Ingrid L. Potgieter · Nadia Ferreira ·
Melinde Coetzee   *Editors*

Theory, Research and Dynamics of Career Wellbeing

Becoming Fit for the Future

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Editors
Ingrid L. Potgieter
Department of Human Resource
Management
University of South Africa
Pretoria, Gauteng, South Africa

Nadia Ferreira
Department of Human Resource
Management
University of South Africa
Pretoria, Gauteng, South Africa

Melinde Coetzee
Department of Industrial and Organisational
Psychology
University of South Africa
Pretoria, Gauteng, South Africa

*This book is dedicated to all
career wellbeing researchers, scholars and
practitioners worldwide*

Preface: Introduction and Overview of the Book

Theory, Research and Dynamics of Career Wellbeing: Becoming Fit for the Future covers current theory and research that enlighten individual career wellbeing practices in the contemporary VUCA (volatile, uncertain, complex, ambiguous) Industry 4.0/digital work–life space. The various chapters, written by professional scholars, subject matter experts and practitioners in the field of career wellbeing, contain valuable information about future-fit career wellbeing as manifested in real-life contexts across the globe. The chapters provide practical interventions for future-fit career wellbeing of individuals, as well as providing sound theoretical frameworks and research. The focus of this book emphasises dynamics and practices relevant to the digital era brought about by the fourth Industrial revolution's rapid technological advancements. Critical issues in understanding future-fit career wellbeing in the emerging digital workspaces of Industry 4.0 as well as the psychological variables influencing career wellbeing are continuous contemporary themes. The primary audience for this book is advanced undergraduate, graduate and postgraduate students, as well as scholars and practitioners in career wellbeing and career development settings. In addition, organisational decision-makers, human resource managers and professionals, wellness counsellors and public policymakers will have an interest in this book. Readers of this book, scholars and practitioners, will find the theory, research and findings and dynamic career wellbeing implications helpful to their own understanding of the psychological principles underpinning career wellbeing in the future digital workspace. Thoughts and suggestions presented in the various chapters will stimulate further research endeavours that will contribute to much needed innovative future-fit career wellbeing interventions that benefit both individuals and their organisations.

Pretoria, South Africa

Ingrid L. Potgieter
Nadia Ferreira
Melinde Coetzee

Acknowledgements

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Editors and Contributors

About the Editors

Ingrid L. Potgieter (D.Com.) is an Associate Professor in Human Resource Management at the Department of Human Resource Management at UNISA. She is a registered Industrial Psychologist at the Health Professions Council of South Africa (HPCSA) since 2009 and also a registered Human Resource Practitioner at the South African board for people practices (SABPP). Ingrid Potgieter completed her M.Com. degree in Human Resource Management and Industrial Psychology in 2009 at the University of Pretoria. She completed her D.Com. Industrial Psychology degree at Unisa in 2012. She is also an author and co-author of several published articles in local and international journals. She presented several papers at national and international conferences. Ingrid Potgieter is a Section Editor for the South African Journal of Industrial Psychology.

Nadia Ferreira (D.Com.) is an Associate Professor in Human Resource Management at the Department of Human Resource Management at UNISA. She is a registered Human Resource Practitioner with the South African Board for People Practices (SABPP). Nadia Ferreira completed her M.Com. degree in Human Resource Management and Industrial Psychology in 2008 at the University of Pretoria. She completed her D.Com. Industrial Psychology degree at Unisa in 2012. She is also an author and co-author of several published articles in local and international journals. In addition, she presented several papers at national and international conferences. Nadia Ferreira is a Section Editor for the South African Journal of Industrial and Organisational Psychology.

Melinde Coetzee (D.Litt. et Phil.) is a Professor in the Department of Industrial and Organisational Psychology at the University of South Africa, Pretoria, South Africa. She has extensive experience in the corporate environment on psychological interventions pertaining to organisational development, human capacity and career development and talent retention. Her research interests include issues of

employability and career and retention psychology in multicultural work contexts. She served as Chief Editor of the *South African Journal of Industrial Psychology (2014–2019)* and is also the author, co-author and editor of a number of academic books and research articles. She is a professionally registered Psychologist (cat. Industrial) with the Health Professions Council of South Africa (HPCSA) and a master Human Resource Practitioner with the South African Board for People Practice (SABPP). She is a member of the Society of Industrial and Organisational Psychology (SIOPSA), European Work and Organizational Psychology (EAWOP), International Association of Applied Psychology (IAAP) and South African Career Development Association (SACDA).

Contributors

John Kolawole Aderibigbe University of Fort Hare, Alice, South Africa

James Athanasou University of Sydney, Sydney, Australia

Marais Bester PSI International, Dubai, UAE

Tendai Chimucheka University of Fort Hare, Alice, South Africa

Willie Tafadzwa Chinyamurindi University of Fort Hare, Alice, South Africa

Melinde Coetzee University of South Africa, Pretoria, South Africa

Margie J. Elley-Brown Auckland University of Technology (AUT), Auckland, New Zealand

Louise Engelbrecht University of South Africa, Pretoria, South Africa

Laurence Fedrigo University of Lausanne, Lausanne, Switzerland

Nadia Ferreira University of South Africa, Pretoria, South Africa

Andreas Hirschi University of Bern, Bern, Switzerland

Eileen Koekemoer University of Pretoria, Pretoria, South Africa

Qiwei Li University of North Texas, Denton, USA

Fathima Essop Mahomed Department of Human Resource Management, Vaal University of Technology, Vanderbijlpark, South Africa

Elias Mpofu University of North Texas, Denton, USA

Ngonidzashe Mpofu University of Wisconsin-Madison, Madison, USA; University of North Texas, Denton, USA

Chantal Olckers University of Pretoria, Pretoria, South Africa

Rudolf M. Oosthuizen University of South Africa, Pretoria, South Africa

Ingrid Potgieter University of South Africa, Pretoria, South Africa

Jérôme Rossier University of Lausanne, Lausanne, Switzerland

Sebastiaan Rothmann Optentia Research Focus Area, North-West University, Vanderbijlpark, South Africa

Susan Miller Smedema University of Wisconsin-Madison, Madison, USA

Daniel Spurk University of Bern, Bern, Switzerland

Rebekka Steiner University of Bern, Bern, Switzerland

Timothy Tansey University of North Texas, Denton, USA

Cecilia Toscanelli University of Lausanne, Lausanne, Switzerland

Wei-Mo Tu University of North Texas, Denton, USA

Francisco Wilhelm University of Bern, Bern, Switzerland

Chapter 1
Future Fit Career Wellbeing: An Introductory Chapter

Melinde Coetzee, Nadia Ferreira and Ingrid Potgieter

Future-fit career wellbeing is about building a future narrative that articulates a vision of the future work self in relation to historical versus shifting circumstances and the opportunities and professional options perceived by the individual. Opportunities and options are generated by the individual as a professional intrapreneurial evolving self, and as a positive, proactive agent capable of crafting a sustainable career in unprecedented times of evolutionary technological change and transformation (The authors).

1.1 Introduction: Future-Fit Career Wellbeing

This book "*Theory, research and dynamics of career wellbeing*: *Becoming fit for the future*", is timely in its reflection on the notion of future-fit career wellbeing. Scholars and practitioners agree that the dynamic and exponential evolution of technological developments, smart digital innovations and automation will have a revolutionary impact on people's career-life experiences. This book fills an important gap in current career research by addressing the under-researched phenomenon of people's career wellbeing in the rapid transformational unfolding of the digital era. Conceptualisations of career wellbeing are rare and, as evidenced also in this book collection of chapters, often intertwined with the construct of subjective wellbeing. An evaluation of the wide array of viewpoints presented in the chapters of this book, led us to proffer as a starting point a fresh perspective on what we mean by the notion of "future-fit" career wellbeing. Building on the basic tenets of positive psychology, we take a strength-based approach to position career wellbeing as an

M. Coetzee (✉) · N. Ferreira · I. Potgieter
University of South Africa, Pretoria, South Africa
e-mail: coetzm1@unisa.ac.za

element of optimal human functioning and personal growth through self-regulatory career development. Career wellbeing is anchored in the work and life-career space, and as such we conceptualise the term as *individuals' long-term contentment with their career outcomes, career achievements, career changes, and their sustainable employability amidst the complexities of the contemporary work environment* (Bester, Coetzee, Ferreira, & Potgieter, 2019).

The nature of people's work, occupations and careers will frequently shift in the contemporary context conditions of Industry 4.0. Careers and the form of jobs and occupations will be of an unpredictable, constantly shape-shifting nature within an employment context that is exponentially impacted by accelerated technological innovations which require rapid upskilling and agile flexible adaptation. The notion of "future-fitness" will in this regard remain a constant refrain in people's thoughts about their sustainable employability and career agility as aspects of their career development in the digital era. We therefore adopted the notion of "future-fit" career wellbeing.

Career wellbeing denotes subjective cognitions and affect that allude to positive perceptions of, and feelings of contentment or satisfaction about the career-life. A strength-based perspective on future-fit career wellbeing allows career counsellors to help clients view the constant shifts and unexpected turns in their career-lives as opportunities to use their psychosocial strengths and skills to craft positive experiences in their work and jobs such as self-regulatory, intrapreneurial psychological flexible engagement, thriving, flow, and adaptability, all of which facilitate experiences of long-term contentment, satisfaction, and wellbeing. How people craft their careers and employment, and select, adapt to, shape and develop within the digital employment context, will be managed and regulated by them as agents of their career development.

Building on the arguments of Dik, O'Connor, Shimizu, and Duffy (2019) and Toporek and Cohen (2017), strength-based strategies help clients identify accessible career paths in unprecedented technologically-transforming occupational times. We argue that individuals' contentment with their career outcomes, career achievements, career changes, and their sustainable employability amidst the complexities of the contemporary work environment relates to their personal narratives about the self in relation to their experiences of the environment with which they interact. The classical personal construct theory (Kelly, 1955) posits that individuals are innovative scientists that, in response to stimuli and experience, constantly shape and reshape their personal schemas (i.e. understanding and interpretations of experiences) to prepare for and predict events and consequences of behaviour. A strength-based approach to future-fit career wellbeing helps to articulate personal narratives that help clients to address difficult and traumatic or tumultuous situations in need of change and adaptation through a lens of agency, perseverance, growth, potentiality, capability, and strength.

Table 1.1 provides an overview of the core categories relevant to the conceptualisation of future-fit career wellbeing that emerged from the various chapters in this book (i.e. forms of career wellbeing; personal aspects of future-fit career wellbeing, and conditions of future-fit career wellbeing). The chapters highlighted

Table 1.1 Categories and elements of the conceptualisation of future-fit career wellbeing

Categories of future-fit career wellbeing	Elements of future-fit career wellbeing	
	Self-regulatory elements	**Person-situation interaction elements**
Forms of career wellbeing	• A person's satisfaction with their career-related decisions, career changes and career outcomes over the long term (Bester, Chap. 4) • The various positive outcomes associated with successful career development across the lifespan (Hirschi & Wilhelm, Chap. 6) • The personal experiences of individuals, reflected by constructs such as career or life satisfaction, and satisfaction with objective indicators such as salary level, number of promotions, and health (Hirschi & Wilhelm, Chap. 6) • Cognitive-affective state of positive psychological functioning fostered by the personal agency belief that one has the required capabilities to craft a meaningful life-career even amidst adverse circumstances (Coetzee, Chap. 7) • Emotions that refer to several career features: career transitions, interpersonal relationships, relationship with the organisation, work performance, sense of purpose, learning and development, and work—life issues (Steiner & Spurk, Chap. 8) • An important aspect of individuals' lives that keeps them regularly engaged in sustainable livelihood activities which promote their social, financial, physical, community, and mental wellbeing; level of satisfaction which employees have with their careers over time (Aderibigbe & Chimucheka, Chap. 9)	• Subjective feelings of contentment, happiness and satisfaction experienced in life and in work (Bester, Chap. 4) • The cognitive judgement of individuals' satisfaction with their lives and the affective behaviour that individuals display when interacting with their environments (Bester, Chap. 4) • Career wellbeing is an outflow of thriving at work (Rothmann et al., Chap. 5) • An all-encompassing construct consisting of focus on an individual's cognitive, spiritual, physical and social experience within the confines of work (Chinyamurindi, Chap. 14)

Table 1.1 (continued)

Categories of future-fit career wellbeing	Elements of future-fit career wellbeing	
	Self-regulatory elements	**Person-situation interaction elements**
	• An individual's long-term contentment with their career outcomes, career achievements, career changes and their sustainable employability amidst the complexities of the contemporary work environment (Ferreira, Chap. 10) • Dimensions of job satisfaction, job involvement, affective organisational commitment, work engagement, positive and negative emotions and moods at work, intrinsic motivation, thriving and vigour (Potgieter, Chap. 12)	
Individual (personal) aspects of future-fit career wellbeing	• Proactive personality traits toward engaging in career self-management (i.e. the process of intentionally building, maintaining, and using various personal and contextual resources through processes such as goal setting, mapping the environment for resources, planning, monitoring actions, and feedback-processing in a way that leads to positive career outcomes (Hirschi & Wilhelm, Chap. 6) • Motivational states of "can do", "reason to", and "energized to" (Hirschi & Wilhelm, Chap. 6) • Career self-management capability (i.e. capacity for psychological adaptation, career adaptability, intrapreneurial self-capital, work self-efficacy, and relational career capital) (Coetzee, Chap. 7) • Mood, health (Potgieter, Chap. 12)	

(continued)

