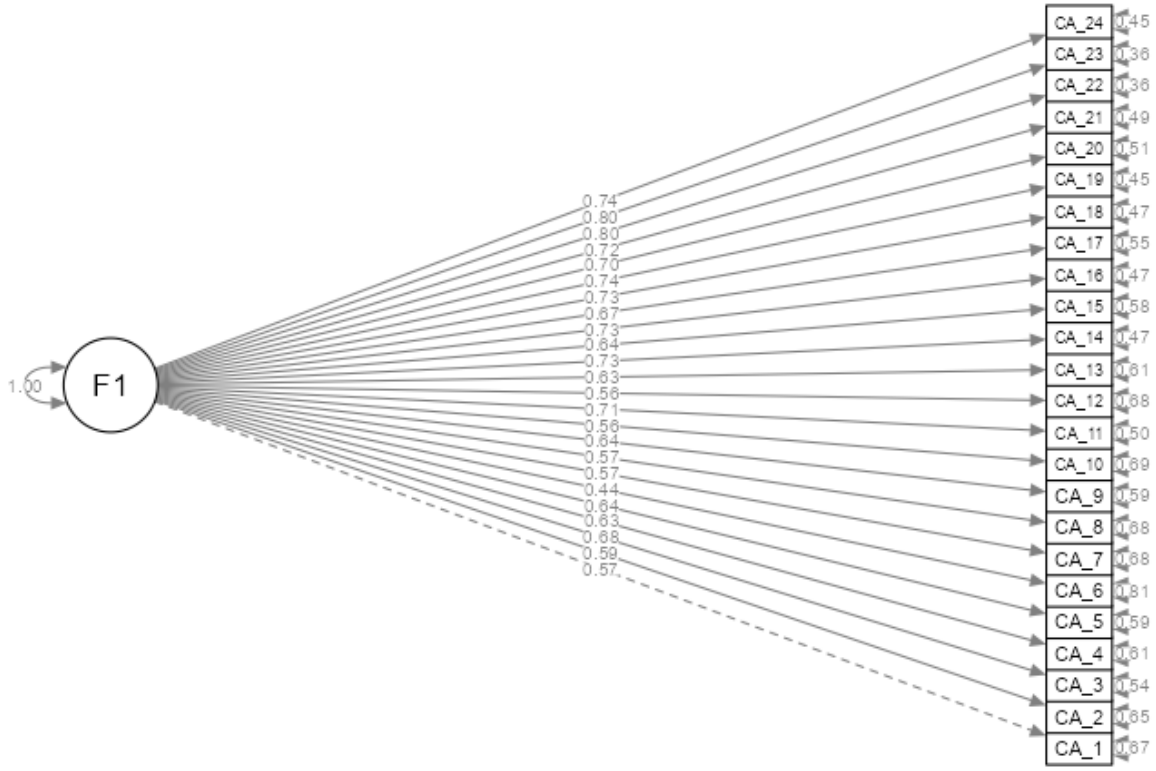

Figure 7.5: Factor loadings and residuals of the unidimensional model of career aAdaptability (CA)

The factor loadings ranged from 0.44 to 0.80, indicating a moderate to strong relationship between the items and the underlying factors. The residual errors ranged from 0.36 to 0.81, indicating that some items still reflect high residual errors, which can reflect a high degree of measurement error on these specific questions. The p-values for all factor loadings were less than 0.001, indicating statistical significance.

Table 7.10 indicates the fit statistics for the CA model. The S-B $\chi 2$ ($\chi 2=628$; $p<0.001$) is found to be significant, while the SRMR score of 0.070 (<0.08) and RMSEA of 0.078 (<0.08) suggests an acceptable model. Furthermore, the CFI of 0.781 and TLI of 0.760 demonstrates a poor level of fit and suggests that the model represents the relationships among the variables poorly.

Table 7.10: Fit of the unidimensional measurement model of the Career Adapt-Ability Scale

	S-B χ2		RMSEA		SRMR	CFI	TLI
Value	**df**	**P**	**Value**	**p (close fit)**			
628*	252	<0.001	0.078	0.001**	0.070	0.781	0.760

Note. S-Bχ2 = Satorra-Bentler scale chi-square; RMSEA = root-mean-square error of approximation; SRMR = standardised root-mean-square residual; CFI = comparative fit index; TLI = Tucker-Lewis index. *p < .01. **p < .05.

To address the issue of poor model fit observed when utilising all 24 items of the latent variable, the law of large numbers was considered (DeGroot & Schervish, 2014; Little et al., 2022). The law of large numbers, a well-established principle in probability and statistics, will assist in enhancing the analysis without the need to discard any items (DeGroot & Schervish, 2014). It posits that as the sample size increases, the average of the observed values will converge to the true population parameter (DeGroot & Schervish, 2014; Little et al., 2022).

However, the assumption of unidimensionality is especially relevant when examining scales like the Career Adapt-ability Scale (CAAS), which aim to capture a complex construct such as career adaptability (Leong & Ott-Holland, 2014). This argument posits that it is overly restrictive to expect all 24 items of the CAAS to load on one factor without any cross-loadings or subfactors (Leong & Ott-Holland, 2014). It is unreasonable to assume that there will be no substantial discrepancies between the observed and reproduced covariance matrix under such conditions (Leong & Ott-Holland, 2014). Nevertheless, this argument acknowledges that the CAAS demonstrates strong internal consistency, as evidenced by alpha (0.946) and omega (0.937) results, which lend credibility to the idea that all 24 items belong together.

Therefore, parcelling was used, which allows for the grouping of all items into more manageable composites, while preserving the essential characteristics of the data. Factor 1 consisted of CA_1 + CA_4 + CA_7 + CA_10 + CA_13 + CA_16 + CA_19 + CA_22, factor 2 consisted of CA_2 + CA_5 + CA_8 + CA_11 + CA_14 + CA_17 + CA_20 + CA_23, and factor 3 consisted of CA_3 + CA_6 + CA_9 + CA_12 + CA_15 + CA_18 + CA_21 + CA_24. The results showed acceptable fit across all three factors. For Factor 1, Cronbach's alpha (α) and McDonald's omega coefficient (ω) both indicated high levels of internal consistency at 0.842. The AVE for Factor 1 was 0.405, suggesting that 40.5% of the variance in the observed indicators is explained by the underlying construct. Similarly, Factor 2 demonstrated high

internal consistency with Cronbach's alpha of 0.860 and McDonald's omega coefficient of 0.858. The AVE for Factor 2 was 0.440, implying that 44% of the variance is accounted for by the latent variable. Finally, Factor 3 also exhibited good reliability, with Cronbach's alpha and McDonald's omega coefficient both at 0.830, indicating strong internal consistency. The AVE for Factor 3 was 0.380, suggesting that 38% of the variance is attributable to the underlying construct. Overall, these statistics provide compelling evidence of the effectiveness of parcelling in improving the reliability of the latent variable analysis. Table 7.11 shows the fit statistics for the three-factor model of CA.

Table 7.11: Item analysis output for the three-factor model of Career Adapt-Ability Scale

Reliability statistics

	Cronbach's alpha (α)	**Mc Donald's omega coefficient (ω)**	**AVE**
CA Factor 1	0.842	0.842	0.405
CA Factor 2	0.860	0.858	0.440
CA Factor 3	0.830	0.817	0.380

7.3.3. Core self-evaluation

Core self-evaluation (CSE) is defined as the basic, fundamental assessment of one's deservingness, effectiveness, and abilities as a person (Judge, 2009). To operationalise CSE, the 12-item Core Self-Evaluation Scale (CSES) is utilised with a 5-point Likert scale (Judge, 2009; Judge et al., 2003). CSE is considered a unidimensional latent variable, although it taps into four facets, namely, self-esteem, self-efficacy, emotional stability, and locus of control (Gardner & Pierce, 2009; Judge et al., 2003). The fact that half of the items were negatively worded was a design element that needed to be taken into account when evaluating the questionnaire in this study. While negatively worded items have been noted as a potential source of method bias, they can also aid in reducing response bias (Van Sonderen et al., 2013). The 12 items were labelled CSE_1 to CSE_12.

7.3.3.1. Descriptive and normality statistics

Table 7.12 indicates the mean and standard deviations of each item on the scale.

Table 7.12: Descriptive statistics for the items of the Core Self-Evaluation Scale

			Skewness				Kurtosis			Shapiro-Wilk		
	Mean	Median	Mode	SD	Minimum	Maximum	Skewness	SE	Kurtosis	SE	W	p
CSE_1	3.63	4.00	4.00	1.035	1.00	5.00	-0.7770	0.156	0.0809	0.312	0.855	< .001
CSE_2	2.70	2.00	2.00	1.104	1.00	5.00	0.3111	0.156	-0.7958	0.312	0.896	< .001
CSE_3	4.09	4.00	4.00	0.738	1.00	5.00	-1.2652	0.156	3.5293	0.312	0.745	< .001
CSE_4	3.11	3.00	4.00	1.188	1.00	5.00	-0.1127	0.156	-1.0077	0.312	0.905	< .001
CSE_5	4.19	4.00	4.00	0.637	1.00	5.00	-0.7727	0.156	2.5760	0.312	0.746	< .001
CSE_6	2.85	3.00	2.00	1.187	1.00	5.00	0.0739	0.156	-1.0480	0.312	0.902	< .001
CSE_7	3.96	4.00	4.00	0.816	1.00	5.00	-1.1117	0.156	2.1284	0.312	0.795	< .001
CSE_8	3.57	4.00	4.00	1.154	1.00	5.00	-0.5501	0.156	-0.5665	0.312	0.883	< .001
CSE_9	3.53	4.00	4.00	0.976	1.00	5.00	-0.5791	0.156	0.0943	0.312	0.882	< .001
CSE_10	3.36	4.00	4.00	1.228	1.00	5.00	-0.5855	0.156	-0.6747	0.312	0.870	< .001
CSE_11	4.01	4.00	4.00	0.765	1.00	5.00	-1.1995	0.156	2.8217	0.312	0.759	< .001
CSE_12	3.26	3.00	4.00	1.192	1.00	5.00	-0.2933	0.156	-0.8773	0.312	0.902	< .001

Three items display high mean scores: CSE_3 (4.09), CSE_5 (4.19), and CSE_11 (4.01). The standard deviation indicates the dispersion of variability of the item scores, and items CSE_3 (0.738), CSE_5 (0.637), and CSE_11 (0.765) are low. Therefore, these three items do not adequately distinguish between participant standing.

Skewness values ranged from 0.077 to -1.265, suggesting varying degrees of asymmetry across the items. All items' skewness values are between -2 and 2 and indicate an acceptable asymmetry (Byrne, 2012; Hair et al., 2010). Kurtosis values ranged from 3.529 to -1.048, indicating differences in the shape of the distributions and the presence of outliers. All items' kurtosis values indicate an acceptable fit (Byrne, 2012). The Shapiro-Wilk test results revealed that all items showed a significant deviation from normality ($p<0.05$) (González-Estrada et al., 2022). This suggests that the assumption of normality has not been met for all items.

The findings indicate that, on average, the item means for negatively phrased items were lower (1.43 mean) than those for positively worded ones (1.95 mean). This result is consistent with Marsh's (1986) finding that people who have frequently endorsed positively phrased things occasionally have a tendency to respond "true" to negatively worded items, which would lead to a lower score when these items are reverse scored. The extent of the standard deviations for both the negatively and positively worded items implies that the items were

able to distinguish between very slight variations in people's position on the construct. The so-called item valence method effect, where people respond favourably to items with positive themes (e.g., I complete tasks successfully) and negatively to items with negative themes (e.g., I am filled with doubt about my competence), may also be a contributing factor (Kam, 2016; Kam & Meyer, 2015).

7.3.3.2. Reliability and validity

Table 7.13 shows the fit statistics for the measurement model of CSE. The reliability for CSE produced a coefficient alpha value of 0.813, and an omega of 0.816. The AVE of 0.313 indicates the misfit of items, or potentially the lack of convergent validity.

Table 7.13: Item analysis output for the Core Self-Evaluation Scale

Reliability statistics

Cronbach's alpha (α)	**Mc Donald's omega coefficient (ω)**	**AVE**
0.813	0.816	0.313

The influence of negatively worded items as previously discussed was investigated by splitting the CSES items into two factors. Factor 1 consisted of all positively worded items (CSE_1 + CES_3 + CSE_5 + CSE_7 + CSE_9 + CSE_11) and factor 2 consisted of all negatively worded items (CSE_2 + CES_4 + CSE_6 + CSE_8 + CSE_10 + CSE_12). The reliability statistics then indicated a better fitted model. The reliability for CSE factor 1 produced a coefficient alpha value of 0.677 and an omega of 0.691, which indicates the internal consistency of items relative to one another. The reliability for CSE factor 2 produced a coefficient alpha value of 0.801 and an omega of 0.801 which indicates the internal consistency of items relative to one another. The average variance extracted (AVE) is 0.272 for factor 1 and 0.411 for factor 2. This indicates a mediocre fit. Table 7.14 shows the fit statistics for the two-factor model of CSE.

Table 7.14: Item analysis output for the two-factor model of core self-evaluation

Reliability statistics

	Cronbach's alpha (α)	**Mc Donald's omega coefficient (ω)**	**AVE**
CSE Factor 1	0.677	0.691	0.272
CSE Factor 2	0.801	0.801	0.411

7.3.3.3. Overall model fit and estimates

The unidimensional model's fit indices (see Figure 7.15) indicate the S-B χ2 (145; p<0.05) as significant, while SRMR (0.089) and the RMSEA (0.084) suggests a mediocre fit to the data. Furthermore, CFI (0.758) and TLI (0.704) demonstrate that the model represents the relationships among the variables poorly.

Table 7.15: Fit of the unidimensional measurement model of the Core Self-Evaluation Scale

	S-B χ2		**RMSEA**		**SRMR**	**CFI**	**TLI**
Value	**df**	**P**	**Value**	**p (close fit)**			
145*	54	<0.001	0.084	<0.001	0.089	0.758	0.704

Note. S-Bχ2 = Satorra-Bentler scale chi-square; RMSEA = root-mean-square error of approximation; SRMR = standardised root-mean-square residual; CFI = comparative fit index; TLI = Tucker-Lewis index. *p < .01. **p < .05.

When considering the influence that positively and negatively worded items may have (as mentioned earlier), the scale was measured as a two-factor model as illustrated in Figure 7.6. The factor loadings and residual error indicators are displayed and visualised in Table 7.16 and Figure 7.6 for the two-factor model of CSE. Factor loadings ranged from 0.34 to 0.72, indicating moderate to strong relationships between the items and their underlying factor.

Table 7.16: Factor loadings and residuals of the two-factor model of core self-evaluation (CSE)

Item	**Residual error**	**p-value**	**Factor loadings lambda (λ)**
CSE_1	0.75	<0.001	0.50
CSE_2R	0.50	<0.001	0.71
CSE_3	0.55	<0.001	0.67
CSE_4R	0.48	<0.001	0.72
CSE_5	0.74	<0.001	0.51
CSE_6R	0.67	<0.001	0.58
CSE_7	0.70	<0.001	0.55
CSE_8R	0.76	<0.001	0.49
CSE_9	0.88	<0.001	0.34
CSE_10R	0.70	<0.001	0.55
CSE_11	0.61	<0.001	0.62
CSE_12R	0.43	<0.001	0.76

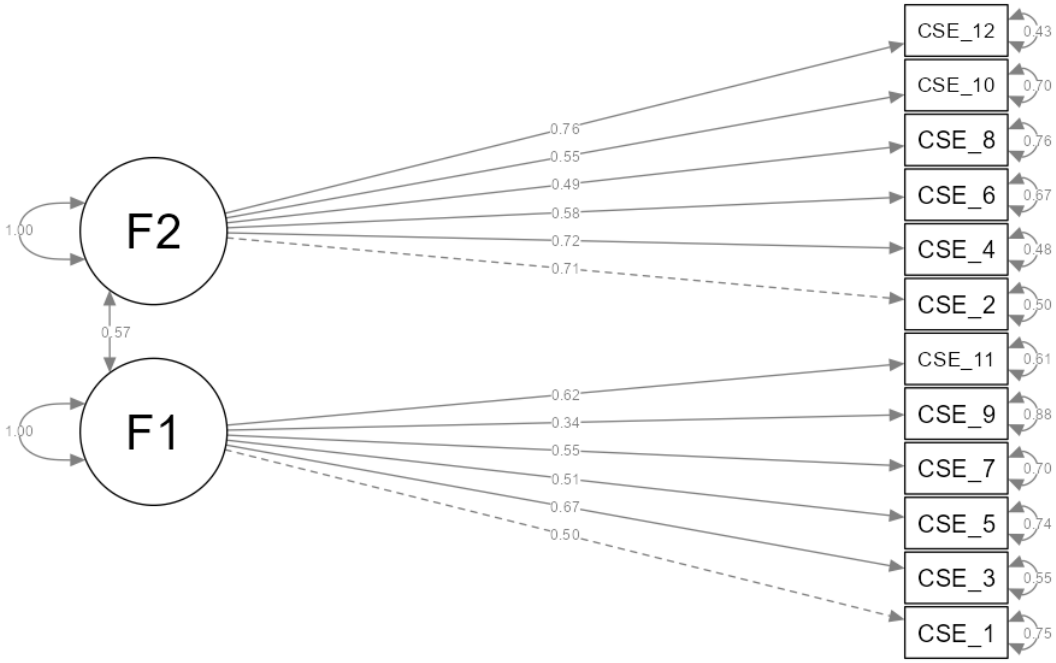

Figure 7.6: Factor loadings and residuals of the two-factor model of core self-evaluation (CSE)

The residual errors ranged from 0.43 to 0.88, and some items still reflect high residual error, which can reflect high measurement error for these specific questions. The p-values for all factor loadings were less than 0.001, indicating statistical significance (Brown, 2015).

Table 7.17 indicates the fit statistics for the CSE model when controlling for the possible method effect by grouping positively and negatively worded items together.

Table 7.17: Fit of the two-factor measurement model of the Core Self-Evaluation Scale

	S-B χ2		RMSEA		SRMR	CFI	TLI
Value	**df**	**P**	**Value**	**p (close fit)**			
108*	53	<0.001	0.066	0.053**	0.063	0.882	0.853

Note. S-Bχ2 = Satorra-Bentler scale chi-square; RMSEA = root-mean-square error of approximation; SRMR = standardised root-mean-square residual; CFI = comparative fit index; TLI = Tucker-Lewis index. *p < .01. **p < .05.

The S-B χ2 (χ2=108; p<0.05) is found to be significant, while the SRMR score of 0.063 (<0.08) and RMSEA of 0.066 (<0.08) suggests an acceptable model fit to the data. Furthermore, the CFI of 0.882, and TLI of 0.853 demonstrates a mediocre level of fit and suggests that the model only moderately represents the relationships among the variables. While other researchers have faced challenges in achieving satisfactory model fit and have identified the positively and negatively worded items as potential issues, future research may benefit from considering the use of neutrally-worded items or bipolar items to mitigate the wording effect to some extent (Gu et al., 2015; Van Der Bank, 2022).

In summary, the assessment of fit indices for the CSES underscores the complexity inherent in capturing the multidimensional nature of the construct. The unidimensional model yielded only a mediocre fit, highlighting the challenge of clustering the diverse facets of CSE within a single factor. Although the division into positively and negatively worded items offered a noticeable enhancement in fit indices, it remains evident that a satisfactory level of fit has yet to be achieved, despite statistical significance. In line with preserving the scale's integrity for research purposes, the decision not to discard any items is of paramount importance. While navigating these measurement challenges, using parcelling techniques emerges as a pragmatic strategy within the measurement and structural models (see 7.3.5 and 7.3.6). This approach not only addresses the intricacies of item wording and interrelated dimensions, but also embraces the imperfections of the measurement process while contributing to the robustness of the analyses. By embracing parcelling, researchers are better positioned to maintain the comprehensive scope of the CSE construct while mitigating the complexities associated with model fit, thus fostering more meaningful and credible interpretations of data (Little et al., 2013, 2022).

7.3.4. Evaluating the holistic model

The assessment of the holistic model emphasises the measurement and structural model tests associated with hypotheses 1-5. It evaluates the validity and reliability of the proposed model and, in turn, assesses the significance of the relationships posited in the first hypothesis.

To test the holistic model[12], parcelling was used to operationalise the latent variables.

Item parcelling serves several purposes. Firstly, it helps to reduce the complexity of the analysis by reducing the number of variables (Little et al., 2022). When a scale has many items, analysing each item individually can be challenging and computationally intensive. Parcelling allows for a simpler analysis by reducing the number of variables to a more manageable level (Matsunaga, 2008). Secondly, parcelling can improve the reliability of measurement (Little et al., 2022). By combining multiple items into a composite score, parcelling can reduce the measurement error associated with individual items (Little et al., 2022). It is believed that the composite score obtained from parcelling may provide a more reliable and stable measurement of the underlying construct than individual items alone (Chen & Weng, 2019; Hau & Marsh, 2004). Furthermore, parcelling can help in dealing with issues related to model estimation and convergence in statistical analyses (Little et al., 2022). When working with complex statistical models, such as structural equation modelling (SEM), having a smaller number of variables (parcels) can lead to better model estimation and more stable results (Hau & Marsh, 2004). Overall, item parcelling is a technique used to simplify analysis, enhance measurement reliability, and improve model estimation in psychometrics and statistical research (Little et al., 2022).

For this study, domain representative parcelling, as suggested by Little et al. (2022), was used as shown in Table 7.18. For each latent variable, three parcels were formed.

Table 7.18: Parcelling of scales

Latent variable	Parcel label	Consisting items
Subjective career success	SCSDP1	SCS_1 + SCS_4 + SCS_7 + SCS_10 + SCS_13 + SCS_16 + SCS_19 + SCS_22
	SCSDP2	SCS_2 + SCS_5 + SCS_8 + SCS_11 + SCS_14 + SCS_17 + SCS_20 + SCS_23
	SCSDP3	SCS_3 + SCS_6 + SCS_9 + SCS_12 + SCS_15 + SCS_18 + SCS_21 + SCS_24
Core self-evaluation	CSEDP1	CSE_1 + CSE_2 + CSE_3 + CSE_4
	CSEDP2	CSE_5 + CSE_6 + CSE_7 + CSE_8

[12] Parcelling was only used for the holistic model, and not for the comprehensive model.

	CSEDP3	CSE_9 + CSE_10 + CSE_11 + CSE_12
Career adaptability	CADP1	CA_1 + CA_4 + CA_7 + CA_10 + CA_13 + CA_16 + CA_19 + CA_22
	CADP2	CA_2 + CA_5 + CA_8 + CA_11 + CA_14 + CA_17 CA_20 + CA_23
	CADP3	CA_3 + CA_6 + CA_9 + CA_12 + CA_15 + CA_18 + CA_21 + CA_24

7.3.4.1. Holistic Measurement Model

The skewness and kurtosis values indicate a deviation from the normal distribution (see Table 7.19). Both of these values were statistically significant, with p-values <0.001. Multivariate normality assumptions were therefore not met, which means that robust maximum likelihood is the preferred estimation technique.

Table 7.19: Fit of Multivariate Normality of the holistic measurement model Indicators

Skewness			**Kurtosis**		
Value	**df**	**P**	**Value**	**z**	**p**
423	165	<0.001	122	12.7	<0.001

Table 7.20 indicates the fit statistics for the holistic model. The Satorra-Bentler chi-square (S-B $\chi 2$) statistic ($\chi 2=50.3$; $p=0.001$) was found to be significant and indicates an acceptable model fit. The SRMR score is 0.039, well below the threshold of 0.08, signifying a good model fit. The model's goodness-of-fit was further assessed using the RMSEA (0.067; p=0.108), indicating an acceptable fit between the model and the observed data. Furthermore, the CFI of 0.982 and TLI of 0.972 demonstrate an acceptable fit and suggest that the model accurately represents the relationship between the latent variables.

Table 7.20: Fit of the holistic model

	S-B χ2		RMSEA		SRMR	CFI	TLI
Value	**Df**	**P**	**Value**	**p (close fit)**			
50.3*	24	0.001	0.067	0.108**	0.039	0.982	0.972

Note. S-Bχ2 = Satorra-Bentler scale chi-square; RMSEA = root-mean-square error of approximation; SRMR = standardised root-mean-square residual; CFI = comparative fit index; TLI = Tucker-Lewis index. *p < .001. ** should be p < .05.

The holistic measurement model estimates (Table 7.21) represent the factor loadings of the variables. Overall, the results indicate that all indicators are significant and have factor loadings above 0.5, suggesting that the indicator variables adequately represent the latent variables. This is further supported by the relatively low residual values of each indicator as illustrated in Figure 7.7.

Table 7.21: Holistic measurement model estimates

				95% Confidence intervals				
Latent	**Observed**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
CSE	CSEDP1	1.000	0.0000	1.000	1.000	0.859		
	CSEDP2	0.734	0.0903	0.557	0.911	0.695	8.13	< .001
	CSEDP3	0.926	0.0760	0.777	1.075	0.798	12.19	< .001
CA	CADP5	1.000	0.0000	1.000	1.000	0.951		
	CADP6	0.990	0.0301	0.932	1.049	0.952	32.95	< .001
	CADP7	0.978	0.0293	0.921	1.035	0.941	33.41	< .001
SCS	SCSDP1	1.000	0.0000	1.000	1.000	0.926		
	SCSDP2	1.134	0.0453	1.045	1.223	0.944	25.03	< .001
	SCSDP3	0.971	0.0482	0.877	1.066	0.910	20.13	< .001

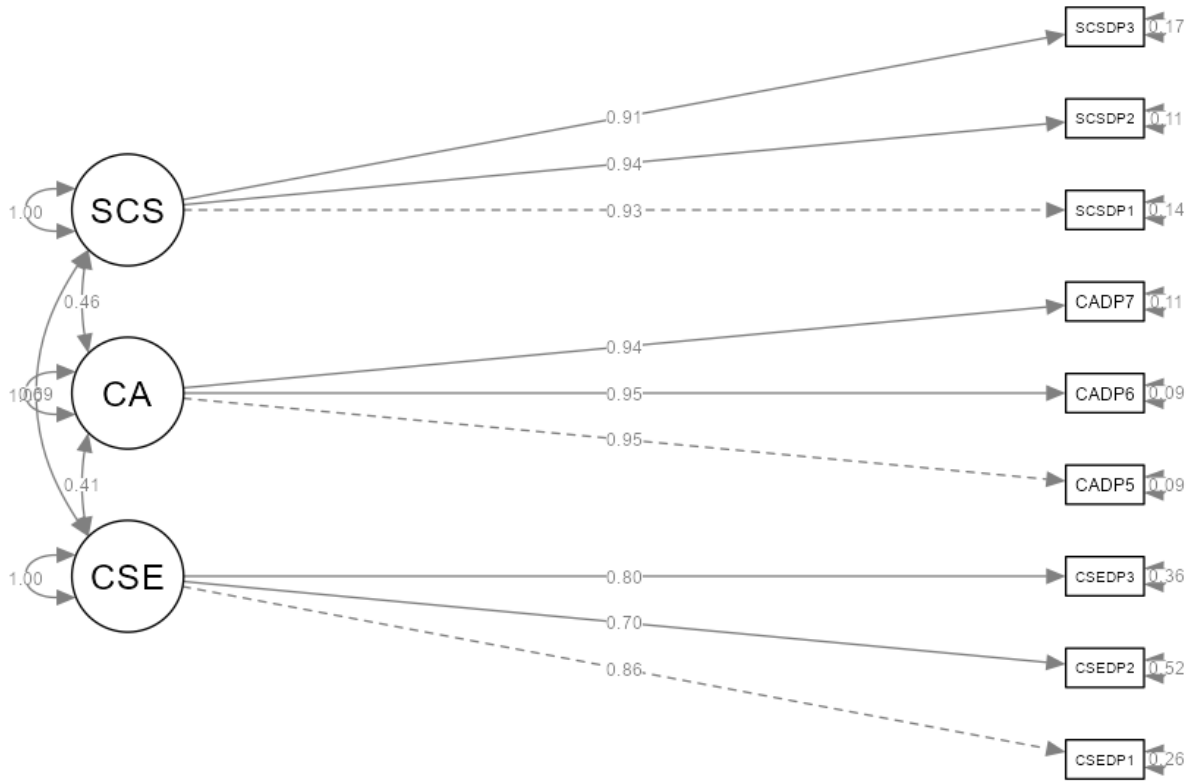

Figure 7.7: Factor loadings and residuals of the holistic measurement model

Table 7.22 illustrates the estimated covariances and associated statistics between latent variables in the holistic measurement model.