Table 1.1 (continued)

Categories of future-fit career wellbeing	Elements of future-fit career wellbeing	
	Self-regulatory elements	**Person-situation interaction elements**
Conditions that enable or thwart future-fit career wellbeing	**Enabling self-regulatory (personal) conditions** • Engaging in job crafting opportunities (Rothmann et al., Chap. 5) • Task focus, i.e. focusing behaviours and attention on job tasks and responsibilities; exploration, i.e. experimentation, innovation, risk-taking, and discovery to stretch and grow in new directions; and heedful relating, i.e. looking out for one another to heedfully connect to the social/relational environment (Rothmann et al. Chap. 5) • Developing personal career resources (knowledge, skills, networks, motivations) (Steiner & Spurk, Chap. 8) • Awareness of career cognitions, career resources, perceptions of career success and employability (Engelbrecht, Chap. 11; Koekemoer & Olckers, Chap. 13) • Developing supportive workplace friendships (Ferreira, Chap. 10; Potgieter, Chap. 12) • Engaging in work-family enrichment; managing family responsibilities, work schedule flexibility (Koekemoer & Olckers, Chap. 13) • Engaging in interventions to improve employees' mood and physical health (Potgieter, Chap. 12) **Thwarting conditions** • Work-job demands and resources; job strain, work stress and burnout (Potgieter, Chap. 12) • Work-home challenges (Chinyamurindi, Chap. 14)	**Enabling organisational conditions** • Managing the psychological contract (Bester, Chap. 4) • Purposeful and meaningful work experiences, positive work-related relationships, work autonomy, employability, environmental mastery and learning and development. (Bester, Chap. 4) • Ability-enhancing HR practices (selection, training and development); motivation - enhancing HR practices (job security, promotion and performance-related pay), and opportunity-enhancing HR practices (autonomy and communication) (Rothmann et al. Chap. 5) • Social and organisational support (Hirschi & Wilhelm, Chap. 6) • Supportive work conditions (i.e. career planning, discussions, development opportunities) (Coetzee, Chap. 7) • Career conditions and resources (e.g., training opportunities; financial incentives), and nonwork resources (e.g., satisfying hobby; spouse support) can foster career wellbeing (Steiner & Spurk, Chap. 8) • Financial benefits and opportunities for career growth challenges (Chinyamurindi, Chap. 14) • Rehabilitation processes such as work adjustment with reasonable accommodation for those persons with neuromuscular disorders (Mpofu et al., Chap. 15) and

Table 1.1 (continued)

Categories of future-fit career wellbeing	Elements of future-fit career wellbeing	
	Self-regulatory elements	**Person-situation interaction elements**
	• Neuromuscular disorders (ND)—genetic conditions and autism disorder (Mpofu et al., Chaps. 15 and 16)	people with autism spectrum disorder (Mpofu et al., Chap. 16) through technological inventions • Heidegger care (attentive care); supportive relations (Elley-Brown, Chap. 17)

Source Authors' own work

self-regulatory and person-situation interaction elements of the conceptual categories of future-fit career wellbeing.

Self-regulatory elements of future-fit career wellbeing The various conceptualisations of career wellbeing emphasise key aspects such as long-term sustainability of positive cognitions and affect pertaining to satisfaction in various career-life domains based on personal and objective career experiences across the lifespan. Personal aspects that are associated with the state of career wellbeing pertain to proactive personality traits, career self-management capability, intrinsic motivational states, mood and physical health. Self-regulatory career wellbeing seems to be facilitated by enabling conditions such as engaging in job crafting opportunities, behaviours such as task focus, exploration and innovation, and heedful-relating; building personal career resources such as knowledge skills, networks, and positive supportive workplace friendships; managing work-life balance through work-family enrichment opportunities and negotiating flexible work schedules through the use of technology; and engaging in interventions that help one manage one's mood and physical health. Thwarting conditions of career wellbeing include work-job demands, lack of supportive personal resources and capabilities in managing job strain, work stress and burnout as well the skills and resources to manage work-life balance. Genetic conditions such as neuromuscular disorders and autism disorder also thwart career wellbeing.

Person-situation interaction elements of future-fit career wellbeing The conceptualisations of career wellbeing also highlighted positive feelings and experiences in the domain of person-work life interaction. Career wellbeing seems to be a consequence of individuals' cognitions about, and the affective behaviour flowing from the person—work environment interaction experiences. Organisational conditions that facilitate career wellbeing include the organisation's management of the psychological contract, purposeful and meaningful work experiences, workplace relationships, and human resource (HR) practices that are ability-enhancing (i.e. selection, training and development), motivation-enhancing (i.e. job security, promotion, performance-related pay), and opportunity-enhancing (i.e. autonomy and

communication). Work conditions that include financial benefits, career planning and development opportunities and discussions, and nonwork resources such as spouse support also seem to facilitate career wellbeing. An important aspect of the digital workplace is that technological advancements can be utilised to create conditions that support the participation of people with special needs (i.e. neuromuscular disorders and autism disorder) in career development and meaningful work. Finally, the notion of ethical attentive care based on Heidegger philosophy is introduced as an important aspect of future-fit career wellbeing support.

Future-fit career wellbeing is about building a future narrative that articulates a vision of the future work self in relation to historical versus shifting circumstances and the opportunities and professional options perceived by the individual. Opportunities and options are generated by the individual as a professional intrapreneurial evolving self, and as a positive, proactive agent capable of crafting a sustainable career in unprecedented times of evolutionary technological change and transformation.

This book collection on future-fit career wellbeing is a preamble to an evolving scholarly narrative on conditions and factors that shape and reshape people's career wellbeing. The chapters offer ideas for future research that will help scholars to extend and refine the conceptualisation of future-fit career wellbeing. The chapters also suggest practices that may potentially inform career interventions that help clients become agile careerists in Industry 4.0. Future-fit career wellbeing is about individuals who have the capabilities and supportive conditions that help them capitalise on their psychosocial strengths and capabilities in a manner that facilitates forward career movement and growth for their personal contentment and wellbeing.

1.2 Introduction: Outline of the Book

The book is divided into three parts: Part I (Career management and the future workplace), Part II (Psychosocial factors of career wellbeing) and Part III (Career wellbeing of people with special needs). The three parts as illustrated below represents an overview of the elements influencing "future fit" career wellbeing (Fig. 1.1).

Part I of the book, *Career management and the future workplace*, comprises six chapters that illustrate the management of future fit career wellbeing in the contemporary context of Industry 4.0 from various perspectives. These perspectives include smart technology, artificial intelligence, robotics and algorithms (STARA) (Chap. 2), sustainable careers in the decent work context (Chap. 3), career success through the lens of the psychological contract (Chap. 4), career crafting, human resource management practices and thriving in the workplace (Chap. 5), career wellbeing from a career self-management perspective (Chap. 6) and the value of future-fit psychological career self-management capabilities (Chap. 7) which are relevant for not only the wellbeing of employees, but also to assist individuals and

OUTLINE OF BOOK

PART I: CAREER MANAGEMENT AND THE FUTURE WORKPLACE	PART II: PSYCHOSOCIAL FACTORS OF CAREER WELLBEING	PART III: CAREER WELLBEING OF PEOPLE WITH SPECIAL NEEDS

DYNAMICS OF CONTEXT CONDITIONS: THEORY

STARA; psychological contract theory; positive psychology; social cognitive theories; job crafting theory.	Whole-life perspective; social cognitive theory; workplace friendship theory; career adaptability theory.	Positive psychology; social exchange; Heidegger philosophy; career construction; Minnesota Theory of Work Adjustment; Behavioral theory; Employment development theory.

EMERGING THEMES FOR RESEARCH

Human-technology relationship/interaction; career self-management and STARA; thriving in digital workspaces; future-fit career wellbeing; decent work for all; psychological contract.	Positive development/functioning; work-family balance; career concern; satisfaction; workplace friendship; adaptability; employability.	Personal influences; gender differences; work adjustments of people with special needs; utilization of technology.

EMERGING THEMES FOR PRACTICE

STARA and future-fit career wellbeing practices; Lifelong career counselling; support interventions; motivation, ability and opportunity enhancing practices; training and development for career self-management in the digital age.	Work life balance; whole-life perspective; career satisfaction; self-regulatory career behaviour; employability; shifting of commitment.	Specific wellness programmes; technology accommodation; social support system; and ethical attentive care programmes.

CORE CONTRIBUTION TO FUTURE-FIT CAREER WELLBEING THEORY

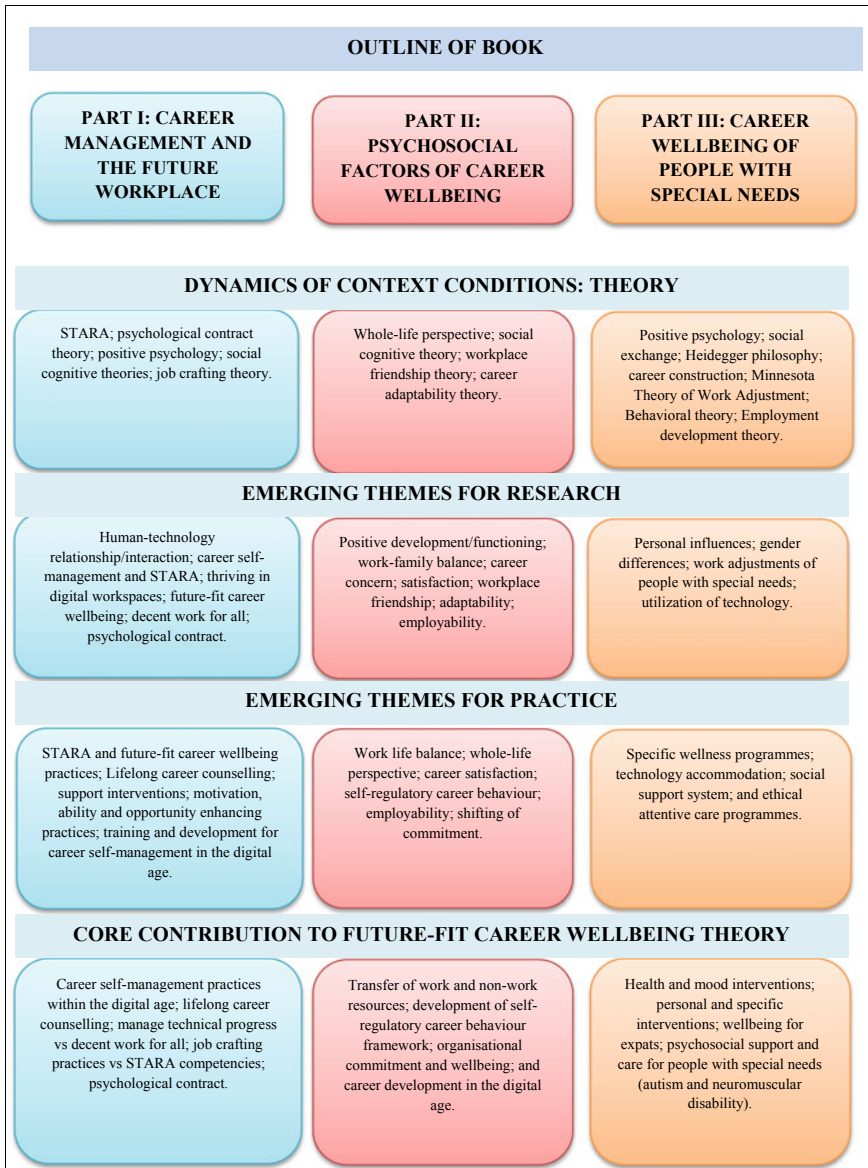| Career self-management practices within the digital age; lifelong career counselling; manage technical progress vs decent work for all; job crafting practices vs STARA competencies; psychological contract.	Transfer of work and non-work resources; development of self-regulatory career behaviour framework; organisational commitment and wellbeing; and career development in the digital age.	Health and mood interventions; personal and specific interventions; wellbeing for expats; psychosocial support and care for people with special needs (autism and neuromuscular disability).

Fig. 1.1 Outline of the Book (Authors' own work)

organisations manage their careers and their career wellbeing in the future workplace.

Part II of the book (Chaps. 8, 9, 10 and 11), *Psychological factors of career wellbeing*, positions future fit career wellbeing within the pervasive influencing

context of the VUCA and digital landscape which demands innovative thinking regarding the psychological factors that influence individuals' career wellbeing within the dynamically shifting contemporary work environment. The authors make a compelling case for future fit career wellbeing that speaks to the psychological needs of a well-balanced, well-adapted and employable individual. Articulating a whole-life perspective on career concerns and career success, as well as highlighting the role of workplace friendship, career adaptability, organisational commitment and employability, these psychological factors came across as being crucial in the enhancement of employees' future-fit career wellbeing.

Part III, *Career wellbeing of people with special needs*, comprises six chapters (Chaps. 12, 13, 14, 15, 16 and 17) that illustrate the dynamics of career wellbeing in terms of attentive ethical care toward the unique career wellbeing needs of different groups of people. The chapters also explore technology-enabling work adjustments for people with autism and neuromuscular disability. The dynamics of personal influences such as mood, health and biographical differences, career success, career wellbeing of expatriates, employees with special needs and care perspectives are highlighted in this part of the book. The basic idea is that different personal influences of employees can have an impact on their future-fit career wellbeing. The interplay between these personal influences should be considered and understood in terms of career wellbeing interventions. The authors highlight key insights that inform future-fit career wellbeing practices.