Table 7.22: Covariances of the holistic measurement model

				95% Confidence intervals				
Latent	**Observed**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**Z**	**p**
CSE	CSE	0.3614	0.05345	0.2566	0.4661	1.000	6.76	<.001
CA	CA	21.4355	2.23553	17.0539	25.8170	0.8346	9.59	<.001
SCS	SCS	0.1259	0.02321	0.0804	0.1714	0.4848	5.43	<.001

CSE parcels (CSEDP1, CSEDP2, and CSEDP3) exhibit positive associations among themselves, with estimates ranging from 0.734 to 1.000, all of which are highly significant (all $p < .001$). This indicates the consistency of these constructs within individuals, underscoring the stability

of CSE components. Similarly, CA parcels (CADP5, CADP6, and CADP7) also demonstrate significant positive relationships among themselves, with estimates ranging from 0.978 to 1.000 (all $p < .001$). These findings underscore the robustness and reliability of CA as a construct. Furthermore, the SCS parcels (SCSDP1, SCSDP2, and SCSDP3) reveal positive relationships among themselves, with estimates ranging from 0.971 to 1.134, of which all are highly significant (all $p < .001$). This suggests that individuals tend to maintain consistent perceptions of their career success over time, reinforcing the stability of this crucial career outcome measure.

Finally, the holistic model's latent variables (CSE, CA, and SCS) also demonstrate strong positive relationships among themselves, with estimates of 0.3614, 21.4355, and 0.1259, respectively (all $p < .001$). These findings emphasise the stability and reliability of these central constructs within the framework, highlighting their integral roles in shaping individuals' career experiences.

Table 7.23 presents the findings for the reliability and validity assessment of the latent variables in the holistic measurement model.

Table 7.23: Reliability indices of the holistic measurement model

Variable	α	ω	AVE
CSE	0.824	0.833	0.628
CA	0.964	0.964	0.899
SCS	0.947	0.949	0.862

The Cronbach's alpha (α) values for CSE, CA, and SCS are 0.824, 0.964, and 0.947, respectively. These values surpass the commonly accepted threshold of 0.7, indicating strong internal consistency within each construct. Moreover, the McDonald's omega (ω_3) coefficients, measuring the constructs' reliability, also exhibit significant scores of 0.833 for CSE, 0.964 for CA, and 0.949 for SCS, further confirming the holistic measurement model fit. Additionally, the Average Variance Extracted (AVE) values exceed the recommended threshold of 0.5 for all constructs, standing at 0.628 for CSE, 0.899 for CA, and 0.862 for SCS. These findings

collectively affirm the reliability and convergent validity of the latent variables within the holistic measurement model.

7.3.4.2. Holistic structural model

The results from Table 7.24 present the fit assessment findings for the holistic structural model, and the model is illustrated in Figure 7.8.

Table 7.24: Fit of the holistic structural model

	S-B χ2		RMSEA		SRMR	CFI	TLI
Value	**df**	**P**	**Value**	**p (close fit)**			
50.3*	24	0.001	0.067	0.108**	0.039	0.982	0.972

Note. S-Bχ2 = Satorra-Bentler scale chi-square; RMSEA = root-mean-square error of approximation; SRMR = standardised root-mean-square residual; CFI = comparative fit index; TLI = Tucker-Lewis index. *p < .001. *should be p < .05.

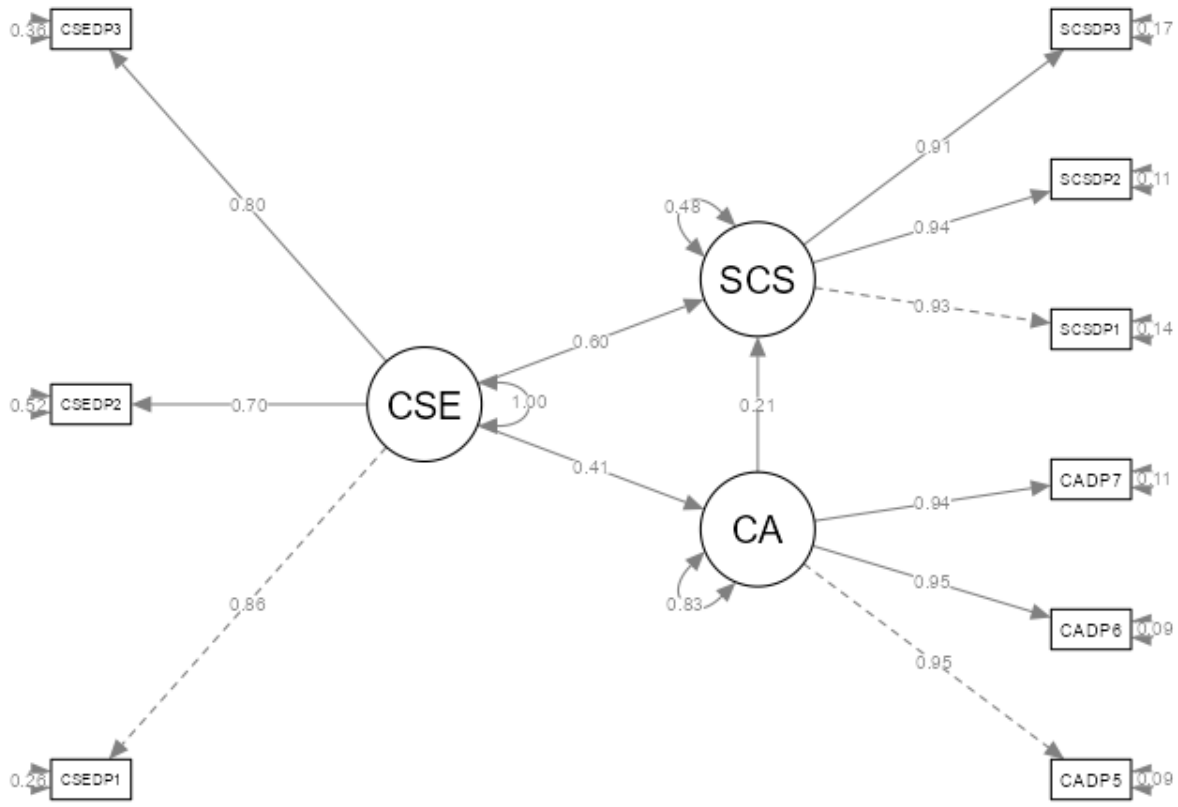

Figure 7.8: Factor loadings and residuals of the holistic structural model

The chi-square goodness-of-fit statistic (S-B χ2) returns a statistically significant result of 50.3 with 24 degrees of freedom (df), indicating that there are some discrepancies between the model and the observed data (p = 0.001). However, it is important to note that chi-square is sensitive to sample size, and in larger samples, minor deviations between the model and data can lead to significant p-values.

Despite the significant chi-square statistic, other fit indices show statistically significant results. RMSEA is 0.067, suggesting an acceptable fit, while SRMR is 0.039, which indicates a good fit. Moreover, the CFI (0.982) and TLI (0.972) indicate a good fit, emphasising the model's capability to explain the relationships among the latent variables.

Table 7.25 shows the estimates and fit statistics of the holistic model.

Table 7.25: Estimates of the holistic structural model

			95% Confidence intervals					
Dep	**Pred**	**Estimate**	**SE**	**Lower**	**Upper**	**B**	**z**	**p**
SCS	CSE	0.5112	0.06688	0.38015	0.6423	0.603	7.64	< .001
CA	CSE	3.4283	0.63448	2.18476	4.6719	0.407	5.40	< .001
SCS	CA	0.0216	0.00736	0.00719	0.0361	0.215	2.94	0.003

The relationship between SCS and CSE indicates a significant positive beta coefficient (β) of 0.603 (SE = 0.06688, p<0.001). This suggests that individuals with higher levels of CSE tend to experience greater SCS, emphasising the importance of positive self-evaluation in career achievements as proposed by Judge et al. (2009) and Haenggli and Hirschi (2020). Furthermore, the findings indicate a substantial link between CA and CSE, with a beta coefficient (β) of 0.407 (SE = 0.63448, p<0.001). This implies that CA is positively associated with CSE, highlighting the role of career adaptability and personal evaluation in shaping one's career trajectory as found by Zacher (2014). Additionally, the relationship between SCS and CA, while statistically significant with a beta coefficient (β) of 0.215 (SE = 0.00736, p = 0.003), appears relatively weaker compared to the other associations. This suggests that while there is a positive connection between SCS and CA, other factors beyond career adaptability may also influence individuals' perceptions of career success, and in this case, CSE seems to play a more dominant role in predicting SCS.

The holistic model indicates that SCS has a positive relationship with both CSE and CA, while the relationship between CSE and CA is also significant.

Having examined the results of the holistic model, it is evident that CSE, CA, and SCS exhibit significant and positive relationships within the proposed model. However, recognising the multifaceted nature of SCS, the researcher was interested in delving deeper into the sub-dimensions that comprise SCS. In pursuit of a more comprehensive understanding, the subsequent analysis will focus on testing a model that encompasses these sub-dimensions, shedding light on the intricate relationships that exist within this multifaceted construct. This approach will offer a more refined perspective on how CSE and CA contribute to various aspects of an individual's subjective career success.

7.3.5. Evaluating the comprehensive model

7.3.5.1. Comprehensive measurement model

Item parcelling, as discussed in Chapter 6 and in the previous section, was used to operationalise the items for CA and CSE in the comprehensive measurement and structural model.

The parcels for CA and CSE remained the same as for the holistic model testing (in the previous section), while SCS's specific sub-dimensions were measured by their individual items as illustrated in Table 7.26.

Table 7.26: Sub-dimensions of subjective career success

Latent variable	Parcel label	Consisting of items
Subjective career success (SCS)	REC (recognition)	SCS_1 + SCS_2 + SCS_3
	QWORK (quality work)	SCS_4 + SCS_5 + SCS_6
	MEAN (meaningful work)	SCS_7 + SCS_8 + SCS_9
	INFL (influence)	SCS_10 + SCS_11 + SCS_12
	AUT (authenticity)	SCS_13 + SCS_14 + SCS_15
	PLIFE (personal life)	SCS_16 + SCS_17 + SCS_18
	GROWTH (growth and development)	SCS_19 + SCS_20 + SCS_21

	SAT (satisfaction)	SCS_22 + SCS_23 + SCS_24

The skewness and kurtosis values indicate a deviation from the normal distribution (see Table 7.27). Both of these values were statistically significant, with p-values <0.001. Multivariate normality assumptions were therefore not met, which means that robust maximum likelihood is the preferred estimation technique.

Table 7.27: Fit of multivariate normality of the comprehensive measurement model indicators

Skewness			**Kurtosis**		
Value	**Df**	**p**	**Value**	**z**	**P**
11899	4960	<0.001	1254	52.2	<0.001

The goodness-of-fit of the model was assessed using several statistical tests (see Table 7.28). The comprehensive measurement model demonstrates a reasonably good fit to the data, as evidenced by several fit indices. The RMSEA (0.042) indicates a low level of discrepancy between the model's predicted covariance matrix and the observed covariance matrix, and the SRMR (0.060), which assesses the average discrepancy between observed and model-implied covariances, also shows an acceptable fit. Additionally, the model's fit is supported by the CFI (0.922) and TLI (0.905), all of which compare the target model to a null model, yielding values above 0.90, signifying acceptable fit.

Table 7.28: Fit of the comprehensive measurement model

	S-B χ2		**RMSEA**		**SRMR**	**CFI**	**TLI**
Value	**df**	**P**	**Value**	**p (close fit)**			
515*	360	<0.001	0.042	0.973**	0.060	0.922	0.905

Note. S-Bχ2 = Satorra-Bentler scale chi-square; RMSEA = root-mean-square error of approximation; SRMR = standardised root-mean-square residual; CFI = comparative fit index; TLI = Tucker-Lewis index. *p < .001. ** should be p < .05.

The comprehensive measurement model estimates (Table 7.29) represent the factor loadings of the observed and latent variables, which indicates the strengths and direction of the relationships between the latent and observed variables. Overall, the results indicate that all of the observed indicators are significant and have factor loadings above 0.5, suggesting that the indicator variables adequately represent the latent constructs. This is further supported by the relatively low residual values of each indicator as illustrated in Figure 7.9.

Table 7.29: Comprehensive measurement model estimates

				95% Confidence intervals				
Latent	**Observed**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
REC	SCS_1	1.000	0.0000	1.000	1.000	0.701		
	SCS_2	1.428	0.1514	1.132	1.725	0.898	9.44	< .001
	SCS_3	1.408	0.1519	1.110	1.705	0.853	9.27	< .001
QWORK	SCS_4	1.000	0.0000	1.000	1.000	0.812		
	SCS_5	1.264	0.1427	0.985	1.544	0.828	8.86	< .001
	SCS_6	1.119	0.1199	0.884	1.354	0.797	9.34	< .001
MEAN	SCS_7	1.000	0.0000	1.000	1.000	0.850		
	SCS_8	1.069	0.0830	0.906	1.231	0.872	12.89	< .001
	SCS_9	0.953	0.0747	0.807	1.100	0.719	12.75	< .001
INFL	SCS_10	1.000	0.0000	1.000	1.000	0.699		
	SCS_11	1.270	0.1688	0.939	1.601	0.841	7.52	< .001
	SCS_12	0.750	0.1332	0.489	1.011	0.602	5.63	< .001
AUT	SCS_13	1.000	0.0000	1.000	1.000	0.736		
	SCS_14	1.330	0.1220	1.091	1.569	0.813	10.90	< .001
	SCS_15	1.000	0.1093	0.785	1.214	0.702	9.14	< .001
PLIFE	SCS_16	1.000	0.0000	1.000	1.000	0.816		
	SCS_17	1.150	0.0902	0.973	1.327	0.957	12.75	< .001
	SCS_18	0.612	0.0831	0.449	0.774	0.608	7.36	< .001
GROWTH	SCS_19	1.000	0.0000	1.000	1.000	0.666		
	SCS_20	1.214	0.2598	0.704	1.723	0.733	4.67	< .001
	SCS_21	1.496	0.2308	1.043	1.948	0.898	6.48	< .001
SAT	SCS_22	1.000	0.0000	1.000	1.000	0.863		
	SCS_23	1.063	0.0573	0.950	1.175	0.923	18.54	< .001
	SCS_24	0.846	0.0770	0.695	0.997	0.819	10.98	< .001
CSE	CSEDP1	1.000	0.0000	1.000	1.000	0.859		
	CSEDP2	0.717	0.0894	0.542	0.892	0.679	8.02	< .001
	CSEDP3	0.941	0.0735	0.797	1.085	0.811	12.80	< .001
CA	CADP5	1.000	0.0000	1.000	1.000	0.950		

				95% Confidence intervals				
Latent	**Observed**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
	CADP6	0.991	0.0301	0.932	1.050	0.952	32.95	< .001
	CADP7	0.981	0.0291	0.924	1.038	0.943	33.69	< .001