In a nutshell, the various sections demonstrate that career wellbeing interventions and practices should take into account the changing nature of work and jobs which is influenced by the technological advancements of the digital era and knowledge economy. Future-fit career wellbeing should include individuals' satisfaction with their career, their personal experiences, their emotions, their life-long contentment with their career outcomes, their level of satisfaction with their job, and opportunities for decent work amidst a technological-revolutionised work context. The various personal aspects related to future-fit career wellbeing are explained as individuals' proactive personality traits, their intrinsic agentic-motivational state, the career self-management capabilities they cultivate, and awareness and management of their mood and state of health.

We acknowledge that career wellbeing, and specifically future-fit career wellbeing, is an under-researched phenomenon and that the chapter contributions only provide a snapshot of the theory, research and dynamics of relevance and interest in the contemporary work context. The audience for this book is advanced undergraduate, graduate, and post-graduate students, as well as scholars and practitioners in career wellbeing and career development settings. In addition, organisational decision-makers, human resource managers and professionals, wellness counsellors, and public policy makers will have an interest in this book. We trust that the readers of this book will find the theory, reported research and practices that illuminate the dynamics of career wellbeing helpful to enrich their own understanding of the psychological factors underpinning future-fit career wellbeing. We hope that the thoughts and suggestions presented in the various chapters will stimulate further research endeavours that will contribute to much needed innovative evidence-based

career wellbeing practices that benefit both employees and their organisations in the rapid transformational unfolding of the digital era.

Enjoy reading the book!

The Editors

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Melinde Coetzee (D.Litt et Phil.) is a professor in the Department of Industrial and Organisational Psychology at the University of South Africa, Pretoria, South Africa. She has extensive experience in the corporate environment on psychological interventions pertaining to organisational development, human capacity and career development and talent retention. Her research interests include issues of employability and career and retention psychology in multi-cultural work contexts. She served as Chief Editor of the South African Journal of Industrial Psychology (2014–2019) and is also the author, co-author and editor of a number of academic books and research articles. She is a professionally registered Psychologist (cat. Industrial) with the Health Professions Council of South Africa (HPCSA) and a master human resource practitioner with the South African Board for People Practice (SABPP). She is a member of the Society of Industrial and Organisational Psychology (SIOPSA), European Work and Organizational Psychology (EAWOP), International Association of Applied Psychology (IAAP) and South African Career Development Association (SACDA).

Nadia Ferreira (D.Com) is an Associate Professor in Human Resource Management at the Department of Human Resource Management at UNISA. She is a registered human resource practitioner with the South African Board for People Practices (SABPP). Nadia Ferreira completed her MCom degree in Human Resource Management and Industrial Psychology in 2008 at the University of Pretoria. She completed her D.Com. Industrial Psychology degree at Unisa in 2012. She is also an author and co-author of several published articles in local and international journals. In addition, she presented several papers at national and international conferences. Nadia Ferreira is a section editor for the South African Journal of Industrial and Organisational Psychology.

Ingrid Potgieter (D.Com) is an Associate Professor in Human Resource Management at the Department of Human Resource Management at UNISA. She is a registered industrial psychologist at the Health Professions Council of South Africa (HPCSA) since 2009 and also a registered human resource practitioner and the South African board for people practices (SABPP). Ingrid Potgieter completed her Mcom degree in Human Resource Management and Industrial Psychology in 2009 at the University of Pretoria. She completed her Dcom Industrial Psychology

degree at Unisa in 2012. She is also an author and co-author of several published articles in local and international journals. She presented several papers at national and international conferences. Ingrid Potgieter is a section editor for the South African Journal of Industrial Psychology.

Overview and Insights

This part, *Career Management and the Future Workplace*, comprises six chapters that provide useful conceptual foundations for understanding career management and the impact of the future workplace.

Overview

In Chap. 2, 'Smart Technology, Artificial Intelligence, Robotics and Algorithms (STARA)', Rudolph Oosthuizen predicts that in the future, smart technology, artificial intelligence, robotics and algorithms could replace a third of jobs that exist today. This chapter presents a critical review of how employees perceive technological innovations (STARA) with regards to their own jobs and careers as well as their wellbeing in future workplaces. Age was found to be a significant moderator of STARA and plays a critical role due to career development and technology expertise associated with age. Evidence also found that STARA awareness was negatively correlated to organisational commitment and career satisfaction and positively correlated to turnover intentions, cynicism and depression. The author explained STARA and therefore created some awareness of this concept and suggests that STARA awareness will not only affect job outcomes but also career wellbeing outcomes.

Chapter 3 by Cecilia Toscanelli, Laurence Fedrigo and Jérôme Rossier, 'Promoting a Decent Work Context and Access to Sustainable Careers in the Framework of the Fourth Industrial Revolution', provides evidence that the fourth industrial revolution has transformed the world of work and the interactions between individuals and their social, political and economic environment. These authors describe the implications of this new revolution for the job market and for individuals. The authors suggest that the current goals of technological advance could threaten access to decent work and contradict the society's vision that emphasise the free will of individuals. As a result, lifelong career counselling is

essential in helping individuals to manage their career paths in Industry 4.0. The chapter presents various career counselling theories and models that acknowledge this new reality. The life design intervention is provided as an example of an intervention that aims to promote access to sustainable careers for individuals in Industry 4.0.

In Chap. 4, 'A Review of Career Success and Career Wellbeing Through the Lens of the Psychological Contract', Marais Bester explores the dynamic theoretical relationship between career success and career wellbeing through the lens of the psychological contract theory. This chapter provides an introduction of several environmental factors that influence the evolution, management and perception of careers in Industry 4.0. This chapter contributes by providing a theoretical model explaining the relationship dynamics between career success and career wellbeing, specifically within Industry 4.0. This chapter furthermore provides some practical implications for career wellbeing and suggestions for future research.

Fathima Essop Mohamed and Sebastiaan Rothmann explore in Chap. 5, 'From Surviving to Thriving: Career Wellbeing', career wellbeing within the higher education context because academics and universities play a critical role in preparing employees for their work in Industry 4.0. This chapter specifically explored the relationship between job crafting, high-performance human resource management practices and thriving of academics in higher education institutions. The authors found that thriving, job crafting and high-performance human resource practices were positively related. A significant interaction was found between job crafting and high-performance human resource practices. The authors suggest that when human resource practices were perceived to be good, academics' thriving was less dependent on job crafting. When human resource practices were perceived as poor, job crafting was needed for academics to thrive. This chapter provided some implications of these results, specifically within Industry 4.0.

In Chap. 6, 'Career Self-management as a Key Factor for Career Wellbeing', Francisco Wilhelm and Andreas Hirschi provide an overview of current research on career self-management and conceptually and empirically clarify its relationship with career wellbeing. This chapter contributes to future-fit career wellbeing theory by providing suggestions on interventions to enhance career wellbeing and how organisations can create synergy between organisational and individual career management, specifically within the Industry 4.0 work and life spaces.

In Chap. 7, 'The Value of Future-Fit Psychosocial Career Self-management Capabilities in Sustaining Career Wellbeing', Melinde Coetzee builds on Chap. 5 by offering an analytical assessment of the role of psychosocial career capabilities in individuals' self-directed career management and the relevance of these capabilities in facilitating future-fit careers. The author confirmed that people and their career development remain important in the digital era and an extended range of essential psychosocial career self-management capabilities are crucial to help individuals adapt in the rapid changing, technology-driven work contexts. This chapter offers some implications and recommendations for career development practice in Industry 4.0.

Key Insights Contributing to Future-Fit Career Wellbeing Theory, Research and Practice

This part of the book mainly focused on the theories of STARA, psychological contract theory, positive psychology, social cognitive theories and the job crafting theory in explaining the dynamic context of career wellbeing in Industry 4.0. The interaction between humans and technology was a key research theme in these chapters. This part also highlighted the responsibility of individuals to take responsibility for career self-management, specifically taking Smart technology, Artificial intelligence, Robotics and Algorithms (STARA) into account. Thriving in the digital workspace, creating decent work for all as well as future-fit career wellbeing was general themes that emerged from chapters in this part. Authors in this part suggested that emphasis should be placed on STARA and future-fit career wellbeing practices. They also suggested lifelong career counselling and support interventions, motivation, ability and opportunity enhancing practices and assistance from organisations to individuals to manage their careers in the digital age. This part contributes to future-fit career wellbeing theory, research and practice by emphasising the importance of career self-management in the future workplace and suggest management of technical progress and job crafting practices as key elements in future-fit careers.

Chapter 2
Smart Technology, Artificial Intelligence, Robotics and Algorithms (STARA): Employees' Perceptions and Wellbeing in Future Workplaces

Rudolf M. Oosthuizen

Abstract Futurists predict that a third of jobs that exist today could be replaced by smart technology, artificial intelligence, robotics and algorithms (STARA). Robots will handle 52% of current work tasks by 2025, almost twice as many as in 2019. Rapid changes in machines and algorithms or computer processes could create 133 million new roles in place of 75 million that will be displaced between 2019 and 2022 (World Economic Forum, The Citizen, 2018). The objective of the chapter was to present a critical review of how employees perceive technological innovations (STARA) with regard to their own jobs and careers, and their wellbeing in future workplaces. STARA awareness is a measure that encapsulates the extent to which employees feel their career could be replaced by these modes of technology. Age as a moderator of STARA also plays a role due to career development and technology expertise associated with age. STARA awareness will not only effect job outcomes, but also wellbeing outcomes. The way employees construct their identity with their career and evaluate their own career achievement can have an impression on their financial and psychological wellbeing (Mirvis & Hall, *Journal of Organizational Behavior*, 15(4), 237–255, 1996; Wiese, Freund, & Baltes, *Journal of Vocational Behavior*, 60(3), 321–335, 2002). Brougham and Haar, *Journal of Management & Organization, 24*(2), 239–257 (2018) state that, in their research, greater STARA awareness was negatively correlated to organisational commitment and career satisfaction, and positively correlated to turnover intentions, cynicism and depression.

Keywords Career · Change · Technology · Disruptive technology · Employee · Wellbeing · STARA

R. M. Oosthuizen (✉)
University of South Africa, Pretoria, South Africa
e-mail: oosthrm@unisa.ac.za

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2.1   Introduction

In today's high-tech and robotised environment, examples of rapid changes that effect how people function at home as well as in the workplace can be observed. Toyota recently announced a large-scale billion-dollar project to develop self-driving cars that cannot be collided and home robots with higher indoor mobility (Toyota US Newsroom, 2015). The CEO of Ford, Mark Fields, also pronounced that the corporate would produce 43 million self-driving cars by 2020 (Cava, 2016). According to James Albaugh, a retired CEO of Boeing Commercial Airlines, the "pilotless airliner is going to come; it's just a question of when" (Patterson, 2012). In the academic world, NC State University introduced a high-tech library using a robotic system called bookBot to retrieve books when students make requests. This latest technology condensed library storage space by 88% and distributes books to students within 5 min (NC State University—NCSU Libraries, 2017). By the end of 2017, the estimated number of industrial robots in action around the world was approximately 1.9 million (West, 2015). Nearly 47% of all human jobs (mostly in manufacturing, transportation and logistics, and office and administrative support) in the US will be replaced by robots, machines, automations or computerisation that can do the work faster, better and with less expense in the long run (Chuang & Graham, 2018; Frey & Osborne, 2017).

The Society for Industrial and Organisational Psychology (SIOP) announced its Top 10 Workplace Trends for 2019. These tendencies are founded on member surveys and signify the matters that will have the utmost impression on the workplace in 2019. The Top 10 Workplace Trends symbolise wide-ranging, multifaceted issues of contemporary society that pose problematic challenges to the corporate world. To produce this list, SIOP probed its members, industrial-organisational (I-O) psychologists, for their forecasts based on their collaborations with clients and associates, composed those answers and requested members to choose the top 10 matters corporations are probable to confront in 2019. More than 800 members replied, and artificial intelligence (AI) and machine learning (ML) transpired as the number one trend for 2019 (SIOP Communications Department, 2019).

2.2   Chapter Objective

The objective of the chapter is to present a critical review of how employees perceive technological innovations (STARA) with regard to their own jobs and careers, and their wellbeing in future workplaces.

2.3   Background

The human workforce is going through a mandated advancement (Jackson, 2014). The collective impact of advanced changes and benefits, and the associated drawbacks, are critical issues that require in-depth dialogues about the workforce. Although the transformation of the workforce may take place over a century, Elliott (2014) suggests that organisations should understand the growing capabilities of technology and its impact on the workforce over the next decade or two (Chuang & Graham, 2018). Stephen Hawking and Bill Gates have warned of mass unemployment due to the rise of smart technology, artificial intelligence, robotics and algorithms, which are termed STARA (Bort, 2014; Lynch, 2015). It is estimated that 33% of occupations that exist today could be diminished by STARA by 2025 (Frey & Osborne, 2013; Thibodeau, 2014) because of advances in robotic dexterity and intelligence, joined with low-cost autonomous units that can possibly outperform people at many work serious and dynamic undertakings (Frey & Osborne, 2013). Instances of these sorts of innovation incorporate retail self-checkout frameworks, cell phone applications, robotisation in bookkeeping, the web of things and future advances in driverless vehicles. The cost–advantage on these kinds of innovation makes it try to think about the prolongation of workers in certain positions (Brougham & Haar, 2018).

Fascinatingly, STARA is not being utilised into simply low-paid, low-talented jobs. Hi-tech algorithms are being utilised in legitimate research, and information-writing algorithms inside corporate and broad communications are becoming more progressively. Besides, the use of robots with high-precision finesse are waning fundamentally. An investigation of 702 professions itemised the probability of STARA seizing employment. Occupations at peril incorporate, for instance, bookkeepers, statistical surveying investigators, business pilots, client administration, sales, and office and organisation employees (Frey & Osborne, 2013). STARA could likewise substantially affect therapeutic (Bloss, 2011; Lorentziadis, 2014), instruction (for instance through web-based learning), transportation, farming, ranger service and angling enterprises. In general, this fundamental research demonstrated that 47% of occupations are in danger of being taken by STARA (Brougham & Haar, 2018).

2.4   Literature Review

2.4.1   Emerging Digital Workspaces of Industry 4.0

The term 'Industry 4.0' is often used to refer to the fourth industrial revolution (Kagermann et al., 2013). The concept of Industry 4.0 describes the increasing digitisation of the entire value chain and the resulting interconnection of people, objects and systems through real-time data exchange (Spath et al., 2013; Dorst,

Hahn, Knafla, Loewen, & Rosen, 2015). As a result of that interconnection, products, machines and processes are equipped with AI and are enabled to adapt to spontaneous changes in the environment independently. Furthermore, smart technology becomes embedded in broader systems, which enhances the creation of flexible, self-controlling production systems. There are various fields of application for smart technology and systems; however, the focus is still on industrial applications (Porter & Heppelmann, 2015; Huber & Kaiser, 2015; Hecklaua, Galeitzkea, Flachsa, & Kohl, 2016).

An essential facet of Industry 4.0 is autonomous production methods powered by robots that can complete tasks intelligently, with the focus on safety, flexibility, versatility and collaboration. Without the need to isolate its working area, its integration into human workspaces becomes more economical and productive, and opens up many possible applications in industries. Robots that are more industrial are evolving with the latest technological innovation to facilitate the industrial revolution. Smart robots will not only replace humans in simply structured workflows within closed areas (Roland Berger Strategy Consultants, 2014). In Industry 4.0, robots and humans will work hand in hand, so to speak, on interlinking tasks and using smart-sensor human–machine interfaces. The use of robots is widening to include various functions, namely, production, logistics and office management (to distribute documents), and they can be controlled remotely. If a problem occurs at a production plant, for example, a worker will receive a message on his/her mobile phone, which is linked to a webcam, so he/she can see the problem and give instructions to let the production continue until he/she comes back the next day. Thus, the plant operates 24 h a day while workers are only there during the day (Bahrin, Othman, Azli, & Talib, 2016).

Thus, the fourth industrial revolution is based on cyber physical systems, the internet of things and the internet of services. More companies and nations are joining the movement and are using different approaches to be competitive and to benefit from the productivity and economic gains it provides. Although Industry 4.0 covers a very wide area of application in the manufacturing industry, the trend is quickly materialising through the emergence of robotic and automation product innovation that is tailored for the industrial revolution. Hecklaua et al. (2016) state that Industry 4.0 creates many new opportunities for companies, but at the same time, several challenges are arising from the ongoing automation and digitisation.

Financial challenges: Amongst an ongoing globalisation process, organisations have to cope with reduced time to market, shorter product life cycles, and the need to cut costs in order to stay competitive (Helmrich, 2015). Organisations need to rationalise their innovation processes and transform their business model to a sophisticated level of service orientation (Shahd & Hampe, 2015). In addition, customer expectations have changed towards a higher level of customisation and flexibility. As a result, markets have become increasingly volatile and heterogeneous (Stock-Homburg, 2013). Therefore, the need for collaboration is more pronounced than before. Companies now have to enter strategic alliances with their suppliers or competitors to stay competitive (Hecklaua et al., 2016).

Societal challenges: Strategies are needed to attract young people, whilst retaining the expertise of older employees. Younger generations express contrary social values, such as the growing importance of a good work–life balance (Stock-Homburg, 2013). In addition, increasing virtual work and flexible work topics require new forms of lifelong learning (Brühl, 2015). Processes are becoming more multifarious, leading to an increase in jobs that require higher qualifications. Therefore, organisations need to qualify their employees for more strategic, coordinating and creative tasks with advanced responsibilities (Hecklaua et al., 2016).

Technical challenges: Companies must be able to deal with a large amount of data (big data) efficiently (Huber & Kaiser, 2015). Extensive IT infrastructures, like communications networks and internet protocols, need to be built and implemented (Brühl, 2015). Standardised interfaces and open architectures that enable co-operative work on different platforms have to be developed (Shahd & Hampe, 2015). The storage of large amounts of data on external servers raises the additional problem of cybersecurity since data must be protected from unauthorised access. Employees must further acquire the necessary skills to be equipped for the increase in virtual work (Hecklaua et al., 2016; Stock-Homburg, 2013).

Ecological challenges: One main challenge affecting the environment is ongoing climate change (Stock-Homburg, 2013). Conditions in the biosphere change continuously, which has an impact on all living creatures within the system. In addition, the efficient utilisation of ecological resources is becoming more critical, considering most of them are scarce. As a result, organisations are beginning to recognise their role in driving sustainable solutions (Hecklaua et al., 2016; Spath et al., 2013).

Political and legal challenges: Governments need to support organisations with the development of new technologies as well as the incorporation of those technologies in the current environment. Furthermore, governments need to institute legal parameters for the usage of big data. The most important concern is the protection of privacy, because data will be collected on every system while interacting with smart objects (Brühl, 2015). Rising work flexibility further requires the establishment of policies and procedures regarding work times and safety matters to protect employees (Hecklaua et al., 2016).

2.5 Smart Technology, Artificial Intelligence, Robotics and Algorithms (STARA)

The future of world of work compels us to consider the biggest questions of our time: What influence will the continuing march of STARA have on where we work and how we work? Will we need to work at all? What is our place in an automated world? Many analysts focus on smart technology and the impact that automation is predicted to have on careers and the workplace. The real story is far more complicated—it is less about technological innovation and more about the manner in

which humans decide to use that technology. The shape that the workforce of the future takes will be the result of complex, changing and competing forces. Some of these forces are evident, but the speed at which it unfold is hard to predict. Policies and laws, the governments that impose them and broad trends in consumer, citizen and employee sentiment will all influence the transition toward an automated workplace. The outcome of this battle will determine the future of careers in 2030 (Kojm, 2012). When so many complex forces are at play, linear predictions are too simplistic. Organisations, governments and individuals need to be prepared for a number of possible, even seemingly unlikely, outcomes. STARA will be conceptualised in more detail in the following sections (Stubbings, 2018).

2.6   Smart Technology

Durães, Carneiro, Bajo, and Novais (2018) state that the rapid progress of wireless communication and sensing smart technologies has enabled the development of smart learning environments that can detect the environmental context and quantify the attention of an employee in his/her workplace. In the field of computer science, a smart environment is a digitally augmented physical world where sensor-enabled and networked devices work continuously and collaboratively to make the lives of citizens more comfortable. Significant developments in smart devices, wireless mobile communications, sensor networks, pervasive computing, machine learning, robotics, middleware and agent technologies, and human–computer interfaces have made the aspiration of smart environments a reality. The concept "smart" denotes the ability to autonomously acquire and apply knowledge, and the concept "environment" denotes employee's surroundings (Cook & Das, 2005).

Alongside with this technological evolution, job offers have changed, bringing along many significant and wide-ranging changes. Some of the most tarnished changes are the emergence of indicators such as attentiveness, which, in extreme cases, can compromise the life and well-being of employees. In moderate circumstances, it will impair attention, general cognitive skills and productivity. Several of these careers are the so-called desk jobs, in which people frequently sit for more than eight hours (Durães et al., 2018; Liao & Drury, 2000).

2.7   Artificial Intelligence (AI)

The potential for digital platforms and AI to underpin and develop the world of work is unbounded. This platform stratum creates a digital value chain, commoditisation, and automation of the back office, but it comes with warnings. While it can create a thriving trading sphere, it can sprout to take over the entire financial

system, and with platform, pervasiveness comes vulnerability to cyberattacks or wide-scale manipulation (United Nations Department of Economic and Social Affairs, 2010). Closely linked to digital platforms is data. How governments, organisations and individuals decide to share and use, it is key to our worlds—even the most human-centric. AI in the form of digital assistants or 'chatbots', and machine learning, could understand, learn, and then act based on that information.

It is useful to think of three levels of AI. Assisted intelligence, which is widely available today, improves what people and organisations are already doing. An example is the Global Positioning System navigation programme that offers directions to drivers and adjusts to road conditions. Augmented intelligence, which is emerging today, helps individuals and organisations to do things they would otherwise not be able to do. For example, vehicle ride-sharing businesses would not be able to exist without the combination of programmes that organise the service. Autonomous intelligence, which is being developed for the future, establishes machines that act on their own. For example, self-driving vehicles, when they come into widespread use. Some visionaries believe AI could create a world where human abilities are amplified as machines help mankind process, analyse and evaluate the abundance of data that creates today's world, allowing humans to spend more time engaged in high-level thinking, creativity and decision-making (Stubbings, 2017, 2018).

AI and ML are two major drivers of the advancement of big data and technology. Part of the challenge in understanding, evaluating and leveraging these technologies is that, unlike other areas of human resources, they are inherently multidisciplinary. Indeed, nearly any AI- or ML-related start-up with a nexus to human resources will have teams that are dominated by engineers, computer scientists, developers, data scientists and other tech-/math-savvy specialists. The market for AI/ML applications in human resources has continued to grow. Therefore, the focus continues to be on the technology, a trend that is not expected to abate anytime soon. Moreover, in such a technology-dominated environment, it is easy for a relatively small field like I-O psychology to get lost in the shuffle and to lose sight of the critical role "I-Os" can play (Putka & Dorsey, 2018).

2.8 Robotics

Up to the present time, most robots have been "slaves" to their human operatives, but they are gaining much greater power and autonomy. The increasing use of robots has sparked the question how robots can be integrated successfully into human–robot teams. Richards (2017a) indicates that teams can share goals through delegation between humans and robots, or "agent" members. There is a lot of paranoia surrounding the increasing power and capacity of robots. Media scare reports insinuate robots will soon take great swathes of today's careers, especially

in industries that already use advanced automation. Undoubtedly, there is some justification for the anxiety. In 2014 robot sales across the world increased by 29% to 229,261 units in comparison to the previous year. In most cases, robots allow humans to be withdrawn from monotonous, challenging or dangerous tasks (Richards, 2017a).

Advanced robotics is taking expansion to the next level and will pose more questions about robot–human integration. New designs of robots are adept of becoming agent-based models (ABMs) that can be connected not only to other robots, but also to a wider network composed of both humans and machines. This is already becoming conventional. Human–robot teams are used in advanced space systems, as well as in day-to-day activities. A robot tour guide may accompany visitors to museums, and some hospitals are already using robot helpers. In a short time, the ABMs will be helping people in their homes, especially frail or ageing people. Robots will increasingly be part of human–agent teams in advanced industrial plants (Richards, 2017a).

Current reasoning about gathering elements has justifiably centered on how people identify with one another. Nevertheless, this probably will not be very pertinent to robot–human connections. In human groups, individuals will in general depend not just on verbal conventions to build up and see perspectives, yet in addition on the sorts of non-verbal correspondence practices that are not normal for robots, at any rate not yet. There are likewise understood human social standards that control conduct and make a gathering character. The nature of trust is additionally pivotal if groups are to perform well. To date, most robots have been acquainted as slaves with human workers. They have given unsurprising sources of information, which has made it easy to understand their intentions. It is not that hard to incorporate those robots. Notwithstanding, when the operators have more self-governance, a human–robot gathering will require a more noteworthy level of adaptability to consider the assignment of power. A formal system of control could help the communications of people and robots to function admirably. The human operators could see the robot components in two distinctive ways. The main alternative would be a base up methodology, which means the ABMs would keep on being basic machine-slaves that satisfy human objectives. The second alternative would be a top-down methodology, which means the ABMs would be viewed as equivalent individuals from the group. A top-down methodology would enable the elements of the group to shape similarly as in customary human groups, with characterised jobs and standards of conduct (Richards, 2017b).

At the point when robots become increasingly self-ruling, there might be a requirement for exceptional observing of what they are doing. Human sub-managers could be acquainted with monitoring their development. Security basic frameworks, for instance, may utilise robots to perform relentless errands, however a human would screen their conduct to ensure wellbeing was not compromised. On the other hand, an ABM may play out a progression of complex practices, yet hold back before a last activity except if approved by a human.

Notwithstanding, if security was not a factor, a robot could be permitted more noteworthy opportunities. Richards (2017b) additionally talks about a further developed phase of ABM self-rule where they become managers of human groups. He demonstrates this would raise various issues. Above all else, numerous workers may lean toward a fellow human manager. Richards (2017b) additionally contends that if a robot turned into a manager, people would normally scrutinise the idea of the errands close by. Just other robot individuals from the group would not suggest conversation starters except if they were intended to do as such.

In surveying the achievement of robot—specialist groups, it is not sufficient to break down just the quantitative viewpoints. Any examination needs to consider the long haul impacts that acquainting robots with a group may have on human components. What will be the effect on trust in the gathering overall? By what method will mentalities to work and other colleagues change? It might be that profitability rises at first, yet the group's elements change with the goal that blunders become progressively normal. After some time, in any case, a portion of the inquiries that emerge from human–specialist collaborations may turn out to be less essential. As fabricated brainpower propels, robots may come to be viewed as social specialists. At last, a group may turn into a solitary unit with a common "limited judiciousness" (Richards, 2017b).