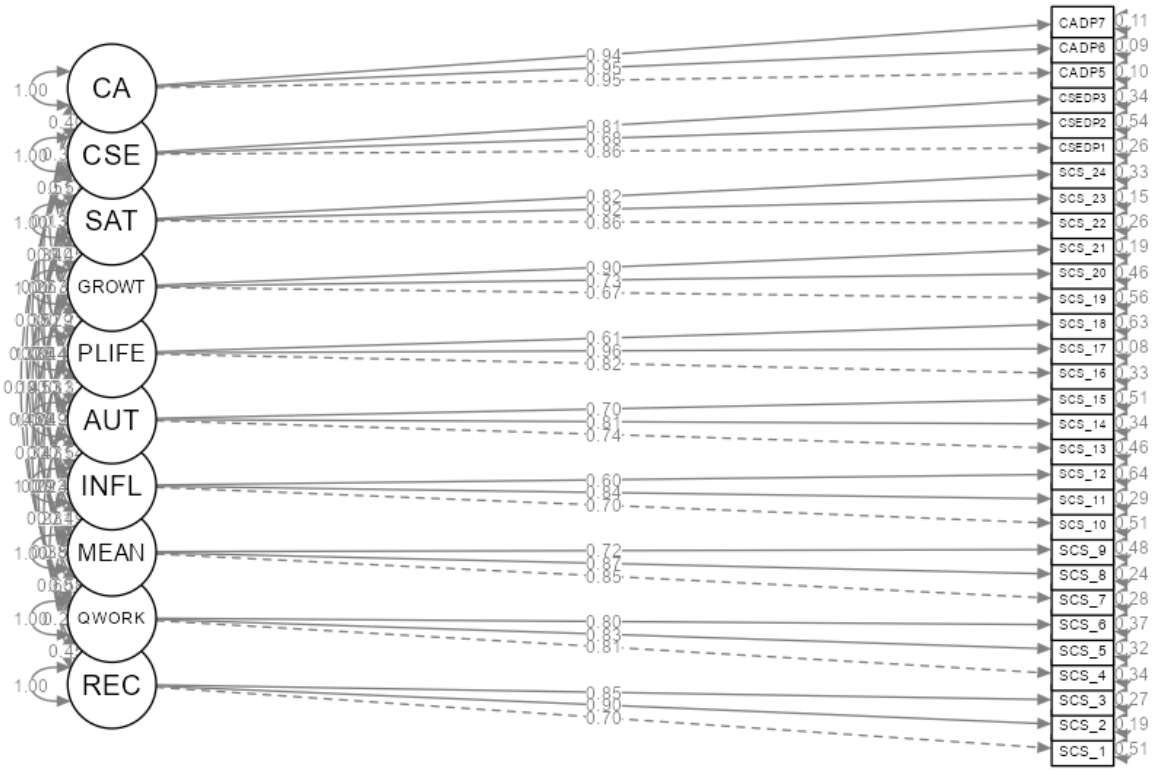

Figure 7.9: Factor loadings and residuals of the comprehensive measurement model

Table 7.30 illustrates the estimated covariances and associated statistics between latent variables in the comprehensive measurement model.

Table 7.30: Covariances of the comprehensive measurement model

				95% Confidence intervals				
Variable 1	**Variable 2**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
REC	QWORK	0.1937	0.0692	0.0580	0.329	0.4480	2.80	0.005
REC	MEAN	0.1147	0.0506	0.0155	0.214	0.2604	2.27	0.023
REC	INFL	0.2996	0.0739	0.1548	0.444	0.6042	4.05	< .001

Variable 1	Variable 2	Estimate	SE	95% Confidence intervals		β	z	p
				Lower	Upper			
REC	AUT	0.1918	0.0520	0.0900	0.294	0.3810	3.69	< .001
REC	PLIFE	0.1832	0.0608	0.0641	0.302	0.2748	3.01	0.003
REC	GROWTH	0.0928	0.0354	0.0233	0.162	0.2899	2.62	0.009
REC	SAT	0.2055	0.0573	0.0932	0.318	0.3257	3.59	< .001
REC	CSE	0.1925	0.0456	0.1032	0.282	0.4516	4.22	< .001
REC	CA	0.6801	0.3272	0.0388	1.321	0.1894	2.08	0.038
QWORK	MEAN	0.2189	0.0750	0.0720	0.366	0.5786	2.92	0.003
QWORK	INFL	0.2321	0.0659	0.1030	0.361	0.5447	3.52	< .001
QWORK	AUT	0.1336	0.0494	0.0368	0.230	0.3087	2.71	0.007
QWORK	PLIFE	0.1331	0.0511	0.0329	0.233	0.2323	2.60	0.009
QWORK	GROWTH	0.1288	0.0437	0.0431	0.215	0.4686	2.94	0.003
QWORK	SAT	0.1515	0.0589	0.0360	0.267	0.2794	2.57	0.010
QWORK	CSE	0.1494	0.0375	0.0759	0.223	0.4080	3.98	< .001
QWORK	CA	1.1333	0.3689	0.4103	1.856	0.3673	3.07	0.002
MEAN	INFL	0.2142	0.0648	0.0873	0.341	0.4936	3.31	< .001
MEAN	AUT	0.1863	0.0578	0.0731	0.300	0.4228	3.23	0.001
MEAN	PLIFE	0.1786	0.0497	0.0812	0.276	0.3061	3.59	< .001
MEAN	GROWTH	0.1364	0.0423	0.0536	0.219	0.4873	3.23	0.001
MEAN	SAT	0.2900	0.0637	0.1651	0.415	0.5251	4.55	< .001
MEAN	CSE	0.1298	0.0374	0.0566	0.203	0.3480	3.48	< .001
MEAN	CA	1.1903	0.3490	0.5063	1.874	0.3787	3.41	< .001
INFL	AUT	0.2699	0.0599	0.1525	0.387	0.5439	4.51	< .001
INFL	PLIFE	0.1755	0.0576	0.0626	0.288	0.2670	3.05	0.002
INFL	GROWTH	0.0990	0.0364	0.0275	0.170	0.3138	2.72	0.007
INFL	SAT	0.2737	0.0644	0.1476	0.400	0.4401	4.25	< .001
INFL	CSE	0.2177	0.0426	0.1342	0.301	0.5182	5.11	< .001
INFL	CA	0.9574	0.3264	0.3176	1.597	0.2705	2.93	0.003
AUT	PLIFE	0.2135	0.0612	0.0935	0.334	0.3201	3.49	< .001
AUT	GROWTH	0.1494	0.0331	0.0846	0.214	0.4667	4.52	< .001
AUT	SAT	0.5020	0.0777	0.3498	0.654	0.7948	6.46	< .001
AUT	CSE	0.2852	0.0480	0.1912	0.379	0.6685	5.95	< .001
AUT	CA	1.4194	0.3178	0.7965	2.042	0.3949	4.47	< .001
PLIFE	GROWTH	0.0880	0.0359	0.0178	0.158	0.2077	2.46	0.014
PLIFE	SAT	0.3144	0.0662	0.1846	0.444	0.3760	4.75	< .001
PLIFE	CSE	0.2234	0.0496	0.1262	0.321	0.3956	4.50	< .001
PLIFE	CA	0.6158	0.3670	-0.1035	1.335	0.1294	1.68	0.093
GROWTH	SAT	0.1819	0.0377	0.1081	0.256	0.4533	4.83	< .001

Variable 1	Variable 2	Estimate	SE	95% Confidence intervals		β	z	p
				Lower	Upper			
GROWTH	CSE	0.1044	0.0226	0.0602	0.149	0.3852	4.63	< .001
GROWTH	CA	1.1677	0.2603	0.6576	1.678	0.5114	4.49	< .001
SAT	CSE	0.3055	0.0495	0.2084	0.403	0.5714	6.17	< .001
SAT	CA	1.5844	0.3506	0.8972	2.272	0.3518	4.52	< .001
CSE	CA	1.2257	0.2254	0.7840	1.667	0.4028	5.44	< .001

The results reveal several significant covariance estimates, indicating meaningful relationships between the latent variables. Notably, the variables REC, QWORK, MEAN, INFL, AUT, PLIFE, GROWTH, and SAT exhibit significant positive covariances with CSE and CA, signifying substantive associations between these latent constructs. This means that associations between factors were observed and the sub-dimensions of SCS are more closely associated to one another, compared to the other two constructs (CSE and CA). However, it is important to mention that the covariance between PLIFE and CA falls marginally short of statistical significance ($p = 0.093$). Overall, these findings contribute valuable insights into the interrelatedness of latent variables within the model, which aligns with the expectation that the factors themselves share a lot of variance.

Table 7.31 presents the findings for the reliability and validity assessment of the latent variables in the comprehensive measurement model.

Table 7.31: Reliability indices of the comprehensive measurement model

Variable	A	ω	AVE
REC	0.855	0.869	0.689
QWORK	0.848	0.854	0.661
MEAN	0.850	0.851	0.657
INFL	0.747	0.778	0.540
AUT	0.792	0.799	0.575
PLIFE	0.830	0.861	0.681
GROWTH	0.797	0.830	0.606

Variable	A	ω	AVE
SAT	0.899	0.907	0.762
CSE	0.824	0.834	0.628
CA	0.964	0.964	0.900

The results of Cronbach's alpha (α), McDonald's omega (ω), and the Average Variance Extracted (AVE) were considered. The results indicate that the latent variables generally have high levels of reliability, as evidenced by their high alpha and omega coefficients. Additionally, the AVE values are relatively high, indicating good convergent validity, as the majority of the AVE values are above the recommended threshold of 0.5. This suggests that the indicators of each latent variable capture a substantial amount of variance, supporting their effectiveness in measuring the underlying constructs. Overall, these findings strengthen the validity and comprehensive measurement model fit. It may therefore be considered to accurately represent and assess the latent variables under consideration, including the parcels created for CSE and CA.

The overall measurement model has been discussed in this section and the model fit statistics and parameter estimates were found to be acceptable, indicating that the indicators provided are reliable and valid measures of the latent variables. Therefore, the next section will continue with the assessment of the comprehensive structural model, to further specify the hypothesised relationships between the latent variables.

7.3.5.2. Comprehensive structural model

The estimates and corresponding 95% confidence intervals for the relationships between the observed and latent variables in the comprehensive structural model are presented in Table 7.32 and Figure 7.10. When considering all output, it is evident that CA does not relate strongly to SCS, except for the growth sub-dimension ($p < 0.001$). Furthermore, CSE relates strongly to SCS with most of the regression coefficients indicated as moderate to strong. Finally, CSE seems to have only a moderate impact on CA. Therefore, all latent variables are operationalised successfully.

Table 7.32: Comprehensive structural model estimates

				95% Confidence intervals				
Dep	**Pred**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
REC	CSE	0.75700	0.16251	0.43848	1.0755	0.5830	4.658	< .001
REC	CA	-0.01056	0.01286	-0.03577	0.0146	-0.0756	-0.821	0.412
QWORK	CSE	0.51550	0.16867	0.18490	0.8461	0.4540	3.056	0.002
QWORK	CA	0.02027	0.01298	-0.00517	0.0457	0.1660	1.561	0.118
MEAN	CSE	0.50808	0.16487	0.18494	0.8312	0.4544	3.082	0.002
MEAN	CA	0.02171	0.01201	-0.00184	0.0453	0.1805	1.807	0.071
INFL	CSE	0.83064	0.17617	0.48536	1.1759	0.6749	4.715	< .001
INFL	CA	-0.00716	0.01209	-0.03085	0.0165	-0.0541	-0.592	0.554
AUT	CSE	0.95841	0.13853	0.68690	1.2299	0.7643	6.919	< .001
AUT	CA	0.00658	0.01034	-0.01368	0.0268	0.0488	0.636	0.525
PLIFE	CSE	0.85901	0.16214	0.54121	1.1768	0.4948	5.298	< .001
PLIFE	CA	-0.01716	0.01446	-0.04550	0.0112	-0.0919	-1.187	0.235
GROWTH	CSE	0.28935	0.08416	0.12440	0.4543	0.3496	3.438	< .001
GROWTH	CA	0.03089	0.00930	0.01266	0.0491	0.3471	3.320	< .001
SAT	CSE	1.13227	0.15719	0.82418	1.4403	0.6915	7.203	< .001
SAT	CA	0.00742	0.01460	-0.02118	0.0360	0.0422	0.509	0.611
CA	CSE	4.19164	0.79984	2.62399	5.7593	0.4507	5.241	< .001

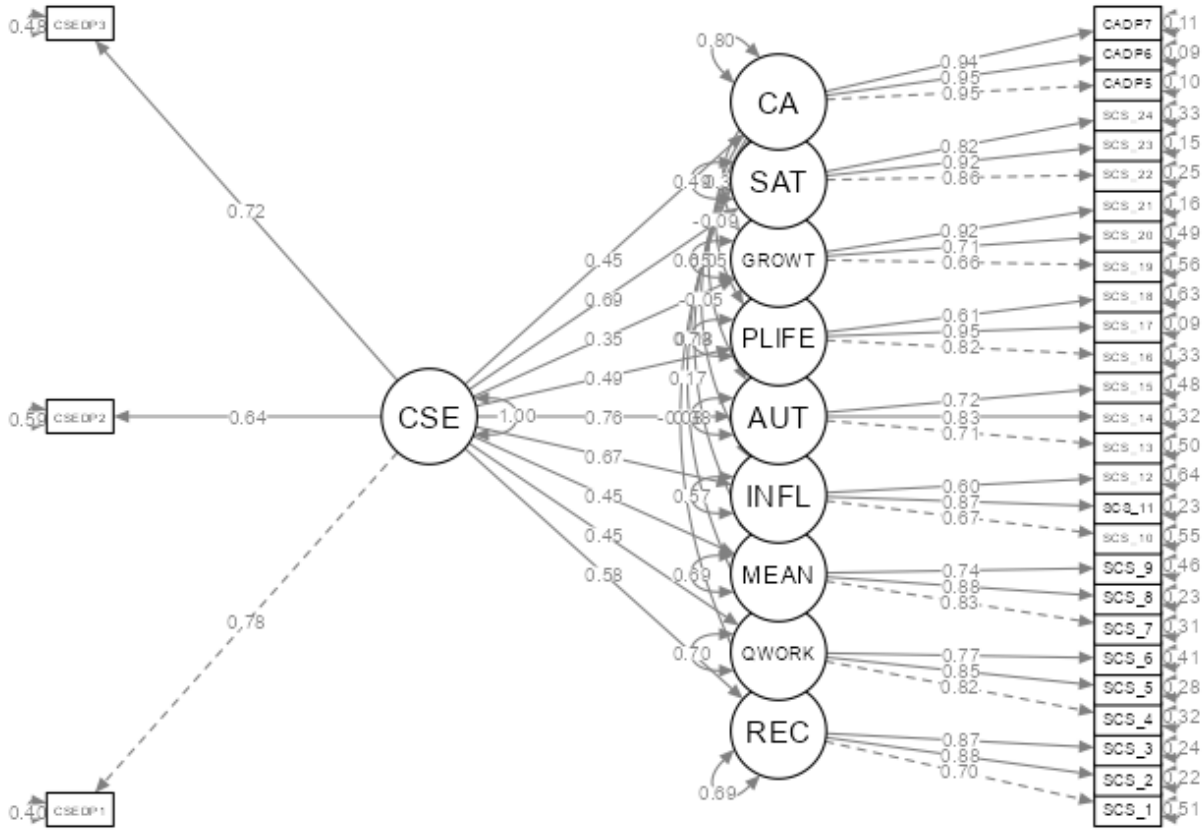

Figure 7.10: Factor loadings and residuals of the comprehensive measurement model

The results from Table 7.33 present the fit assessment findings for the comprehensive structural model.

Table 7.33: Fit of the comprehensive structural model

	S-B χ2		RMSEA		SRMR	CFI	TLI
Value	**df**	**P**	**Value**	**p (close fit)**			
666*	388	<0.001	0.054	0.110**	0.087	0.880	0.866

Note: S-Bχ2 = Satorra-Bentler scale chi-square; RMSEA = root-mean-square error of approximation; SRMR = standardised root-mean-square residual; CFI = comparative fit index; TLI = Tucker-Lewis index. *p < .001. *should be p < .05.

The evaluation of the model's goodness-of-fit was based on several fit indices. The RMSEA (0.054; p=0.110) indicated a reasonable level of discrepancy between the model's predicted covariance matrix and the observed covariance matrix, and the p-value is not statistically

significant. The SRMR (0.087), on the other hand, suggested a mediocre fit, supported by the CFI (0.880) and TLI (0.866), both falling below the commonly accepted threshold of 0.90, yet marginally above the mediocre fit cutoff of 0.85. The overall model fit, although not great, still meets the minimum acceptable criteria, as suggested by Hooper (2008).

The estimates for the relationships between the variables shed light on the strength and direction of these associations. Notably, CSE exhibited significant positive effects on all dependent variables, including REC, QWORK, MEAN, INFL, AUT, PLIFE, GROWTH, and SAT ($p<0.05$). On the other hand, CA demonstrated a substantial positive relationship with CSE, indicating that higher levels of CSE are associated with increased CA. This is in alignment with the holistic model findings, giving support to the hypothesis that there is a significant positive relationship between CSE and CA, further corroborating the role of career adaptability and personal evaluation in shaping one's career trajectory as found by Zacher (2014).

Furthermore, CA does not have associations with most of the SCS sub-dimensions (except for growth and development), indicating that it may not be the biggest influencer on employees experiencing SCS. These findings contribute valuable insights into the complex interplay of variables within the comprehensive structural model, and will be discussed in more detail during Chapter 8. The comprehensive structural model analysis presented a comprehensive framework for understanding the relationships among the variables under investigation. While some areas for improvement were identified, overall, the model demonstrated mostly a mediocre fit.

Table 7.34 indicates the various hypotheses investigated.

Table 7.34: List of hypotheses with outcomes

Hypothesis	**Variables**	**Null hypothesis (H0)**	**Alternative hypothesis (Ha)**	**Result**
H_{01}	Holistic measurement model fit	RMSEA ≤ 0.05	RMSEA > 0.05	Supported
H_{02}	Holistic structural model fit	RMSEA ≤ 0.05	RMSEA > 0.05	Supported
H_{03}	CSE~SCS	$\gamma 21 = 0$	$\gamma 21 > 0$	Supported
H_{04}	CSE~CA	$\gamma 11 = 0$	$\gamma 11 > 0$	Supported

H_{05}	CA~SCS	β21 = 0	β21 > 0	Supported
H_{06}	Comprehensive measurement model fit	RMSEA ≤ 0.05	RMSEA > 0.05	Supported
H_{07}	Comprehensive structural model fit	RMSEA ≤ 0.05	RMSEA > 0.05	Supported
H_{08}	AUT~CSE	γ11 = 0	γ11 > 0	Supported
H_{09}	GROWTH~CSE	γ21 = 0	γ21 > 0	Supported
H_{10}	INFL~CSE	γ31 = 0	γ31 > 0	Supported
H_{11}	MEAN~CSE	γ41 = 0	γ41 > 0	Supported
H_{12}	PLIFE~CSE	γ51 = 0	γ51 > 0	Supported
H_{13}	QWORK~CSE	γ61 = 0	γ61 > 0	Supported
H_{14}	REC~CSE	γ71 = 0	γ71 > 0	Supported
H_{15}	SAT~CSE	γ81 = 0	γ81 > 0	Supported
H_{16}	AUT~CA	β19 = 0	β19 > 0	Not supported
H_{17}	GROWTH~CA	β29 = 0	β29 > 0	Supported
H_{18}	INFL~CA	β39 = 0	β39 > 0	Not supported
H_{19}	MEAN~CA	β49 = 0	β49 > 0	Not supported
H_{20}	PLIFE~CA	β59 = 0	β59 > 0	Not supported
H_{21}	QWORK~CA	β69 = 0	β69 > 0	Not supported
H_{22}	REC~CA	β79 = 0	β79 > 0	Not supported
H_{23}	SAT~CA	β89 = 0	β89 > 0	Not supported
H_{24}	CSE~CA	γ91 = 0	γ91 > 0	Supported

* Note: ~ means regression onto.

The holistic model indicates that SCS has a positive relationship with both CSE and CA, while the relationship between CSE and CA is not significant. The path-specific model for sub-dimensions indicates significant relationships between CSE and six of the sub-dimensions of SCS, while CA only has a significant relationship with the growth and development (GROWTH) sub-dimension.

7.3.6. Measurement invariance

The second objective of this study was to investigate whether the Subjective Career Success Inventory (SCSI) demonstrates measurement invariance across different age groups. To ensure the validity and reliability of the instrument, it is essential to assess whether respondents from different age groups respond in a similar manner to questions. Measurement invariance is concerned with whether the underlying construct is consistently measured and comparable across distinct subgroups, validating the use of the instrument for cross-group comparisons (Wells, 2021).

The age groups that participants could choose were labelled from 1-6 to run the data analysis as demonstrated in Table 7.35.

Table 7.35: Age categories and data labels

Label	**Age category as on survey**
1	Under 18
2	18-24 years old
3	25-34 years old
4	35-44 years old
5	45-54 years old
6	55-64 years old
7	Over 65

However, given the limitations in sample size and the estimation requirements of invariance analyses, the age groups had to be re-categorised into two broader groups[13]. The first group involved participants in their early to middle careers (ages 18-44), while the second category

[13] The rationale behind this categorisation was mainly driven by technical limitations in estimation techniques due to the smaller sample size of each group. It can be argued that if gender differences are to exist, they are likely to manifest between the oldest and youngest participants in the group. Therefore, the current strategy was to create two groups that were as diverse as possible within the limitations of the sample distribution.

involved participants in their middle to late careers (45-over 65). Table 7.36 indicates all factor loadings as statistically significant.

Table 7.36: Measurement invariance model of two age categories

				95% confidence intervals					
Group	Latent	Observed	Estimate	SE	Lower	Upper	β	z	p
1	F1	SCS_1	1.000	0.0000	1.000	1.000	0.719		
		SCS_2	1.363	0.1882	0.994	1.732	0.893	7.24	< .001
		SCS_3	1.387	0.1894	1.016	1.758	0.829	7.32	< .001
	F2	SCS_4	1.000	0.0000	1.000	1.000	0.743		
		SCS_5	1.398	0.2617	0.885	1.911	0.796	5.34	< .001
		SCS_6	1.227	0.2210	0.794	1.661	0.813	5.55	< .001
	F3	SCS_7	1.000	0.0000	1.000	1.000	0.874		
		SCS_8	1.137	0.1131	0.915	1.359	0.888	10.05	< .001
		SCS_9	0.933	0.0847	0.767	1.099	0.698	11.01	< .001
	F4	SCS_10	1.000	0.0000	1.000	1.000	0.743		
		SCS_11	1.093	0.1920	0.717	1.469	0.803	5.69	< .001
		SCS_12	0.710	0.1722	0.373	1.048	0.595	4.12	< .001
	F5	SCS_13	1.000	0.0000	1.000	1.000	0.718		
		SCS_14	1.200	0.1452	0.915	1.484	0.744	8.26	< .001
		SCS_15	0.836	0.1390	0.564	1.109	0.602	6.02	< .001

				95% confidence intervals					
Group	Latent	Observed	Estimate	SE	Lower	Upper	β	z	p
	F6	SCS_16	1.000	0.0000	1.000	1.000	0.770		
		SCS_17	1.292	0.1397	1.019	1.566	0.995	9.25	< .001
		SCS_18	0.639	0.1083	0.427	0.852	0.628	5.90	< .001
	F7	SCS_19	1.000	0.0000	1.000	1.000	0.684		
		SCS_20	1.161	0.3765	0.423	1.899	0.690	3.08	0.002
		SCS_21	1.537	0.3495	0.852	2.221	0.914	4.40	< .001
	F8	SCS_22	1.000	0.0000	1.000	1.000	0.868		
		SCS_23	1.048	0.0823	0.886	1.209	0.923	12.74	< .001
		SCS_24	0.789	0.1036	0.585	0.992	0.784	7.61	< .001
2	F1	SCS_1	1.000	0.0000	1.000	1.000	0.687		
		SCS_2	1.502	0.2517	1.009	1.996	0.889	5.97	< .001
		SCS_3	1.447	0.2393	0.978	1.916	0.895	6.05	< .001
	F2	SCS_4	1.000	0.0000	1.000	1.000	0.907		
		SCS_5	1.129	0.1182	0.898	1.361	0.899	9.55	< .001
		SCS_6	0.983	0.0987	0.789	1.176	0.770	9.96	< .001
	F3	SCS_7	1.000	0.0000	1.000	1.000	0.812		
		SCS_8	0.929	0.1099	0.714	1.145	0.855	8.45	< .001
		SCS_9	0.978	0.1523	0.680	1.277	0.755	6.42	< .001

				95% confidence intervals					
Group	Latent	Observed	Estimate	SE	Lower	Upper	β	z	p
	F4	SCS_10	1.000	0.0000	1.000	1.000	0.645		
		SCS_11	1.512	0.2796	0.964	2.060	0.857	5.41	< .001
		SCS_12	0.834	0.1851	0.471	1.196	0.641	4.50	< .001
	F5	SCS_13	1.000	0.0000	1.000	1.000	0.821		
		SCS_14	1.357	0.1653	1.033	1.681	0.891	8.21	< .001
		SCS_15	1.147	0.1476	0.858	1.436	0.819	7.77	< .001
	F6	SCS_16	1.000	0.0000	1.000	1.000	0.876		
		SCS_17	1.009	0.0876	0.838	1.181	0.930	11.52	< .001
		SCS_18	0.570	0.1288	0.318	0.823	0.561	4.43	< .001
	F7	SCS_19	1.000	0.0000	1.000	1.000	0.620		
		SCS_20	1.284	0.2895	0.717	1.852	0.796	4.44	< .001
		SCS_21	1.549	0.3429	0.877	2.221	0.928	4.52	< .001
	F8	SCS_22	1.000	0.0000	1.000	1.000	0.842		
		SCS_23	1.105	0.0724	0.963	1.247	0.932	15.27	< .001
		SCS_24	1.009	0.0744	0.863	1.154	0.897	13.55	< .001

The analysis of the SCSI's measurement invariance was conducted in several stages and data are represented in Table 7.37.

Table 7.37: Measurement invariance of subjective career success across age categories

Model	χ2	df	χ2/df	RMSEA	RMSEA 90% CI	CFI	TLI	SRMR	ΔCFI	ΔRMSEA	ΔTLI	ΔSRMR	Δχ2/df
Configural	577	448	1.29	0.049	0.038 0.058	0.896	0.872	0.070	-	-	-	-	-
Metric/ weak	587	464	1.27	0.047	0.036 0.056	0.895	0.875	0.074	0.001	0.002	0.003	0.004	0.02
Scalar/ strong	621	480	1.29	0.049	0.039 0.059	0.891	0.874	0.075	0.004	-0.002	0.001	-0.001	-0.02
Strict	676	504	1.34	0.053	0.044 0.062	0.873	0.0861	0.076	0.018	-0.004	0.013	-0.001	-0.05

First, the configural invariance was determined. Configural invariance is the foundational level of measurement invariance (Wells, 2021). It refers to the condition in which the factor structure (i.e., the pattern of relationships between observed variables and latent factors) remains consistent across different groups or conditions (Rudnev et al., 2018). A multi-group confirmatory factor analysis (CFA) was performed to determine whether the proposed factor structure simultaneously fitted the data from both groups as proposed by Van den Berg and Lance (2000). The initial CFA results for the full sample provided acceptable fit indices (e.g., CFI > 0.90, TLI > 0.90, RMSEA < 0.08, and SRMR < 0.08), indicating a mediocre fit of the hypothesised factor structure. Therefore, the configural invariance model demonstrated a mediocre fit, suggesting that the underlying factor structure of the SCSI was relatively consistent across both age categories.

The next steps involved sequentially imposing constraints on the factor loadings (metric/weak invariance), intercepts (scalar/strong invariance), and residuals (strict invariance) as recommended by Van den Berg and Lance (2000). Each nested model (which had the constraints imposed on it) was compared to the configural model by investigating the changes in fit indices as recommended by Rudnev et al. (2018).

Metric equivalence refers to the condition in which the factor loadings of the observed variables on the latent factors are invariant across different groups or conditions (Wells, 2021). In the context of the SCSI, metric equivalence means that the strength of the relationships between the items and their underlying factors are consistent across both age categories. The metric (weak) invariance model indicated that the fit did not deteriorate significantly, indicating that factor loadings were invariant across age groups. This implies that the items of the SCSI measure the same latent constructs with the same magnitude for both age categories. Therefore, the metric equivalence demonstrates a lack of non-uniform bias for the SCSI across young and old employees.

Scalar equivalence refers to the condition in which both the factor loadings and the item intercepts are invariant across different groups or conditions (Wells, 2021). In the context of the SCSI, scalar equivalence means that not only is the strength of the relationships between the items and the latent factors consistent across both age categories, but that individuals from different age groups interpret the items similarly and show comparable levels of subjective career success for the same level of latent career success. The scalar (strong) invariance model did not deteriorate significantly in fit from the configural baseline model, indicating that both factor loadings and intercepts were invariant across age groups. This suggests that not only the factor loadings but also the item thresholds of the SCSI were equivalent across different age cohorts, allowing for meaningful comparisons of career success scores between age groups. Therefore, scalar equivalence shows a lack of uniform bias for the SCSI across young and old employees.