2.9   Algorithms

The rise of the internet created a hope among economists and policymakers that it would lower labour market search costs and lead to better market outcomes. In numerous online item advertises, the making stage presently goes past essentially giving data in that it makes unequivocal, algorithmically produced proposals about whom to exchange with or what to purchase (Resnick & Varian, 1997; Adomavicius & Tuzhilin, 2005; Horton, 2017; Varian, 2010). Algorithmic frameworks can attempt to gather inclinations, decide the attainable decision set and afterward explain the eventual purchaser's compelled advancement issue. Getting it done, calculations can join data not accessible to any individual gathering. Moreover, these calculations have zero peripheral expense, and suggestion quality possibly improves with scale. To date, calculations have been uncommon in labour markets, however as more parts of the work advertise become computer-mediated, suggestions will turn out to be progressively achievable. In any case, it is not certain that work advertise proposals can definitively enhance what businesses can accomplish for themselves. Maybe picking who is fitting for a specific employment opportunity requires assessing unspeakable characteristics that are hard to catch in a factual model. Then again, maybe amassing a pool of sensible candidates is not unreasonably exorbitant to bosses. Past the point of view of the individual business, a worry with proposals is that, by structure, they urge a business to think about

certain workers however not others. On the off chance that swarm out impacts are solid—which has been the situation in some pursuit of employment help programmes in customary work markets (Crépon, Duflo, Gurgand, Rathelot, & Zamora, 2013)—proposal mediations are less appealing from a social welfare point of view.

Horton (2017) states that algorithmic recommendations are both acted upon by employers and effective at raising hiring, at least for some kinds of job openings where more applicants of high quality are valued. While the algorithm is a "black box", it is focused on helping the demand side of the labour market; most other active labour market policies have focused on the supply side. Serving firms is more productive than serving specialists. There is a shallow symmetry between employment opportunities and specialists. Employment opportunities can be promptly made and obliterated by managers voluntarily, and keeping in mind that specialists do enter and leave the work showcase, it appears to be likely that a business' choice to make and fill an opening is more flexible as for help than the work drive investment of an individual worker. As a greater amount of the work showcase moves toward becoming computer-mediated, the potential outcomes for stage based mediations develop in degree and power. Stages perpetually gather tremendous measures of information on market practices and results, they additionally have almost full command over what data advertise members can see, and when. This probability could have huge value and proficiency ramifications for world markets.

2.10   Method

2.10.1   Study Design

The critical review of the research literature entailed a broad systematic review of contemporary research on the themes of smart technology, artificial intelligence, robotics and algorithms (STARA). This approach allowed the author to evaluate documented research on employees' perceptions and wellbeing in future workplaces.

2.10.2   Study Eligibility Criteria

The boundary of the systematic review was defined to include only documented contemporary research in the field of career psychology published from 2015 to 2019. A search was done by means of an on-line information technology service, including search engines such as EBSCOhost/Academic Search Premier, and Google Scholar academic databases. The terms smart technology, artificial

intelligence, robotics and algorithms and 4th Industrial Revolution were used in the search. The full texts of publications were downloaded from the databases in order to ascertain which articles to include or exclude from the systematic review. The inclusion criteria for articles reviewed for the purpose of this chapter were studies exploring employees' perceptions and wellbeing in future workplaces. The research articles were treated as the sources of data.

2.10.3   Data Analysis

A qualitative approach was followed in exploring Smart technology, artificial intelligence, robotics and algorithms, the 4th Industrial Revolution and employees perceptions and wellbeing in future workplaces. In the first stage, the author read the studies carefully to form a comprehension of the phenomenon STARA under exploration. In the second stage, the author synthesised a portrait of the phenomenon STARA that accounts for relations and linkages within its aspects. Stage 3 consisted theorising about how and why these STARA relations appear as they do, and Stage 4 consisted of re-contextualising the new knowledge about the STARA phenomena and relations back into the context of how other authors have articulated the evolving knowledge. Forty-eight studies were identified in a systematic search for relevant research published between January 2015 and February 2019 in the following electronic databases: EBSCOhost/Academic Search Premier and Google Scholar Academic database. Publications were evaluated for quality, and eight studies were identified as the primary sources for exploration.

2.10.4   Strategies Used to Ensure Data Quality

Systematic, rigorous, and auditable analytical processes are among the most significant factors distinguishing good from poor quality research. The researcher therefore articulated the findings in such a manner that the logical processes by which they were developed are accessible to a critical reader, the relation between the actual data and the conclusions about data is explicit, and the claims made in relation to the data set are rendered credible. Considerations were also made in terms of potential publication bias (i.e. the assumption that not all research on the topic may have been published), trustworthiness or credibility, true value and quality, appropriateness, and reflection on the research endeavour in its entirety, as well as best practice. Value and quality were assured by reviewing each article in terms of scientific and methodological rigour in exploring smart technology, artificial intelligence, robotics and algorithms, and employees' perceptions and wellbeing in future workplaces. All data were retained for possible future scrutiny.

2.11 Discussion and Practical Implications

2.11.1 Industrial and Organisational Psychology and the Maturation of Artificial Intelligence and Learning Technology

Organisations are managing a flood of new human resource-interrelated information and technologies. Information is accruing faster, it is getting advanced and it is received in a multitude of forms (for example, big data). Technology is emerging that deduces to make use of such information, but it is sprouting at a pace faster than organisations can assimilate, and faster than science can meticulously assess. Organisational leaders have been racing to determine how to exploit this brand-new wealth of information and technology, but in a milieu where advances are occurring so quickly, it is easy to feel engulfed. To appreciate the value of I-O psychology, it is important for managers to look beyond the publicity surrounding AI/ML human resource technology and to consider tough downstream questions. I-Os can be of value in not only assisting managers separate the wheat from the chaff when it comes to assessing existing AI/ML technology for human resources, but also in creating stout AI/ML human resource technology for their organisation in the first place. In this section, five questions are posed and answered to illustrate the value of I-O psychology in the assessment and creation of AI/ML technologies (Putka & Dorsey, 2018).

How does AI/ML technology ensure data integrity it ingests to inform predictions or forecasts? Ensuring data integrity has to be the responsibility of a person or a team and not a machine. I-O psychology offers a profundity and research experience that eclipse many other fields in respect of objectively assessing the value of "people data" and the extrapolations made with that information.

What verification can the developers of AI/ML technology provide of the value of the output it produces? "Evidence" must withstand judgement in the light of professional principles and standards that have existed for decades. These principles and standards draw profoundly on research and practice in the discipline of I-O psychology and related scientific fields that relate to the assessment, prediction and explanation of people's psychological characteristics, behaviour and feelings.

What verification can the developers of an application provide that it will have a demonstrable positive impact on an organisation? Implementing this technology will decrease turnover among new employees by 20% and save organisations money. Assertions regarding what any given portion of AI/ML can accomplish vary in terms of the quality of the proof upon which they are grounded. Assessing the quality of findings and data created to assess the effectiveness of AI/ML-related human resource technology is something that I-O psychologists are qualified to do.

What possibility is there for the application of the technology to have unfavourable consequences? If an AI/ML human resource application lives up to its publicity (for example if adoption leads to a significant decrease in turnover, an increase in speed to hire, a more engaged workforce or increased competence), it may come at a concealed cost. Organisation is unwilling to acknowledge for example, a reduction in workforce diversity, a defilement of employment law or a breach on employee confidentiality. In the employment sphere, I-O psychologists are well accustomed to the trade-offs and corollaries related with various types of assessment and decision-making approaches. These unplanned consequences can be very hard to ascertain without going beyond the technology and getting into the essence of why the technology "works" and having subject knowledge with the content concerned.

Why does the technology work? Employment decision-making does not transpire in a void. It transpire in an increasingly multifaceted regulatory environment (for example, employment and data privacy laws), which becomes even more multiplex if working across territories. The discipline of I-O psychology has been absorbed in these matters since lawful requirements underlying workforce decisions have existed. This is a fundamental issue for the I-O field. Comprehending why the technology creates the resolutions it does is critical to assessing its defensibility from a governing viewpoint.

AI/ML technology does not just have possible legal inferences for organisations. Matters of intrinsic trust are a main factor of technology implementation that is often disregarded. Contemplate an employee who obtains career-altering commendations for instruction or a career pathway from a machine, or a reputable manager tasked with affecting promotion decisions who obtains supplemented machine guidance. Managers and employees must have access to the "why" behind the commendations offered. Fortunately, the area of "explainable AI" is a lively research area, but such lines of investigation can only gain from subject matter knowledge and the use of proven theory. In terms of I-O psychologists' education in assessment and original theories, they are well trained to assist and explain what is transpiring "beneath the surface".

The last question can be asked: Are I-O psychologists propelling AI/ML technology change, attempting to be "fast followers", or are they merely standing on the sidelines, hoping to change the discussion down the road? Certainly, some I-Os are part of technology start-ups and are conducting thought-provoking research using AI/ML and designing great applications of the technologies, but Putka and Dorsey (2018) point to a more prominent role. In this role, I-Os not only help to shape the great guarantee of AI/ML technology implementation, but also serve the greater purpose integral in the mission of the I-O field, which is to improve human well-being and to safeguard long-term organisational performance and flourishing.

2.11.2   Career Planning and STARA

STARA awareness exemplifies the degree to which workers see the likelihood that smart technology, AI, robotics and algorithms will affect their future career expectations. Greenhaus and Kopelman (1981) recommend that career planning has several principles and consecutive components. These components are grounded on data around (1) an employee's interests, qualities and aptitudes, (2) work environment prospects and (3) a worker's work–family/relaxation interests, prerequisites or inclinations. The employee may likewise have his/her very own targets and procedures to achieve his/her ideal career results. By and large, career planning "alludes to people's illustrating future career advancements and to their defining and seeking career objectives" (Zikic & Klehe, 2006). Career planning is a continuous procedure that is evaluated and completed over one's lifetime.

Brougham and Haar (2018) affirm that the impact of STARA is also likely to increase the eminence of the boundaryless career. Boundaryless careers are seen and defined as the converse of organisational careers—careers considered to evolve in a particular employment location (Arthur & Rousseau, 2001). They are particularly appropriate and protruding when corporations and employees are attempting to adapt to the contemporary economic epoch (Arthur, 1994: 296) owing to budget pressures and disrupting technology. Inkson (2006) recapitulates what is occurring to careers by asserting that the old-fashioned picture of secure employment and related organisational careers is disappearing. The approach to observe careers needs to be self-motivated, revolutionising and unexpected. In view of that STARA is probable to change employment in a profound manner, it is expected that the very nature of career planning be at a pivotal time.

In the event that the estimates of Frey and Osborne (2013) are even respectably right, work environment prospects could be diminished profoundly, making it troublesome for employees to design their careers. This makes an employee's qualities and gifts, just as work–family/relaxation securities, superfluous to the career planning practice. For instance, driverless vehicles can at present substitute a worker with an individual love for vehicles and a limit with respect to driving expanded periods. Inside the career planning practice, STARA cognizance is viewed as an expansion or a piece of how employees consider their imminent career expectations inside their present employment, work environment and business (Brougham & Haar, 2018).

2.11.3   STARA and Job Outcomes

The career-planning model positioned by Aryee and Debrah (1993) emphasises the effect that career planning has on other facets of work. For example, effective career planning advances a strategy being formed to meet employee's goals, which in turn affects career fulfilment. Career fulfilment promotes self-esteem of employees at

work and overall dedication to their careers (Aryee & Debrah, 1993). Chen, Chang, and Yeh (2004) found in their research that when there was a disparity between career-development programmes and career requirements, the employees' job attitudes were affected by having elevated turnover intentions. Employees need to feel that their employer is affording them with adequate training, funding and other developmental programmes that empower them to move forward with their careers. Chen et al. (2004) suggest that bridging the gap between career-development programmes and career requirements could also have a positive influence on productivity and organisational commitment.

Brougham and Haar (2018) assert that STARA awareness, could have a related detrimental effect on the important job outcomes of organisational commitment, career satisfaction and turnover intentions, since STARA can jeopardise an employee's general career development and make it all the more demanding to satisfy their requirements. For instance, if a business effectively investigates and tests mechanical autonomy to supplant workers, an employee is probably going to frame the view that he/she is undervalued and not considered exceedingly by his/her boss. This is probably going to progress to bring down hierarchical responsibility and higher turnover goals. In actuality, it winds up harder for an employee to feel like he/she is 'a piece of the family' (Meyer, Allen, & Smith, 1993) if the executives is scanning for approaches to supplant labourers with STARA. It has additionally been discovered that worker's duty to their profession can be contrarily identified with career withdrawal intentions (Aryee & Tan, 1992). In the event that STARA possibly suggests that a worker's activity is in risk he/she could be fortified to consider alternative employment.

Aryee and Debrah (1993) found that a career plan is related to the expansion and implementation of a career strategy, which, in turn, is related to career satisfaction. They suggest that this reinforces the awareness that the employee has control over his/her external environment. Furthermore, for employers, career planning is important for purposes of succession management, business continuation and risk mitigation. Brougham and Haar (2018) note that STARA awareness will pose a threat to feelings of control, in that the peripheral environment could influence employees' perceptions of achieving their career aspirations. This is likely to have a negative influence on career satisfaction.