Strict equivalence represents the highest level of rigour in measurement invariance testing (Wells, 2021). This level requires not only the factor loadings and item intercepts of the observed variables (items) to be equal across different groups, but also the error variances associated with each item to be invariant between groups (Rudnev et al., 2018; Van den Berg & Lance, 2000). Therefore, strict equivalence ensures that any observed differences in latent construct scores between groups can be confidently attributed to true differences in the underlying constructs rather than variations in measurement error (Rudnev et al., 2018).

While the factor loadings and item intercepts were mostly invariant across age groups, there were some minor differences in the error variances of the SCSI items. As such, strict invariance is not fully supported, suggesting that the data of the two groups do not spread similarly around the regression line, even though the slope and the intercept of the line is similar. While strict equivalence was not obtained, metric and scalar equivalence demonstrated a lack of both non-uniform and uniform bias, respectively. Therefore, the instrument is still considered to be the same across both age categories.

Based on the results, the Subjective Career Success Inventory (SCSI) demonstrates at least strong measurement invariance across age groups, supporting its validity for use in assessing subjective career success in different contexts and enabling valid cross-group comparisons in research and practice. Therefore, the null hypothesis (H_{025}) is rejected in favour of the alternative hypothesis.

7.3.7. One-way ANOVA

Since the possibility of measurement bias in the SCSI has been ruled out, the researcher could proceed to investigate possible real differences in SCS across age groups. The third objective of this study was to examine the potential difference in scores achieved in SCS across various age groups.

The one-way ANOVA assumes normality of data and homogeneity of variances among groups (Ross & Willson, 2017). Because normality assumptions were not met (see Table 7.38), the non-parametric equivalent, the Kruskal-Wallis test, was used to investigate potential difference in total subjective career success (SCS_TOT) scores among the different age groups (Ross & Willson, 2017).

The obtained p-value ($p = 0.247$) from the Kruskal-Wallis test indicates no significant evidence to reject the null hypothesis (H_{026}). Hence, no statistically significant differences exist in SCS scores across the age groups and the magnitude of the effect is negligible.

Table 7.38: One-way ANOVA results of total subjective career success and different age groups

	χ^2	**df**	**P**	**ε^2**
SCS_TOT	6.67	5	0.247	0.0277

The scatter plots in Figure 7.11 illustrate how the mean scores of various age groups were very close to one another.

F

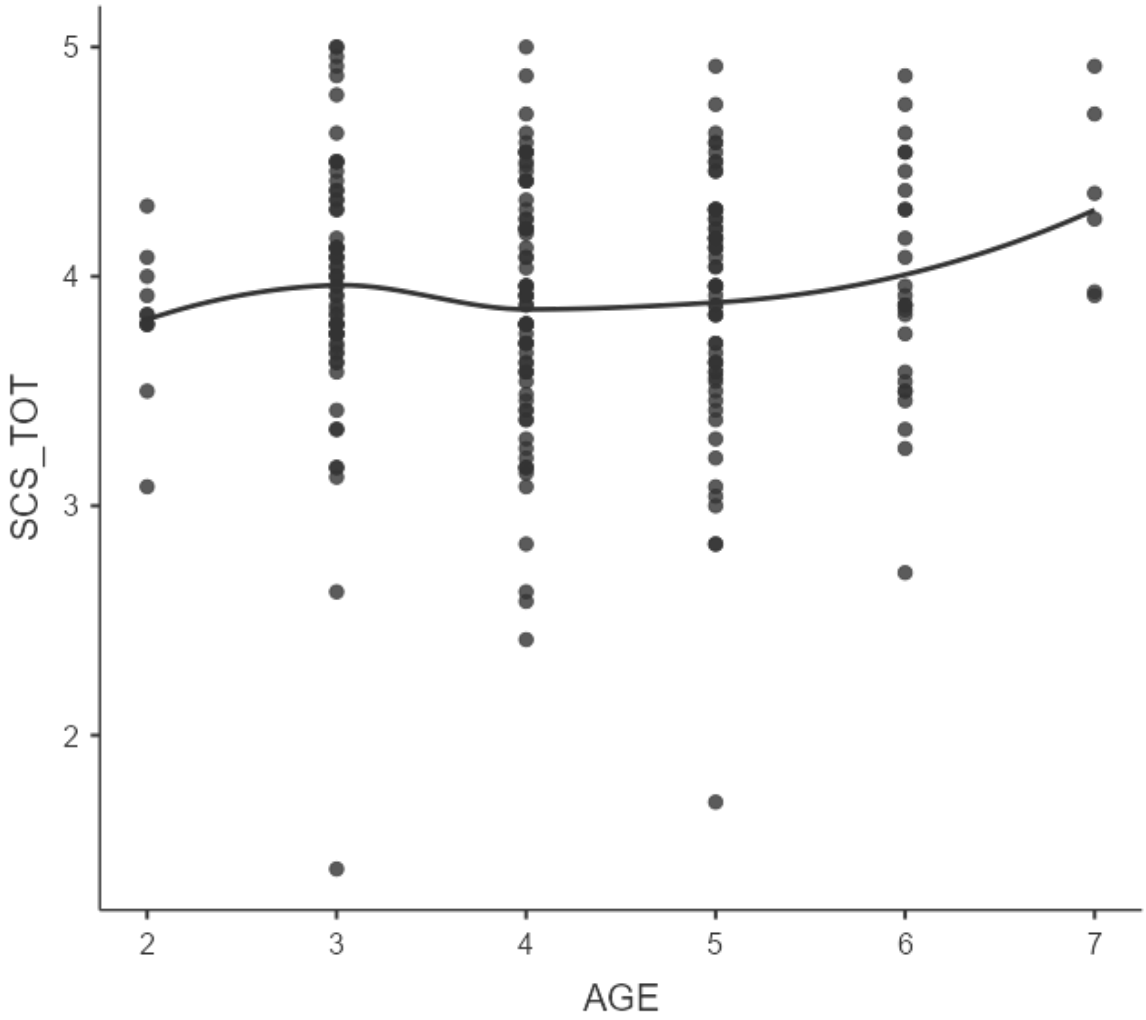

Figure 7.11. Scatter plots of subjective career success across age groups

The one-way ANOVA analysis, employing the Kruskal-Wallis test, revealed no significant differences in SCS scores among the different age groups. The findings therefore suggest that age alone may not be a significant factor influencing SCS perceptions within the sample. As a result, the findings of Zhao et al. (2021) could not be confirmed, although they are in line with those of Steindórsdóttir et al. (2013) and Van der Heijden et al. (2022), who also found no age differences in SCS experience.

7.4. SUMMARY

This chapter has provided details on the demographic (age) of participants, the data gathering process, and cleaning of data. The psychometric properties of each scale was discussed with a specific focus on their factor structures and the operationalisation of the latent variables by their indicator variables. This also included the visual display and elaboration on parameter estimations and fit indices.

When considering the full basket of evidence, the SCS and CSE scales are regarded as a reliable scale for the study and to operationalise the underlying construct. The CAAS showed poor fit, however, parcelling was used to group all items in manageable composites, while still preserving the essential characteristics of the data. All three factors showed acceptable fit, which improved the reliability of the latent variable.

Both the holistic and comprehensive model was analysed by focusing on both the measurement and structural models. The holistic model indicates that SCS has a positive relationship with both CSE and CA, while the relationship between CSE and CA is not significant. The path-specific model for sub-dimensions indicates significant relationships between CSE and six of the sub-dimensions of SCS, while CA only has a significant relationship with the growth and development (GROWTH) sub-dimension.

The measurement invariance demonstrated that the SCSI demonstrates a strong measurement invariance across age groups, supporting its validity fir use in assessing SCS in different contexts. The one-way ANOVA was used to determine the outcomes of the substantial hypotheses and revealed no significant differences in SCS scores among the different age groups, which suggest that age alone may not be a significant factor influencing SCS perceptions within the sample.

Table 7.39 shows a summary of all hypotheses and the outcomes of each.

Table 7.39: List of hypotheses with outcomes

Hypothesis	**Variables**	**Alternative hypothesis (Ha)**	**Result**
H_{01}	Holistic measurement model fit	RMSEA < 0.05	Supported
H_{02}	Holistic structural model fit	RMSEA < 0.05	Supported
H_{03}	CSE~SCS	$\gamma 21 > 0$	Supported

H_{04}	CSE~CA	γ11 > 0	Supported
H_{05}	CA~SCS	β21 > 0	Supported
H_{06}	Comprehensive measurement model fit	RMSEA > 0.05	Supported
H_{07}	Comprehensive structural model fit	RMSEA > 0.05	Supported
H_{08}	AUT~CSE	γ11 > 0	Supported
H_{09}	GROWTH~CSE	γ21 > 0	Supported
H_{10}	INFL~CSE	γ31 > 0	Supported
H_{11}	MEAN~CSE	γ41 > 0	Supported
H_{12}	PLIFE~CSE	γ51 > 0	Supported
H_{13}	QWORK~CSE	γ61 > 0	Supported
H_{14}	REC~CSE	γ71 > 0	Supported
H_{15}	SAT~CSE	γ81 > 0	Supported
H_{16}	AUT~CA	β19 > 0	Not supported
H_{17}	GROWTH~CA	β29 > 0	Supported
H_{18}	INFL~CA	β39 > 0	Not supported
H_{19}	MEAN~CA	β49 > 0	Not supported
H_{20}	PLIFE~CA	β59 > 0	Not supported
H_{21}	QWORK~CA	β69 > 0	Not supported
H_{22}	REC~CA	β79 > 0	Not supported
H_{23}	SAT~CA	β89 > 0	Not supported
H_{24}	CSE~CA	γ91 > 0	Supported
H_{25}	Measurement invariance	RMSEA < 0.05	Not supported
H_{26}	One-way ANOVA	$\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5 \neq \mu_6 \neq \mu_7$	Not supported

* Note: ~ means regression onto.

CHAPTER 8: CONCLUSION, DISCUSSION, LIMITATIONS AND RECOMMENDATIONS

8.1. INTRODUCTION

The previous chapter presented a comprehensive analysis of the study findings, delving into the statistical significance of parameter estimates that underpinned the formulated statistical hypotheses. These hypotheses served as the operational framework for the substantive research hypotheses, specifically focused on the structural model of subjective career success.

This section will explore and explain the main outcomes, implications, identified limitations, and avenues for future investigation. Herein lies the culmination of the study, offering a comprehensive overview that encapsulates the entirety of the research endeavour.

8.2. STUDY OVERVIEW

The South African labour market underwent post-apartheid changes to integrate the country into the global economy. Although improvements occurred between 2000 and 2017, persistent inequalities in unemployment, skill shortages, gender imbalances, and stagnant wages remained. The COVID-19 pandemic further exacerbated disparities, disrupting societies, economies, and workplaces worldwide due to lockdowns and business closures. Pre-existing workplace trends such as the gig economy, digitalisation, and automation were accelerated. To recover from this crisis, organisations, particularly in higher education, had to foster digital skills, resilience, and adaptability in employees to navigate their careers. Career adaptability, defined as attitudes, behaviours, and competencies used to navigate work roles, emerged as a crucial factor.

Career construction theory (CCT) is a comprehensive framework developed by Mark Savickas (2020) that focuses on understanding and explaining the process of career development and adaptation over the lifespan. CCT emphasises that individuals actively construct their careers through a process of self-reflection, decision-making, and adaptation in response to changing circumstances (Savickas, 2013; Savickas & Porfeli, 2012). It posits that career development is not a linear or predetermined path, but a dynamic, ongoing process influenced by internal and external factors (Hirschi et al., 2015).

This study has focused on understanding the adaptation process in employees at a higher education institution, within the framework of CCT, specifically investigating how employees' experiences could be enhanced in the face of complex and dynamic work environments. These complexities often lead employees to experience challenges and uncertainty in their career trajectories. Subjective career success, which reflects an individual's personal evaluation of their career achievements and fulfilment, can be compromised in such an environment.

In the CCT model of adaptation, when an individual possesses adaptivity (in this case, core self-evaluation), it could increase the adaptability resources (in this case, career adaptability) that should lead to adapting responses (such as career decision-making[14]). And finally, this should lead to adaptation results (in this case, subjective career success) (Rudolph, Lavigne, & Zacher, 2017).

Adaptivity pertains to an individual's readiness and willingness to engage with career shifts (Rudolph, Lavigne, & Zacher, 2017). It plays a central role in shaping the cultivation and utilisation of career adaptability resources that empower individuals to navigate their careers and work roles. These career adaptability resources function as inherent strengths that enable individuals to manage career responsibilities, transitions, and transformations effectively (Hirschi et al., 2015). Assessing adaptivity encompasses diverse indicators, such as cognitive flexibility, proactive behaviour, or specific personality traits (Savickas & Porfeli, 2012). For the purpose of this study, the assessment of adaptivity was done through core self-evaluation as a prominent indicator, since it captured many of the adaptive readiness mindsets and skills that individuals should possess.

Core self-evaluation (CSE) is a comprehensive self-assessment encompassing an individual's self-esteem, general self-efficacy, locus of control, and emotional stability (Judge, 2009; Judge et al., 1998). As an adaptability resource, career adaptability (CA) refers to an individual's capacity to navigate and thrive amidst evolving career landscapes, demonstrating a proactive approach in response to changing circumstances (Savickas, 2020; Tolentino, 2014). It is closely linked to subjective career success (SCS), encompassing personal growth, fulfilment, and contentment in one's professional journey (Ng & Feldman, 2014). Successfully navigating career landscapes and changes is expected to yield positive adaptation outcomes by aligning an individual's needs and the demands and opportunities presented by their environment, with career success being a notable indicator (Rudolph, Lavigne, & Zacher, 2017; Savickas,

[14] Adapting responses is another step in the adaptation process; however, this was not measured as part of the study.

2013). SCS was one of the dependent variables used in this study, addressing the adaptation result of the adaptation model.

The study hypothesised that higher levels of core self-evaluation (as an adaptive readiness) and career adaptability (as an adaptability resource) would potentially increase higher education employees' perceived subjective career success (as an adaptability result).

A quantitative and explanatory design was used to investigate the effect of CSE and CA on SCS. The ethical considerations and value of the research were discussed in Chapter 6, and the latter will be discussed further, later in this chapter. The literature of established scales was reviewed, and the operationalisation of these scales was explained. The data were gathered through an electronic survey, and after obtaining ethical clearance and institutional approval, an email invitation with the survey link was sent to the sample population (all employees, both academic and support services). The final sample consisted of 242 participants.

Item analyses were performed on the three scales used in this study. Overall, the individual scales yielded acceptable psychometric reliability properties, as captured by the fit indices. This was followed by assessing the overall measurement model, in which the composite indicators were regressed on the latent variables comprising the structural model. The overall measurement model consisted of 10 latent variables, and parcelling was used to capture each construct effectively (Little et al., 2022). The measurement model (based on the fit indices and parameter estimates) appeared to be a valid representation of the constructs and their respective indicators. Therefore, the operationalisation of the latent variables comprising the structural model was successful, and it was permissible to examine the structural relationships between the latent variables.

The comprehensive structural model was fitted to evaluate the overall fit of the operationalised theoretical model. The model yielded a mediocre fit that can be concluded as a plausible representation of the career adaptation model as proposed by Rudolph, Lavigne and Zacher (2017).

The next section describes the findings in relation to the theoretical model and provides insight into the contributions of this study.

8.3. DISCUSSION OF PRIMARY FINDINGS

8.3.1. The holistic model

The overall model fit (hypotheses H_{01} and H_{02}; and H_{06} and H_{07}) was deemed satisfactory, with the RMSEA (root mean square error of approximation) meeting the criterion of ≤ 0.05, indicating that the proposed structural model effectively represents the data and sheds light on the psychological factors that influence individuals' career trajectories.

Hypothesis H_{03} posited a positive relationship between CSE and SCS. Therefore, the hypothesis was supported, indicating that individuals with higher CSE tend to experience greater SCS in support of previous research by Haenggli and Hirschi (2020), Judge et al. (2009), and He, Kunaviktikul and Sirakamon (2023). The findings of these three studies collectively provide strong empirical support for the significant positive relationship between core self-evaluation and subjective career success. The evidence from Haenggli and Hirschi's meta-analysis, Judge et al.'s longitudinal research, and He, Kunaviktikul and Sirakamon's cross-cultural study all converge to underscore the importance of CSE as a predictor of career success. These findings have practical implications for individuals seeking to enhance their career prospects by recognising and nurturing their core self-evaluation traits, and for organisations aiming to foster a more satisfied and successful workforce by considering CSE in their talent development strategies.

Hypothesis H_{04} was supported, indicating that there is a significant relationship between CSE and CA. This suggests a significant positive relationship between CA and CSE, underscoring the need for adaptation and self-evaluation in determining one's career path, as supported by Zacher (2014). The longitudinal study by Zacher (2014) demonstrates that the relationship between CSE and CA is not merely a temporary or situational one but endures over time, suggesting that CSE is a stable and reliable predictor of CA.

Hypothesis H_{05} demonstrated a significant positive relationship between CA and SCS, although a smaller effect size than CSE on SCS. Research by Savickas (2020) and Haenggli and Hirschi (2020) highlights the multifaceted ways in which career adaptability impacts positively on individuals' career trajectories, decision-making processes, resilience in the face of change, and overall satisfaction with their careers. This evidence underscores the importance of fostering career adaptability as a means to enhance subjective career success in an ever-evolving job market (Savickas, 2020).

8.3.2. Subjective career success and core self-evaluation

Hypotheses H_{08} – H_{15} focused on the effect of CSE on the eight sub-dimensions of SCS, and found that CSE exhibited significant positive effects on all the sub-dimensions, including authenticity (AUT), growth and development (GROWTH), influence (INFL), meaningful work (MEAN), personal life (PLIFE), quality work (QWORK), recognition (REC), and satisfaction (SAT). This is supported by other researchers who found that higher levels of core self-evaluation can increase the chances of early career success and the experience of higher subjective career success (Khan et al., 2022; Haenggli & Hirschi, 2020; Judge, 2009).

CSE represents an individual's fundamental beliefs about their self-worth, competence, and overall positive self-regard (Fabio & Palazzeschi, 2020). A body of research in organisational psychology and career studies underscores the positive impact of CSE on several facets of SCS, including authenticity, growth and development, influence, personal life, recognition, and satisfaction. Individuals with elevated levels of CSE tend to exhibit a more authentic (AUTH) alignment between their career choices and their personal values, beliefs, and interests (Kernis, 2009). This alignment stems from their self-assuredness, self-efficacy, and self-confidence, allowing them to make career decisions with greater authenticity (AUTH) that resonate with their true selves (Fabio & Palazzeschi, 2020). High CSE is often associated with a greater degree of self-acceptance (Kernis, 2009). Individuals with strong core self-evaluations are more likely to accept themselves for who they are, including their values, beliefs, and interests, which affect their personal life experiences (PLIFE) (Fabio & Palazzeschi, 2020). Higher CSE can contribute to greater personal life satisfaction (Judge et al, 2005). Individuals with a strong sense of self-worth are better equipped to manage work-life balance, reduce stress, and cultivate positive relationships, all of which enhance overall life satisfaction (Judge et al., 2002).

Furthermore, individuals with strong CSE are more likely to actively seek opportunities for growth and development (GROWTH) in their careers (Fabio & Palazzeschi, 2020). Their confidence in their abilities enables them to set ambitious goals, tackle challenging tasks, and engage in continuous learning and skill enhancement opportunities (Fabio & Palazzeschi, 2020; Vande Griek et al., 2018). This commitment to personal and professional growth was highlighted in the findings of Wang et al. (2022), who demonstrates a relationship between high CSE and career growth, including career development.

CSE can empower individuals to have a greater influence (INFL) in their careers (Ibrahim & Amari, 2018; Sulistiani & Handoyo, 2018). Employees' self-belief and confidence make them

more persuasive and effective communicators, instilling confidence in colleagues and superiors alike (Akkaya et al., 2022). Other authors have also identified a positive association between CSE and influence (INFL) in the workplace (Hu et al., 2012; Hulin et al., 2002; Judge et al., 2002).

Recognition (REC) in the workplace is another dimension influenced by CSE. Individuals with high levels of CSE are more inclined to seek and attain recognition (REC) for their contributions (Gilbert & Kelloway, 2018; Hussain et al., 2019). Their confidence drives them to actively pursue opportunities for visibility and acknowledgment, resulting in increased recognition from peers and superiors (Amoatemaa & Kyeremeh, 2016). Lastly, CSE contributes to overall job and career satisfaction (SAT). Individuals who believe in their abilities are more likely to find satisfaction in their career choices and accomplishments (Judge et al., 2002).

Individuals with elevated levels of CSE tend to experience a higher degree of quality work (QWORK), which refers to the creation of high-quality products or the delivery of excellent levels of service in a profession (Hupkens et al., 2021). This association reflects the self-assuredness, self-efficacy, and self-confidence inherent in individuals with strong core self-evaluations, enabling them to consistently deliver exceptional work in their chosen careers (Judge, 2009; Judge et al., 2002).

Moreover, CSE also contributes significantly to the perception of meaningful work (MEAN). Meaningful work entails a profound connection between one's occupation and personal values, beliefs, and ideals (Rothausen & Henderson, 2019). Individuals with high CSE exhibit a greater capacity for authenticity and self-acceptance, enabling them to align their career choices with their innermost values (Shockley et al, 2016). This alignment fosters a sense of fulfilment and purpose in their professional lives, resulting in the experience of work that is deeply meaningful (Shockey et al., 2016).

These findings show that individuals with higher levels of core self-evaluation tend to experience higher levels of SCS[15]. The positive effects of CSE on SCS sub-dimensions also contribute indirectly to enhancing the total SCS. Additionally, the positive relationship between CSE and CA highlights the importance of having both when navigating one’s career, as supported by other researchers. For example, Hirschi and Valero (2015) found that individuals with higher adaptivity (core self-evaluation) had higher adaptability resources (career

[15] The potential of self-evaluation bias is noted. Recognising that human subjects' self-assessments may be influenced by personal biases and subjective perceptions underscores the importance of cautious interpretation and the diligent application of research findings.

adaptability) which could lead to better career decision-making, career exploration and self-efficacy beliefs. Rudolph et al. (2016) found career adaptability significantly associated with adaptivity (core self-evaluation) and the entire career construction model of adaptation as discussed in Chapter 2.

8.3.3. Subjective career success and career adaptability

Hypotheses H_{16} – H_{23} focused on the effect of CA on the eight sub-dimensions of SCS. Only a significant relationship for the growth and development (GROWTH) subdimension was found. In contradiction with previous research (Zacher, 2014), CA cannot be linked to employees experiencing SCS independent of dispositions. The findings of this study show that the predispositions of employees (core self-evaluation) are a stronger indicator of whether employees experience SCS. According to Savickas and Perfeli (2012), the outcome of the career adaptation process (as per career construction theory) is mainly indicated by development, satisfaction, success and stability, which indicates why the GROWTH sub-dimension of SCS showed a significant relationship with CA. GROWTH is likely to be influenced because career adaptability inherently involves adaptability to change and learning (Savickas, 2020), which aligns with personal and professional growth and development where an individual grows in their career through the development of new knowledge and skills (Haenggli & Hirschi, 2020). GROWTH has also been found to be positively related to the curiosity element of CA (Savickas & Porfeli, 2012), although CA was measured as a unidimensional variable. The impact on other dimensions of SCS may vary, based on a range of factors, including individual preferences and external circumstances (Haenggli & Hirschi, 2020). It is therefore likely that a lack of association between these variables might be due to contextual factors at play. For example, Kundi et al. (2020) has found that job crafting mediated the relationship between CA and SCS, and should therefore be explored in future research. There could be other mediators or moderators that impact the relationship between CA and SCS, and should be investigated further.

Within the framework of Career Construction Theory (CCT) and the career adaptation model, this study not only affirms the significant positive relationship between CA and a specific facet of SCS, namely growth and development (GROWTH), but it also brings to light a nuanced perspective by revealing the absence of significant connections between CA and other dimensions of SCS. This nuanced perspective underscores the importance of acknowledging individual dispositions, particularly CSE, as a strong predictor of SCS. The relationships

between CSE and variables like REC, QWORK, MEAN, INFL, AUT, PLIFE, GROWTH, and SAT underscore its pivotal role in shaping diverse career-related outcomes, including SCS. This alignment with the broader concept of adaptivity underscores how an individual's inherent traits and self-beliefs serve as foundational elements influencing their entire career journey.

Moreover, the discovery of a substantial relationship between CA and the growth and development (GROWTH) dimension of SCS reinforces the adaptability facet inherent in CCT and the career adaptation model. The absence of significant associations between CA and other SCS dimensions suggests that the impact of adaptability resources varies across different dimensions. Consequently, it becomes imperative to consider potential mediators and moderators that may influence the link between CA and SCS. Future research should delve into these mechanisms to attain a more profound comprehension of how adaptability resources translate into specific career outcomes.

8.3.4. Subjective career success and age

Examining measurement invariance across different age groups confirmed the strong measurement equivalence of the Subjective Career Success Inventory (SCSI). The configural, metric, and scalar equivalence analyses demonstrated consistent factor structures, factor loadings, and item intercepts across age cohorts. While strict equivalence was not fully established due to minor differences in error variances, the SCSI remains a valid and reliable instrument for assessing SCS across age groups.

With measurement bias ruled out, the study demonstrated no statistically significant differences in SCS scores across age groups, and thus was unable to reject the null hypothesis (H_{24}). This finding suggests that age alone may not significantly impact an individual's perceptions of SCS within the sample. Therefore, the findings of Zhao et al. (2021) could not be corroborated but are supportive of the studies by Steindórsdóttir et al. (2013) and Van der Heijden et al. (2022), that also did not find age differences regarding the experience of SCS. Van der Heijden et al. (2022) found that employees older than fifty years of age may experience an increase in subjective career success as the older employees are likely more heterogenous in terms of preferences, dislikes, and attributes as per their predispositions.

The comprehensive findings underscore the interplay between CSE, SCS, and CA in shaping individuals' career experiences. The measurement invariance assessment reinforces the SCSI's applicability for cross-group comparisons. Additionally, the absence of significant differences

in SCS across age groups suggests that other factors beyond age may substantially influence career success perceptions, and should be explored in future studies. This implies that age was not a key factor impacting upon how the sample perceives SCS as was found in the study by Zhao et al. (2021). However, the findings are consistent with those of Steindórsdóttir et al. (2013) and Van der Heijden et al. (2022), who also reported no age differences in SCS experience.

8.4. PRACTICAL CONSIDERATIONS AND MANAGERIAL IMPLICATIONS

In line with the objectives of this study, the findings hold significant implications for managers and industrial and organisational practitioners in higher education, seeking to enhance employee career development and success. As higher education institutions continue to recognise the importance of fostering career adaptability (adaptation), the research underscores the value of strategies aimed at improving core self-evaluation (CSE) instead. Although the theory and literature show the importance of career adaptability (CA) to experience subjective career success (SCS), this study found CSE to be the dominant indicator of SCS compared to CA.

However, this study's findings go beyond highlighting the positive correlation between CSE and SCS. It suggests a paradigm shift in our understanding of career success, challenging the prevailing emphasis on adaptability resources in career guidance processes. Contrary to the conventional wisdom of planning and mapping out a career journey with a primary focus on adaptability resources, the research findings indicate that individual predispositions, as determined by CSE, may have a more substantial impact on SCS. The findings strongly imply that for SCS experiences, adaptability resources may not hold as much significance when compared to the influence of individual predispositions like self-esteem, self-efficacy, locus of control, and emotional stability. This insight questions the conventional career guidance approaches, which often prioritise the development of adaptability resources over developing an individual's core self-evaluation.

Higher education institutions often implement education, training, and deliberate career development programmes with the intention of equipping employees to navigate workplace challenges, especially during challenging periods (Cotofan et al., 2021; Konstam et al., 2015), which can be done to increase and strengthen the resources (like CA) to adapt well. However, the outcomes of this study emphasise that employees with higher levels of CSE are more likely to experience SCS, which contributes to an individual’s overall career satisfaction and

achievement. This linkage implies that interventions geared toward enhancing individuals' self-esteem, self-efficacy, locus of control, and emotional stability can potentially lead to improved SCS. This can be done rather by encouraging a values-driven and self-directed approach to career management, and having an organisational culture (employability culture) that is supportive of individual development (Lo Presti & Elia, 2020). Therefore, if the aim is to enhance the SCS of employees, it is prudent to consider shifting the focus towards improving individuals' self-concepts, rather than solely equipping employees with adaptability resources. However, it is essential to exercise caution and acknowledge the limited generalisability of these findings. While this study underscores the significance of CSE in the context of SCS, individual career trajectories can vary widely, and other factors may also play a role. Further research is warranted to explore the broader applicability of these conclusions.

Contrary to prior research (Haenggli & Hirschi, 2020; Ibrahim & Amari, 2018; Kundi et al., 2020; Usman et al., 2022), this study underscores that CA alone may not be sufficient to predict employees' experiences of SCS independent of personal dispositions. Organisations and higher education institutions should acknowledge that while CA remains a valuable resource, it may not be the sole driver of SCS, especially not in the absence of strong self-evaluations. Instead, CA can assist individuals in adapting to changes when coping with or balancing their career roles, which can affect psychological resources for career development or long-term life satisfaction (Chen et al., 2020). Furthermore, the importance of employees' personal dispositions, specifically CSE, in shaping their SCS should be considered. Investments in strategies to enhance CSE, such as self-esteem, self-efficacy, locus of control, and emotional stability, can yield substantial benefits in terms of SCS. Creating a workplace culture that nurtures and reinforces these personal dispositions can lead to increased job satisfaction, motivation, and overall career fulfilment (Ferreira et al., 2014; Haenggli & Hirschi, 2020).