2.11.4 STARA and Employee Wellbeing Outcomes

Brougham and Haar (2018) indicated that STARA awareness would not only effect job outcomes, but also employee wellbeing outcomes. The manner in which employees build their identity with their career and assess their own career success can have an impact on their psychological wellbeing (Mirvis & Hall, 1996; Wiese et al., 2002). It is unsurprising that when worker's future prospects are diminished, their

wellbeing will weaken. For instance, work instability inside organisations can considerably affect employees' psychological wellness. Dekker and Schaufeli (1995) demonstrated in their research that activity frailty was an estimate of mental wellbeing (for instance mental pressure and burnout). By and large, Dekker and Schaufeli (1995) presumed that long haul vulnerability in an occupation was more unsafe than knowing whether a worker would have been made repetitive, expressing that the silence from above certainly dissolves the degree to which employees experience control over the fate of their careers.

It is clear that this vulnerability over the eventual fate of work and professions could be toxic for certain employees. Chen et al. (2004) recommend that when needs are unfulfilled inside workers profession alternatives, there could be a development of tension and anxiety inside an organisation. Brougham and Haar (2018) state that STARA awareness could contribute to this development of anxiety and stress. In any case, at the opposite end of the scale, those workers who are superbly uninformed of the change that are occurring may adapt superior to those individuals who realise their career prospects could be obliged due to STARA. Mirvis and Hall (1996) assert that one prominent way in which "working people have coped with disillusionment is by sliding into cynicism … [I]n doing so they lower their expectations of commitments to an employer." Depression has been thought of as 'low pleasure and low arousal' (Axtell et al., 2002), while cynicism relates to apathy or a distant attitude towards employment and having a cold-hearted and pessimistic attitude towards work (Roche & Haar, 2013). Brougham and Haar (2018) state that STARA awareness will leave an employee with lower levels of excitement and pleasure (for example, "an inanimate object – a robot – may do my job better!") and similarly lead to distrust and insignificance at work (for example, "why bother with this job, once the robot is programmed I will be given the boot").

2.11.5 STARA Competence Model for Employees in Industry 4.0

STARA creates many new opportunities for companies, but at the same time, several challenges are arising from the ongoing automation and digitisation. Hecklaua et al. (2016) refer to studies on competencies needed for future work. This comparative study was conducted for the purpose of confirming the importance of the deducted competencies for STARA. The competencies are clustered into four main categories of competencies.

2.11.6   Specialised Competencies

- STARA knowledge: Owing to cumulative task accountability, knowledge is becoming increasingly significant.
- Specialised competencies: All-inclusive specialised competencies are required to change from operational to more strategic functions.
- Process comprehension: Advanced process intricacy demands a wider and deeper process comprehension.
- Media abilities: Accumulative virtual work requires employees to be able to use smart technology and media, for example, smart glasses.
- Programming abilities: The intensification of algorithms and digitised processes initiates an advanced demand for employees with programming abilities.
- Understanding Information Technology security: Virtual functions on servers or platforms compels employees to be aware of cybersecurity (Hecklaua et al., 2016).

2.11.7   Methodological Competencies

- Creativity: The need for more smart technology and innovative products, as well as for internal enhancements, calls for creativity.
- Innovative thinking: Every employee with more accountable and strategic functions has to act as an innovator.
- Problem solving: Employees must be able to identify sources of mistakes and be able to improve processes and procedures.
- Conflict solving: An advanced service emphasis increases customer associations; conflicts need to be resolved.
- Decision-making: Since employees will have higher process accountability, they will have to make their own decisions.
- Diagnostic abilities: Constructing and scrutinizing significant amounts of information and multifaceted processes becomes compulsory.
- Research competencies: Employees have to be able to utilise reliable sources for continuous learning in fluctuating environments of AI.
- Proficiency assimilation: Multifarious quandaries needs to be elucidated more proficiently, for example, examining increasing quantities of algorithmic data (Hecklaua et al., 2016).

2.11.8 Societal Competencies

- Intercultural abilities: These abilities involve the understanding of different cultures, especially different work practices, when working internationally.
- Language abilities: These skills involve being able to understand and converse with international associates and customers.
- Communication abilities: Service inclination demands good listening and presentation abilities, whereas increasing virtual work requires sufficient virtual communication abilities.
- Networking abilities: Working in a highly globalised and interconnected value chain requires knowledge networks.
- Teamwork abilities: Increasing teamwork and collective work on platforms demand the ability to respect team rules.
- Compromising and cooperative abilities: Units alongside a value chain develop into equal associates; every project needs to create win-win situations, particularly in organisations with increasing project work.
- Knowledge transfer abilities: Organisations need to retain knowledge; given the current demographic transformation, explicit knowledge and tacit knowledge need to be exchanged.
- Leadership abilities: More responsible functions and flattened hierarchies result in every employee becoming a leader (Hecklaua et al., 2016).

2.11.9 Personal Competencies

- Flexibility: Escalating virtual work makes employees time and place independent; work–task rotation further necessitates employees to be flexible with their job responsibilities.
- Uncertainty tolerance: This involves enduring change, especially work-related change due to work–task rotation or reconfigurations.
- Continuous learning: Frequent work-related transformation makes it compulsory for employees to be willing to continue to learn.
- Ability to work under pressure: Employees involved in innovation processes must be able to cope with increased pressure, due to shorter product life cycles and reduced marketing time.
- Sustainable mindset: As representatives of their organisations, employees need to support sustainability initiatives.
- Compliance: This involves stricter rules regarding Information Technology security, working with machines or working hours (Hecklaua et al., 2016).

- Resilience: This involves the capacity of the employee to cope in spite of STARA, or barriers, or limited resources. Resilient employees are willing, and able, to overcome fears of STARA by tapping into their emotional strength.

2.11.10 STARA Mindfulness

In their research, Brougham and Haar (2018) investigated workers' STARA mindfulness and whether employees feel that innovation is taking their occupations or changing their professions. The discoveries from their examination offer intriguing understanding into how people see their future business and profession prospects, and how those perspectives influence their activity and prosperity results. Workers should consider their career openings and how they relate to STARA. The results from the research demonstrate that when employees are progressively aware of STARA and its application to their action, they will undoubtedly have lower legitimate obligation and career satisfaction. This falls into line with the calling organising model put forth by Aryee and Debrah (1993), who prescribe that career planning can propel a positive cycle that extends career satisfaction and certainty at work. Therefore, the coming of STARA may spell the conclusion to fruitful career planning and in this way lead to impeding impacts, strengthening fierce changes of a boundaryless career, which could turn out to be increasingly pervasive later on because of innovation changes. In addition, employees with a higher view of STARA are probably going to have higher unfriendly consequences for turnover expectations, melancholy and criticism. Development related career desires that do not emerge, thus, have been related with pressure, burnout and turnover aims (Virtanen, Kivimäki, Virtanen, Elovainio, & Vahtera, 2003).

STARA was found to not be altogether related to work weakness, and this recommends it might for sure be taking advantage of something at the centre of basic work and career planning. With occupation instability, an employee may confront losing his/her employment and searching for another. With STARA, the activity and the whole business of work may vanish. Obviously, employee unwaveringness and responsibility have been diminished as the possibility of lifetime work in organisation has vanished (Mirvis & Hall, 1996). This is particularly valid with the regard to the ascent of impermanent contracts. STARA could be viewed as a major aspect of this movement of undermining long haul duty inside an industry. Baruch (2004) talks about the significance of workers moving far from duty and dependability, expressing that from the individual point of view, it is a goodbye to conventional pledge to the organisation, moving to different duties, which incorporate simply a restrictive promise to the organisation. This point of view toward responsibility, and surely pledge to one's profession, may must be the future desire for some workers. Nevertheless, employees may as of now see customary careers as something of the past and might be unquestionably increasingly open to the

possibility of boundaryless careers that are dynamic and consistently changing dependent on the business setting (Brougham & Haar, 2018).

Brougham and Haar (2018) additionally discovered that at large amounts of STARA mindfulness, more seasoned employees indicated little contrast in responsibility, career fulfilment and turnover goals contrasted and those employees with low STARA mindfulness. This could be because more seasoned workers (even the individuals who know about the capability of STARA) do not consider STARA to be a noteworthy risk to their present place of employment and profession prospects. While this may mirror that they are wilfully ignorant of these potential changes, it is bound to speak as far as possible of the career cycle for these employees. Subsequently, more seasoned employees have less anxiety from their STARA mindfulness.

2.12   Conclusion

This Chapter centered on various ramifications of STARA, particularly for individual employees. Current employees should inquire about the probability that STARA will change the profession they are in or are hoping to enter. Thus, they may likewise be progressively aware of the ramifications of STARA inside their industry and these potential changes. Maybe employees will likewise need to move their contemplations from direct career frameworks and begin considering professions multidirectional (Baruch, 2004). Given the increasing expense of instruction, people need to focus on careers that are probably going to give them employment. As the supply of very talented graduates proceeds, with constrained employment prospects toward the finish of a considerable lot of these degrees (Beaudry, Green, & Sand, 2013), this may make genuine difficulties for future occupation searchers. Likewise, colleges and universities should know about ventures that are conceivably in decrease and be mindful to not display them as productive careers of business. We do not know whether STARA will annihilate or make employments, since occupation creation has been the consequence of past modern transformations. STARA could possibly make a greater number of occupations than it uproots, and remove the modest employments from the market (Brougham & Haar, 2018; Pryor, Amundson, & Bright, 2008).

Moreover, AI and ML are helpful for utilising the developing measures of information accessible to organisations in making expanded proficiency and producing new bits of knowledge. As AI and ML become increasingly normal, I-O psychologists can lead the route in guaranteeing the fitting utilisation of information and calculations, helping with the translation of results and guaranteeing the legitimate solidness of information models and their use. I-O psychologists can likewise help pioneers by understanding their employees' responses to their new AI "colleagues" through frame of mind overviews and by creating intercessions to enable employees to adjust to the change. As both of these strategies keep on picking up footing, it will be basic for organisations to incorporate I-O

psychologists in their information science groups to use skill in mental hypothesis, techniques, career planning, and the executives in guaranteeing ideal results for associations (SIOP Communications Department, 2019). This new period of progress could be viewed as a period of energy for certain employees and could be held onto as an open door for investigation and self-awareness. At last, what is to come is hard to anticipate, it is intuitive, rising, and dynamic. The role of the business in supporting employees through occasions of progress and by offering wellness programmes to assist employees to adapt, could not be excessively underscored.

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Rudolf M. Oosthuizen received a BA degree (Cum Laude) from the University of Pretoria in 1992 and obtained a BA (Honours) in Psychology at the same university in 1993. In 1999, he received an MA degree in Industrial and Personnel Psychology from the Potchefstroom University for Christian Higher Education. In 1999, he registered as Industrial Psychologist with the Health Professions Council of South Africa. In 2005, he completed a DLitt et Phil in Industrial and Organisational Psychology at the University of South Africa (Unisa). Currently Rudolf is an associate professor in the Department of Industrial and Organisational Psychology at the University of South Africa. Rudolf is the manager for the MCom IOP programme, and he is responsible for the lecturing of honours subjects and the supervision of master's and doctoral students. He has presented conference papers at national and international conferences, and published articles in accredited scientific journals. Rudolf's fields of interests are (1) career psychology, career development and management from an individual, group and organisational perspective in the 21st century world of work; (2) positive psychology, with the focus on salutogenesis and wellbeing, sense of coherence, locus of control, self-efficacy, the hardy personality and learned resourcefulness; (3) employment relations and the improvement of the quality of employment relations in organisations and in society in general; and (4) the 4th Industrial Revolution (Smart Technology, Artificial Intelligence, Robotics, and Algorithms).

Chapter 3
Promoting a Decent Work Context and Access to Sustainable Careers in the Framework of the Fourth Industrial Revolution

Cecilia Toscanelli, Laurence Fedrigo and Jérôme Rossier

Abstract The fourth industrial revolution has transformed the world of work and the interactions between individuals and their social, political, and economic environment. This revolution exacerbated older problems and generated new ones. Over-stimulation at work, stress and burnout, and under-stimulation, boredom or loss of meaning due to increased abstraction of tasks, are examples of such problems. To analyze these changes and new challenges, this chapter describe the implications of this new revolution for the job market and for individuals. Thereafter, the chapter presents various career counseling theories and models that acknowledge this new reality. These models aim to strengthen individuals' ability to manage their career paths, to promote access to decent work and decent lives, and to promote wellbeing. Finally, the life design intervention will be presented as an example of an intervention that aims at promoting access to sustainable careers. The current goals of technological advance could threaten the access to decent work and contradict a vision of society that puts the free-will of individuals in the first place. For this reason, lifelong career counseling will be crucial in helping individuals manage their career path in this dynamic world of the fourth industrial revolution.

Keywords Digitization · Technology · Wellbeing · Sustainable career

3.1 Introduction

3.1.1 Context and Definitions: The Fourth Industrial Revolution

The world of work evolves constantly, demanding a constant redefinition of the dialectical adaptation processes between individuals and their work environments.

C. Toscanelli (✉) · L. Fedrigo · J. Rossier
University of Lausanne, Lausanne, Switzerland
e-mail: cecilia.toscanelli@unil.ch

Following the work of Frey and Osborne (2017), Hirschi (2018) explains that changes in the world of work can be linked to three historical milestones. The first was the industrial revolution of the 18th century, the second involved the massive production of goods in the 19th century, and the third characterized by the advent of Internet and the dominance of computers in the second half of the 20th century. Other literature highlights the emergence of a more recent and important transformation, the Second Machine Age (Brynjolfsson & McAfee, 2014), Industry 4.0 (Schwab, 2016), or a fourth industrial revolution (Schwab, 2016). This new transformation is characterized by a *digital revolution* and power spreading technology in a wide variety of areas at high speed and low costs. Schwab (2016) defines this phenomenon as being related to three characteristics. The *velocity* referring to the speed of a phenomenon which, by opposition to previous revolutions, develops not linearly but exponentially. This results from the diffusion and the constant evolution of technology, creating an interconnected and technologically efficient context. The *breadth and depth* refer to societal, economic and individual paradigms in the digital sphere, as Schwab (2016) states: "It is not only changing the "what" and the "how" of doing things but also "who" we are" (p. 3). Finally, the concept of s*ystem's impacts* defines the macroscopic and the mesoscopic impacts of the fourth industrial revolution on and between societies, industry and nations.

Beyond the three abstract dimensions—velocity, breadth and depth and system's impacts—Schwab (2016) also describes the fourth industrial revolution as a concrete and tangible phenomenon, distinguishing three categories of products and innovations. The *physical* category includes self-driving cars, 3D printers, advanced robots in terms of *materials* that are and will be increasingly producible and available. The *digital* category includes the concept of the *internet of things* that could play the role of a bridge between the digital sphere and physical application(s). Finally, the *biological* category in which the author notes the incredible progress in fields such as neuroscience and the health sciences. For example, in the domain of genetics, the speed and efficiency of technology could now enable genetic sequencing to be done quickly at very low cost. To illustrate the scope of this phenomenon, Schwab cites survey results of the World Economic Forum's predictions regarding the critical thresholds by 2025 for technological change and its diffusion. More than 80% of the respondents anticipate that we will have the first robotic pharmacist in the US, the first 3D-printed car in production, the first government to replace its census with big-data sources, and the first implantable mobile phone available commercially by 2025. More than 60% of respondents expect to see driverless cars replace 10% of all cars on US roads, the first collection of tax by a government via a blockchain, the first transplant of a 3D-printed liver and the first city with more than 50,000 people and no traffic light (World Economic Forum, 2015). From a capitalist perspective, where changes in the world of work are imposed on workers (Graeber, 2013), this analysis offers the ground for a simple but very important statement: the world of work is changing quickly, and societies and people are trying to face these changes.

3.1.2 Chapter Objective

This primary objective of this chapter is to analyze the changes and new challenges of industry 4.0 and to describe the implications of this new revolution for the job market and for individuals. This chapter furthermore presents various career counseling theories and models that acknowledge this new reality.

3.2 Consequences and Effects of the Fourth Industrial Revolution

3.2.1 Implications for Work

With the intention to highlight the consequences of this fourth revolution, this section will analyze the implications for work, presenting the phenomenon of job polarization and its implications for the nature of work, both in form and content.

3.2.1.1 Job Polarization

In the framework of the diffusion of technology in the world of work, it is important to recall the "polarizing" effect generated by technological progress on the labor market, in which some sectors are more likely to be affected by automation and digitization (Autor, 2015; Goos, Manning, & Salomons, 2014). Recently, Hirschi (2018) defined two aspects of the phenomenon of job polarization. On the one hand, the author explains that middle-skilled jobs (e.g. management, administration and services) are the most likely to be impacted by technology because their tasks "follow precise, predictable procedures" (Hirschi, 2018, p. 3), and can therefore become automated. This type of job indeed decreased in Switzerland by 12% between 1996 and 2015 (Soceco et al., 2017). On the other hand, low-skilled jobs, where automation seems unprofitable, such as care, cleaning or security, are harder to automate and are relatively easy for humans to execute. High-skilled jobs, such as technicians, educators or managers, which involve tasks linked to complex problem-solving and reasoning as well as to advanced social skills, are still difficult to automate. Although some have announced the end of these occupations and the disappearance of up to 50% of all current jobs (Frey & Osborne, 2017), most observers do not yet anticipate massive job loss or significant and structural increase of unemployment (Arntz, Gregory, & Zierahn, 2016; Autor, 2015; Furman, 2016). To explain this contradiction, we can imagine that technology, while destroying some jobs, also creates new ones or plays a complementary role in jobs that already exist (Autor, 2015).

Automatization could also affect the distribution of wages. Hémous and Olsen (2016) explain that automation and innovation can exacerbate the salary gap: the will to invest in technology will diminish the labor share and the growth rate of low-skill incomes. In fact, these authors explain that "the growth rate of high-skill wages approaches 4%, while the growth rate of low-skill wages goes down to around 1%" (p. 26). Hong and Shell (2018) argue that automation could increase inequality "because it tends to displace the lowest-paid workers" (p. 2). These authors explain that the most probable scenario is that automation will affect low-skilled employees by a "20 percent pay cut on their original income" (p. 2), whereas the wages of high skilled work continue to rise. This phenomenon is also accompanied by the dualization of the workforce, where employment status and career trajectories seem to differ in terms of security, perspectives, and social integration between the primary and the secondary market (Häusermann & Schwander, 2012).

3.2.1.2 Changes in the Form and Content of Work

Since the 1990s, the world of work has undergone intense and profound changes. Examples include globalization—of capital and labor—and its effects on intensifying the competition for job security and increasing requirements for flexibility and adaptation. The intense technological progress brought by the third industrial revolution had, through the digitization and automation of work, already significantly transformed the modes of production and the relation to work. Ellul (1988) described how the technical progress leading to separation between individuals and work has become more and more pronounced. The workload has been increasingly divided into definite and interchangeable units and functions, which leaves aside the global *know-how* of the human worker doing a task from the beginning to the end. As the work is divided into a series of small tasks, workers will no longer complete "end-to-end" work, but rather perform a series of tasks synthesized into a final result (Ellul, 1988). This phenomenon is amplified by the fourth industrial revolution.

As mentioned, the fourth industrial revolution has led to an increase in mechanization and automation. In the current era, technology has become an integral part of the world of work, not only as a physical auxiliary to human work, but maybe more importantly in simulation and substitution of the human workforce (Brynjolfsson & McAfee, 2014). Lasi, Fettke, Kemper, Feld, and Hoffmann (2014) explain that the labor market will face subsequent changes, under the influence of what they call *technology-push.* These authors mention in particular the *short development periods*, *individualization on demand*, *flexibility* in development and production, and *decentralization*. They explain that because of the increase of the rhythm and changing demands, hierarchy and decision-making processes need to be shortened. For this reason, the work is changing in both form and content.

Regarding the form—types of employment—we can observe, since the beginning of the 21st century, the creation of new forms of employment. The Eurofound research report (2015) identified nine new forms of employment. For example, *employee* or *job sharing*, in which workers combine more than one job, or in which employers hire more than one employee to fill a full-time position. Other forms are *interim management* in which an external high-skilled employee is hired *pro tempore* in order to work on a specific task, and *casual work,* in which the worker has to work *on demand*, in a framework of availability and flexibility according to the needs of the employer. Finally, *ICT-based mobile work* is a new form of employment in which, aided by technology, an employee is able to work anytime, anywhere.

Regarding content of work, as mentioned above, job polarization might lead to the disappearance of jobs characterized by automatable tasks, but might also lead to the creation of new or complementary ones. As a result, we wonder what kind of jobs technology creates and how it changes the *old* jobs which survive. Some authors hypothesize that technology will free human beings from boring and repetitive tasks, letting them benefit from an occupation allowing the expression of creativity (Autor, 2015). Other authors have a more luddite opinion about the role of technology, stating that "It's as if someone were out there making up pointless jobs just for the sake of keeping us all working" (Graeber, 2013, p. 1). In fact, several phenomena have to be considered to understand the effect of technological progress on the content of modern work, which can in some cases be indirect and pernicious (Cassely, 2017; Brygo & Cyran, 2016; Graeber, 2013, 2018). Several authors focus their attention on the recent increase of roles with abstract titles and purposes in developed economies. These occupations consist of a set of redundant tasks whose social utility or personal interest are difficult to grasp for those who perform them (Guichard, 2016; Cassely, 2017). Coutinho, Dam, and Blustein (2018) explain that "[…] it is likely that there are not enough intrinsically motivating jobs and meaningful work options available to the majority of people given the demands of free market capitalism and the infusion of technology, which is reducing the need for many types of workers" (p. 14). The emblematic example of so-called *bullshit jobs* illustrates the idea of occupations with no obvious meaning and utility.

3.2.2   Implications for Workers

In this section, we will examine some of the implications of the fourth industrial revolution for workers, analyzing the relationship between humans and technology at work, and then focusing on how technological developments impact the work context (loss of meaning, alienation, and boredom at work). Finally, we illustrate this issue with the representative examples of bullshit jobs (Graeber, 2013), *nasty jobs*, and *detrimental jobs*.

3.2.2.1 Implications of Changing Forms of Work

The new forms of employment could lead to some advantages, for example flexibility, diversification, or personal enrichment (Eurofound, 2015) especially for high-skilled professions. Nonetheless, they hide more than one danger. These new forms of jobs can increase stress, tear down boundaries between professional and private life, remove the security for the employee to benefit from (and the employer's responsibility to give) work and social protections (Eurofound, 2015). Moreover, the ILO (2019 points out that "[…] many of our societies are becoming more unequal. Millions of workers remain disenfranchised, deprived of fundamental rights and unable to make their voices heard" (p. 21). In addition, this context contributes to remove the sensation of continuity and stability in opposition to flexibility (Eurofound, 2015). Additionally, technological advances increase the vulnerability of low-skilled workers as many industries employ less workers, leaving them without local alternatives (Coutinho, Dam, & Blustein, 2018). Coutinho and colleagues also notice that greater mobility of the labor force is expected, which means that workers must be ready to leave their country or travel great distances to work.

The ILO (2019) states that "A staggering 300 million workers live in extreme poverty. Millions of men, women and children are victims of modern slavery. Too many still work excessively long hours and millions still die of work-related accidents every year" (p. 18). This in particular concerns large number of workers of developing countries. These new forms of employment imply a new social contract that puts more responsibility on the individual and therefore seems more in favor of companies. The ILO (2019) explains that in fact, "wage growth has not kept pace with productivity growth and the share of national income going to workers has declined. The gap between the wealthy and everyone else is widening" (pp. 18–19).

3.2.2.2 Technology as an Obligation Rather Than a Choice

Historically, literature has focused on technology as a tool that human could choose to use or not, with this choice depending on various factors. This approach led to numerous studies about the ergonomics of the workplace or about worker-machine relationships. For example, Davis (1989) and DeLone and McLean (1992) studied under which conditions an individual will choose to use specific technology or not. In the actual work context, many people do not have the freedom anymore to choose to use technology or not. The current context seems to follow an implicit logic that favors technological progress rather than human action at work (Ellul, 1977, 1988). The human being is sometimes conceived as the auxiliary of this valued technical progress. Sometimes, the technology become so pervasive that individuals have no choice but to adapt, which can lead to job dissatisfaction for

some people. Several authors instead consider the human-technology relationship from a symbiotic point of view (Brangier & Hammes, 2007; Ellul, 1977, 1988). Brangier and Hammes (2007) explain that this perspective considers technology as an extension of the human being, in a relationship of mutual influence. As an illustration, they use the metaphor of a symbiote of humans, in a logic of common life, as for example the warthog and the mongoose, or the remora and the shark, with one major difference: it is the human who develops the technology. Technology exists in an *ambivalent way* (Ellul, 1988) being able to pass from a state of symbiote to a parasite: in other words, technology would participate in facilitating human life as well as in alienating the human condition (Brangier & Hammes, 2007). Hence, in a systemic perspective, it is crucial to consider that the equilibrium of the technology-human symbiosis is delicate, and must not be considered a stable state.

3.2.2.3 Evolution of the Content of Work, Both on Quantity and Quality

The technological evolution has impacted the content of work, in terms of both quality and quantity. Concerning quality two aspects have to be considered: the effects of technology on the nature of work, and the increasing need for workers to actualize competence in order to adapt to this constant technological change. As mentioned above, the technological evolution has significantly changed the production systems with no choice for workers about adapting to this new context. As we mentioned above, the new systems of production, splitting the workload into tasks, can diminish feelings of gratification and achievement (Mann, 2007) instead increasing a sense of incoherence. The loss of autonomy and freedom to choose how to perform tasks, and non-stop connections with the digital world, can diminish variety, which can lead to a feeling of alienation and disconnection. This phenomenon seems especially true for high-skilled individuals who have the opportunity to think about reconversion. The need for concrete achievements is illustrated by Cassely (2017) when he presents the case of a former banker who became a grocer, or the case of an engineer with a master's degree in management who became a dairy woman. In fact, when individuals who have experienced such changes explain their choice, we can observe a common denominator related to technology (Cassely, 2017). Technology seems sometimes to cause feelings of abstraction, a gap between the "concrete" and a lack of variety in the activities (Brygo & Cyran, 2016; Cassely, 2017). This illustrates that abstraction of tasks can become problematic for some workers and that being able to see the concrete results of work can counteract the feeling of alienation. However, as mentioned above, these careers changes are not the norm.

Another challenge regarding content of work is the need for constant actualization in terms of competences linked with technology. The ubiquity of technology in the professional system can become problematic in terms of adaptation. On one side, as the ILO (2019) points out, "Today's skills will not match the jobs of

tomorrow and newly acquired skills may quickly become obsolete" (p. 10). On the other, individuals who have lost their job because it has been replaced by technical progress, are the same individuals that are at risk of not being "equipped to seize the new opportunities" (p. 10).