The significant relationship between CA and the GROWTH subdimension of SCS highlights the importance of promoting opportunities for personal and professional growth within the higher education institution for employees to experience career success. Managers should provide employees with avenues for skills development, learning, and career progression. Encouraging a culture of adaptability to change and fostering an environment where employees can acquire new knowledge and skills can impact positively on their sense of growth and development in their careers. Higher education institutions and organisations should engage in open and constructive dialogues with employees to understand their unique career aspirations, preferences, and challenges. Such a personalised approach can help tailor career development strategies to each employee's specific needs.

Furthermore, this study's exploration of age-related differences in SCS highlights that age, on its own, might not be the primary determinant of career success variations among employees. This insight cautions against age-centric career development strategies and encourages higher education institutions to adopt a more inclusive and age-neutral approach. By prioritising skill development, continuous learning, and tailored support based on individual needs and aspirations, higher education institutions can effectively encourage lifelong learning and enhance employee career trajectories across all age groups. Other individual differences could also be considered and explored, such as gender, background, and personal goals.

The measurement invariance analysis confirmed that the Subjective Career Success Inventory (SCSI) is a valid and reliable tool for assessing career success perceptions across different age groups. Higher education institutions can confidently utilise the SCSI to evaluate and compare employees' SCS experiences, aiding in the identification of areas for improvement and targeted interventions.

In summary, the findings emphasise that the interplay between CSE, CA, and SCS is complex and multifaceted, and suggest a nuanced approach to enhancing employees' SCS. By acknowledging the multifaceted nature of career success and the role of personal dispositions like CSE, higher education institutions and organisations can develop more effective strategies to promote employee well-being, growth, and satisfaction, ultimately contributing to a thriving workforce and a competitive advantage in the ever-evolving business landscape. For managers and industrial and organisational practitioners, this study reinforces the importance of adopting proactive strategies that focus on both individual core self-evaluation enhancement and career adaptability development. Higher education institutions and organisations are encouraged to take a holistic approach to career development that considers individual differences. By so doing, institutions and organisations can foster resilient and adaptable employees who are not only equipped to face workplace challenges but are also empowered to pursue fulfilling and successful careers across various life stages.

8.5. RESEARCH LIMITATIONS AND RECOMMENDATIONS FOR FUTURE STUDIES

Several limitations should be noted. Firstly, the data were collected from one higher education institution, which limits the generalisability of the results. Hence, future studies can include more institutions and other corporate workplaces to determine factors contributing to or preventing subjective career success amongst employees. Future studies should include a larger sample and adequate statistical techniques to increase the confidence that study

findings would be consistent across other samples; and perhaps focus on experimental and longitudinal studies to determine the development of the abilities, behaviours and competencies over time (Rudolph, Lavigne, & Zacher, 2017).

Secondly, the reliability and validity have been established, but there are limitations to some scales that should be considered. For example, there were some challenges with unidimensionality assumptions with the career adaptability scale. Furthermore, the reliance on self-reported measures for core self-evaluation, career adaptability, and subjective career success should be noted. It may introduce the possibility of response biases based on participants' individual perceptions and interpretations of these constructs.

Thirdly, the factor structure of the CSE scale presented a few challenges and a possible methods effect was demonstrated between the positive and negative items on the scale. Theoretical foundations, empirical support, and practical implications collectively advocate for a re-evaluation of the prevailing measurement approach. Researchers and practitioners are encouraged to consider the comprehensive nature of CSE and its potential implications when making decisions about its structural representation, ultimately fostering more accurate and meaningful insights into the role of CSE in individual and organisational outcomes.

Fourthly, it is probable that subjective career success could take time to realise and as such, longitudinal research over several months or years is needed. Additionally, the study's assessment of predispositions (core self-evaluation), career adaptability, and subjective career success was based only on participant self-reports. There is therefore a chance of common method bias. Future research should include longitudinal designs and multi-source data to completely rule out the impacts of common technique bias, even if some statistical measures were employed in this work to alleviate concerns about common method bias.

Fifthly, it is recommended to embed more of the career construction theory variables into a more fleshed-out structural model. This study tested a baseline model, but the adaptation process could be further expanded to give more clarity on the mechanisms through which it operates.

Finally, although no differences were found across age groups, and the skewed age distribution may limit generalisability, future research should aim to include a more diverse age representation to better understand potential age-related differences and nuances in the observed results. Future research could also expand the investigation to include additional demographic and contextual factors that may have an impact on career success perceptions, or highlight individual needs.

8.6. CONCLUSION

This study provides valuable insights into the complex dynamics between core self-evaluation (CSE), career adaptability (CA), and subjective career success (SCS) within the context of higher education institutions. The findings underscore the importance of individual predispositions (core self-evaluation) in shaping employees' career experiences and perceptions of success. The study highlights that in the adaptation process, both CSE and CA influence the total subjective career success experience, which gives credibility to the career construction theory (CCT) adaptation model. Moreover, the examination of age-related differences in subjective career success emphasises that age alone may not be a decisive factor in determining career success perceptions among employees.

The practical implications drawn from the study suggest that higher education institutions and organisations should focus on enhancing and nurturing individual pre-dispositions, while also recognising the broader dimensions of career success that encompass job satisfaction, growth, and fulfilment. The findings also suggests that career adaptability does not have an influence on the level of subjective career success experienced, and that the predispositions of an individual have a direct influence on subjective career success.

While the findings contribute significantly to our understanding of the relationships between these constructs, it is important to acknowledge the limitations inherent in the research design and sample. As a single-institution study with a specific sample, the generalisability of the findings may be constrained. Therefore, future research efforts should seek to replicate and expand upon these findings in diverse organisational settings and with larger, more representative samples. Furthermore, exploring the impacts of other demographic and contextual factors on career success perceptions could provide a more comprehensive understanding of the interplay between individual characteristics and work environments.

In essence, this study has laid the groundwork for further exploration into the multifaceted nature of subjective career success, the role of core self-evaluation and career adaptability in shaping career experiences, and the strategies that organisations can employ to support their employees' holistic career development. By continuing to investigate these aspects, researchers and practitioners can contribute to creating workplaces that empower individuals to thrive in their careers, regardless of age or context.

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APPENDIX A: QUESTIONNAIRE

Note: This questionnaire will be designed in EvaSys. Below are the questions. The format will change, so that it is easy to read and understand.

BIOGRAPHICAL QUESTIONNAIRE:

1.) What is your age? (Please tick the appropriate block)

Age:	Please tick the appropriate block:
Under 18	
18-24 years old	
25-34 years old	
35-44 years old	
45-54 years old	
55-64 years old	
Over 65	

SECTION A: SUBJECTIVE CAREER SUCCESS INVENTORY

The stem for each item is "Considering my career as a whole…."

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Recognition

- …my supervisors have told me I do a good job.
- …the organisations I have worked for have recognised me as a good performer.
- …I have been recognised for my contributions.

Quality Work

- …I am proud of the quality of the work I have produced.
- …I have met the highest standards of quality in my work.
- …I have been known for the high quality of my work.

Meaningful Work

- …I think my work has been meaningful.
- …I believe my work has made a difference.
- …the work I have done has contributed to society.

Influence

- …decisions that I have made have had an impact on my organisation.
- …the organisations I have worked for have considered my opinion regarding essential issues.
- …others have taken my advice into account when making important decisions.

Authenticity

- …I have been able to pursue work that meets my personal needs and preferences.
- …I have felt as though I am in charge of my career.
- …I have chosen my career path

Personal Life

- …I have spent the amount of time I want with my friends and family.
- …I have been able to have a satisfying life outside of work.
- …I have been a good employee while maintaining quality non-work relationships.

Growth and Development

- …I have expanded my skill sets to perform better.
- …I have stayed current with changes in my field
- …I have continuously improved by developing my skill set.

Satisfaction

- …my career is personally satisfying.
- …I am enthusiastic about my career.
- …I have found my career quite interesting.

SECTION B: Core Self-Evaluation

Below are several statements about you with which you may agree or disagree. Using the response scale below, indicate your agreement or disagreement with each item by placing the appropriate number on the line preceding that item.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. _____ I am confident I get the success I deserve in life.
2. _____ Sometimes, I feel depressed. (r)
3. _____ When I try, I generally succeed.
4. _____ Sometimes, when I fail, I feel worthless. (r)
5. _____ I complete tasks successfully.
6. _____ Sometimes, I do not feel in control of my work. (r)
7. _____ Overall, I am satisfied with myself.
8. _____ I am filled with doubts about my competence. (r)
9. _____ I determine what will happen in my life.
10. _____ I do not feel in control of my success in my career. (r)
11. _____ I am capable of coping with most of my problems.
12. _____ There are times when things look pretty bleak and hopeless for me. (r)

Notes: r = reverse-scored. This measure is non-proprietary (free) and may be used without permission.

SECTION C: Career adaptability

Different people use different strengths to build their careers. No one is good at everything; each of us emphasises some strengths more than others. Please rate how strongly you have developed each of the following abilities using the scale below.

STRENGTHS	Strongest 5	Very Strong 4	Strong 3	Somewhat Strong 2	Not Strong 1
1. Thinking about what my future will be like					
2. Realising that today's choices shape my future					
3. Preparing for the future					
4. Becoming aware of the educational and vocational choices that I must make					
5. Planning how to achieve my goals					
6. Concerned about my career					
7. Keeping upbeat					
8. Making decisions by myself					
9. Taking responsibility for my actions					
10. Sticking up for my beliefs					
11. Counting on myself					
12. Doing what's right for me					

13. Exploring my surroundings					
14. Looking for opportunities to grow					
15. Investigating options before making a choice					
16. Observing different ways of doing things					
17. Probing deeply into questions that I have					
18. Becoming curious about new opportunities					
19. Performing tasks efficiently					
20. Taking care to do things well					
21. Learning new skills					
22. Working up to my ability					
23. Overcoming obstacles					
24. Solving problems					

APPENDIX B: RESEARCH STUDY INFORMATION LEAFLET AND CONSENT FORM

Research study informed consent form

Date

1 November 2022 – 30 June 2023

Title of the research project

The effect of core self-evaluation and career adaptability on the subjective career success of higher education employees

Principle investigator / researcher(s) name(s) and contact number(s):

Belinda Janeke 2001025135 051-401 7393

Faculty and Department:

Faculty of Economic and Management Sciences

Department of Industrial Psychology

Study leader(s) name and contact number:

Marthinus Delport (UFS staff member)

058 718 5050

What is the aim/purpose of the study?

The objective of this study is to investigate the relationship between career adaptability and the perceived subjective career success within the context of a higher education institution.

This study will investigate whether career adaptability is significantly different based on age at the selected institution.

Who is doing the research?

This study is being conducted by Belinda Janeke, who is currently executing a mini-dissertation per the requirements for the degree Master's in Industrial Psychology.

Has the study received ethical approval?

This study has received approval from the Research Ethics Committee of UFS. A copy of the approval letter can be obtained from the researcher.

Approval number: UFS-HSD2022/1620

Why are you invited to take part in this research project?

Should you decide to participate in the study, you will be one of approximately 350 sampled staff members. You will remain anonymous for confidentiality purposes.

What is the nature of participation in this study?

Participation in this study will require you to complete a three-part questionnaire. The three sections will focus on your biographical information, self-evaluation on career adaptivity and career adaptability skills, and finally, on your perceived subjective career success in your current work role. It will take approximately 30 minutes to complete the questionnaire.

Can the participant withdraw from the study?

Participation in this study is voluntary, and you are under no obligation to consent to participation. Since participation in this study is voluntary, there will be no penalty or loss of benefit for non-participation. If you decide to participate, you will be given this information sheet to keep and asked to read and sign a written consent form. You can withdraw from the study without providing a reason, without negative repercussions.

What are the potential benefits of taking part in this study?

There are no direct benefits to participating in this study. However, the data obtained in this study will assist the institution in understanding their staff members' career adaptability skills and perceived career success. This study will add to the existing body of research in industrial psychology.

What is the anticipated inconvenience of taking part in this study?

Your participation requires you to complete a questionnaire that will take approximately 30 minutes of your time. I do not expect any direct physical harm from participating in the research.

Will what I say be kept confidential?

The data obtained in this study will be treated with the utmost confidentiality. Your staff number and name will be kept separate from the information collected so that no one can link you to the information provided. Your answers will be assigned a fictitious code name, and you will be referred to in this way in the data. Furthermore, your responses may be reviewed by the General Human Research Ethics Committee (GHREC). These individuals will also not have access to any of your identifying details. The data gathered during the tenure of this study may be used in an academic article. Should your specific data be utilised, measures will be implemented to remove identifying factors.

How will the information be stored and ultimately destroyed?

All questionnaires will be captured and analysed. The data will be stored in electronic format on a password-protected computer. All data will be stored for a period of five years. Information will be permanently deleted from the electronic devices after five years to prevent unauthorised persons from gaining access to confidential information.

Will I receive payment or any incentives for participating in this study?

You will not receive any form of payment or incentive for participating in this study. There are no expected financial costs to be incurred.

How will the participant be informed of the findings/results of the study?

If you want to be informed of the final research findings, please contact the researcher, Belinda Janeke, at JanekeB@ufs.ac.za or 082 759 5161. Should you require any further information, please get in touch with the researcher.

Thank you for taking the time to read this information sheet and for participating in this study.

Consent to participate in this study

I, _____ (participant's full names to be included), (the "Participant")

confirm that I voluntarily agree to participate in the research study conducted by Belinda Janeke (the "Researcher").

I, the undersigned Participant, further confirm that–

1. I have read and I understand the study as described in the attached information sheet;
2. I understand that my participation in the study is entirely voluntary and that I am free to withdraw at any time without penalty;
3. I hereby acknowledge and confirm that I understand the purpose for which the UFS and the Researcher may collect, store, use, delete, destroy, outsource, transfer or otherwise process, as the context and circumstances may require and as contemplated in terms of POPIA, my personal information as set out herein;
4. I am aware that the findings of the study will be anonymously processed into a research report, journal publications and/or conference proceedings and that my personal information will be aggregated and deidentified at such stage;
5. I also give the UFS permission to share, without notification, the collected data with other researchers at the UFS or other Higher Education Institutions. This permission is dependent on the same principles of ethical research practices, anonymity/confidentiality, safekeeping of information, and other issues listed above applying.

Participant's name and surname:

_____

Date signed/agreed: _____

Full Name(s) of Researcher(s): Belinda Janeke

Date signed/agreed: _____