Concerning quantity, we need to consider over- and under-stimulation at work. Technical and technological progress contribute to a rising work rhythm, pressure and strain and the deleterious effects of occupational pressure on workers' health have been widely documented. The concept of *burnout* (Maslach & Jackson, 1986; Maslach, Schaufeli, & Leiter, 2001) might represent the effects of work overload characterizing modern societies (Weber & Jaekel-Reinhard, 2000). In terms of quantity, the fourth industrial revolution and the rise and expansion of technology also brought another phenomenon, more neglected in the scientific literature in comparison to the abundant reviews on overload and its effects (Reijseger et al., 2013): the suffering from under-stimulation. Various studies report that large proportions of the workforce are affected by chronic boredom, from 15% in a general population (Rothlin & Werder, 2008) to more than 30% of employees in France (Bourion & Trebucq, 2011) or in England (DDI, 2004, cited by Mann, 2007), this proportion rises to 50% in some sectors of activity such as financial services (Loukidou, Loan-Clarke, & Daniels, 2009).

3.2.2.4 Changes in the Workplace Threatening the Meaning of Work

According to Rosso, Dekas, and Wrzesniewski (2010), the meaning of work can be considered from two different and complementary points of view. "Meaning" suggests the purpose or the role of work in the life of an individual. This conception questions socially constructed representations and their relation to culturally conditioned work, also called Ethos of Work (Mercure & Vultur, 2010) or Ethics of Duty (Méda & Vendramin, 2013). The term "meaningfulness" refers to the perception of the individual of the significance of his or her work; this approach therefore aims to capture the subjective feeling of wellbeing or dissatisfaction arising from the coherence between what the subject looks for in his or her work and in what work environment. We find it particularly interesting to consider this second definition. In this perspective, Méda (2016) further explains that beyond the instrumental dimension of work—earning a salary—expectations about work as a means of self-realization have increased. Indeed, people expect their work to be useful and to allow them to realize themselves. To define the meaningfulness of work, Morin (2008) considers six aspects: the usefulness of work defined around social utility, its moral rectitude, the possibility of learning and development within the framework of professional activity, autonomy defined as the ability to assert these skills and one's free will over the work done, the quality of the relationships and the recognition of the work done.

In conclusion, the combination of three contextual factors may underlie a loss of meaning and the prevalence of boredom at work. The rising level of required skills and the automation of work procedures, added to an increasingly insecure market

and globalized competition, are pushing individuals to accept positions outside their skills and aspirations (Loukidou et al., 2009; Van der Heijden, Schepers, & Nijssen, 2012). Technology has a role here. In fact, as the ILO (2019) states, when technology is used in an economical profitable way, it can "render labor superfluous, ultimately alienating workers and stunting their development. Automation can reduce worker control and autonomy, as well as the richness of work content, resulting in a potential deskilling and decline in worker satisfaction" (p. 43).

3.2.2.5 Bullshit Jobs, Nasty Jobs, and Detrimental Jobs

The term bullshit job appeared for the first time in a 2013 article by David Graeber (2013) and published in *Strike!,* an online journal of the radical left. Such jobs are characterized by their lack of social utility and meaning, and are assumed to be created by the capitalist economic system in order to keep people working. Bullshit jobs are defined as "a form of paid employment that is so completely pointless, unnecessary, or pernicious that even the employee cannot justify its existence even though, as part of the conditions of employment, the employee feels obliged to pretend that this is not the case" (p. 10). Automation of work seems to have been sold to the individuals with the idea that it would decrease work hours, but, instead, in a society that is not ready to free humans from work hours, technological advancements have contributed to increase meaninglessness at both societal and individual levels. Cassely (2017) highlights that boredom has become an important issue in the expanding managerial, marketing, and administrative sectors in which —thanks to technology that has accelerated and automated the execution of a large number of tasks—people may work only 15 h a week, spending the rest of the week performing non-work related tasks (Glaser, 2014). In this context, employees can have the feeling of having a bullshit job (Bourion & Trebucq, 2011) and carrying out activities they consider to be useless (Graeber, 2013). Graeber (2013) and other authors (Brygo & Cyran, 2016; Cassely, 2017) highlight the psychological and societal violence of this issue: "How can one even begin to speak of dignity in labor when one secretly feels one's job should not exist?" (Graeber, 2013, p. 1). The author seems to have brought to light an issue. Indeed, his article achieved an unexpected success being approximately read 150,000 times during the first week, and was, the month after, translated into many different languages.

   Authors like Guichard (2016) and Cassely (2017) refer to the concept of bullshit jobs to highlight the increase of new jobs with obscure titles and abstract aims in developed economies. Two others type of jobs have also been associated with a lack of meaning, nasty and detrimental jobs. A nasty job is a professional occupation characterized by dangerous working conditions implying important physical effort, accident, risks, or occupational diseases (e.g., mining, slaughter-house work, harvesting labor etc.). Detrimental jobs are those "which, far from aiming to meet human needs, are explicitly intended to exploit and/or harm human beings, a characteristic that can hardly by ignored by those who perform them" (Guichard, 2016, p. 185). The author gives examples such as credit organizations which

encourage employees to offer mortgages or loans to individuals who cannot afford them, or weapons industries. The reason behind the fact that people do these tasks, and find themselves in the situation of occupying a nasty workplace, is that workers in these contexts are usually individuals who have not the choice to have another occupation to earn their livelihoods.

Moreover, changes in the nature of work arising from the fourth industrial revolution threatens access to decent work. Several authors bring attention to the possible impact of technology (Masdonati, Schreiber, Marcionetti, & Rossier, 2019; Blustein, Kenny, Di Fabio, & Guichard, 2018) and argue that individuals without specialized skills and training may lack access to low- or middle-skilled jobs because they were replaced by machines. Decent work is considered a fundamental human right by the United Nations and the International Labour Organization, which conditions are "access to full and productive employment, benefitting from rights at work, having guarantees of social protection, and promoting social dialogue [… and its access represents] one of the main challenges the world is facing" (ILO, 2013, p. 12). Blustein et al. (2018), citing a report of the National Academy of Sciences published in 2017, call for caution regarding changes that might lead to inequality and difficulties to find a stable job and remind us that consequences are not irrevocable. Moreover, there is still time to decide which impact technology should have on our societies.

3.3   Implications for Practice

3.3.1   New Concepts for New Career Trajectories

Traditionally, careers have been conceived as linear. The employee sought to gradually climb the ranks within the same organization (Sullivan & Baruch, 2009). The fourth industrial revolution has various implications both on work and humans. Given the extent of those impacts and how fast they have taken place in our daily lives along with the increase of various problematics, the question of the implications for our field is crucial. The protean (Hall, 1996, 2004) and the boundaryless (Arthur, 2014; Arthur & Rousseau, 1996; DeFillippi & Arthur, 1994) career models are illustrations of this need to describe new forms of careers. The protean career refers to "a career that is self-determined, driven by personal values rather than organizational rewards, and serving the whole person, family, and 'life purpose'" (Hall, 2004, p. 2). The term of "protean" refers to the Greek god Proteus whose characteristic was to change his shape as it pleased him (Sullivan & Baruch, 2009). In this vision, in addition to wages, satisfaction at work is achieved when internal expectations of psychological success are satisfied (Hall & Moss, 1998; Hall, 1996, 2004). The boundaryless career (DeFillippi & Arthur, 1994; Arthur & Rousseau, 1996) adds the notion of independence between the employee and its organization,

by conceiving of careers as a "sequence of job opportunities that go beyond the boundaries of single employment settings" (1994, p. 307).

The two models highlight a new type of career in which the organization takes a secondary role and individuals are expected to take control and responsibility of their own career path. While different on several points, the boundaryless and protean models were constructed in opposition to traditional development career models, as a new perspective to understand how people can deal with changes generated by modernity. Unfortunately, the current labor market does not always allow individuals to choose the direction of their blossoming trajectory. Moreover, constant individual responsibility in terms of competence can create stress, not to mention phenomena such as nasty jobs, exclusion, marginalization, and precarity. The labor market is further and rapidly evolving, and "whereas the basic notions of protean and boundaryless careers seem increasingly relevant in the future, the expected changes in the world of work might mean that the specific components of what constitutes a protean and boundaryless career might need to be somewhat adjusted to new realities" (Hirschi, 2018, p. 5).

This new social and economic context has two implications for our field. First, we must question the relevance of existing models in the current and future work context. For example, Hirschi (2018) pointed that the future might contain new platforms of digital matchmakers (Evans & Schmalensee, 2016) to match job seekers with potential employers or redirect employees to new opportunities within the same organization. He argues that this could introduce a situation where neither the person nor the organization leads career development, unlike in traditional or the protean/boundaryless career models. Career development models must thus consider the dynamic nature of social and economic structures. For this reason, it is important to ensure that our models and interventions are appropriately adapted to all population and especially to vulnerable and underserved ones across their entire career paths. So that the role of career counselors may also change to adapt to these new situations. Having a clear idea about the consequences of technological and economic developments in our societies and their implications should be a primary goal in terms of public policies, and should help us to "reinvigorate the social contract that gives working people a just share of economic progress, respect for their rights and protection against risk in return for their continuing contribution to the economy" (ILO, 2019, p. 10). All these actions should contribute to help people access decent work.

However, individual actions are not sufficient, and collective ones—at the state level or involving international organizations—are necessary in order to valorize the social function of work. In terms of shaping policies and practices, the ILO point out that fist, organizations should guarantee an "adequate living wage" (ILO, 2019, p. 12), as well as protection and safety at work. Furthermore, policies should respond to issue of life/work balance by increasing autonomy, in order to provide "time sovereignty" (p. 12) for workers. Also, organizations should adopt a "human-in-command approach to artificial intelligence" in order to ensure "that the final decisions affecting work are taken by human beings" (p. 13). Last but not least, the ILO points out the urgent need to implement precise policies "to address gender equality in the technology-enabled jobs of tomorrow" (p. 11).

3.3.2   Access to Decent Work for All

The modern work market can offer many opportunities for professional development. However, even if some perspectives consider the human in a protean optic, seizing new opportunities and adapting himself to a rapidly changing context, the work market can also constitute a thorny context to live, in which a healthy work life is moreover difficult to reach, and where the access to *decent work* still remains a challenge. Decent work is defined by the International Labour Organization as a professional occupation that "sums up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men" (ILO, 2019). The access of decent work in the context of the fourth industrial revolution is a challenging issue. In fact, technology should benefit most people and not only the economy, that often means to benefit a restrained number of people. Technological evolution could help eliminating occupations that are harmfulness or participate in freeing human work from "from dirt, drudgery, danger and deprivation" (ILO, 2019, p. 43).

The Psychology of Working Framework (PWF, Blustein, 2013) offers a critique of Western conceptions of vocational choices, where we assume that individuals have the possibility to be "spoilt for choice" concerning their professional orientation. This framework focuses not only on contextual factors, but also on personal ones such as proactive personality, work volition, or career adaptability (Blustein, 2013; Duffy, Blustein, Diemer, & Autin, 2016). This implies that individuals can mobilize resources in order to "enhance individual control in navigating an uncertain and precarious work environment" (Blustein et al., 2018, p. 19). The PWF also integrates the concept of critical consciousness (Freire, 1973) as an "attribute that can help individuals shape their lives and deflect some of the negative effects of harsh economic conditions and marginalization" (Blustein et al., 2018, p. 19). This involves the possibility for individuals to question their work conditions and have an influence in shaping their work environment. In this sense, individuals can interact with their work environment and exert control on it. This framework might offer a relevant perspective for counseling individuals in the context of the fourth industrial revolution.

3.3.3   Promoting an Ethical and Human World of Work

Technological progress has brought positives consequences, for example in terms of working conditions, as well as negative ones, as for example, the disappearance of some occupations, the obsolescence of some knowledge, and also in some cases

negative impact on social structures and the environmental. Helping people adapt to these developments is not sufficient: the issues characterizing the job market can add obstacles to attain a healthy job and a decent work context, a context where wellbeing and self-realization are possible in addition to building a world that is fair and sustainable both for people and the planet. Guichard (2016) mentions that some organizations have very strong negative impact on humans and their environment. He strongly expresses the need for counseling practices to take these potential threats into consideration and to work actively for "the development of a good life, with and for others, in fair institutions, to ensure the sustainability of a genuine human life on earth" (p. 187). Bimrose, Kettunen and Goddard (2015) summarize Hughes view that career services seem to live under pressure to assume their role of "boosting economic productivity and competitiveness in the labor market and increasing employment, career progression and educational attainment" (p. 9).

As the profession of counseling is at the crossroads between an individual-based and a politically-driven work, the reflection on this dilemma is ongoing. Many authors (Blustein et al., 2018; Massoudi et al., 2018; Blustein, Olle, Connors-Kellgren, & Diamonti, 2016; Pouyaud, 2016) highlight the need for a psychological approach to decent work. Indeed, counseling practices should also promote people wellbeing, access to decent work, and social justice. Technological development, economical growths, and people's wellbeing development or happiness should thus be reconnected.

Hirschi (2018) explains that "personal growth might be increasingly pursued in nonwork roles because more people might no longer be able to obtain work that promotes personal development in a meaningful way" (p. 5). Even if meaning of work still remains a personal issue, it is an issue of dignity to build a society in which professional occupations are decent, and technology should help us to achieve this goal. Guichard (2016) explains that if "working is central to most people's lives" it also "plays a core role in transformations of the world, in changes of humankind in general, and in the construction of an individual subjectivities" (p. 180). In the actual labor market, it can be seen as a paradox that wages are not associated with occupations' social utility. Some authors do not hesitate to say that "in our society, there seems a general rule that, the more obviously one's work benefits other people, the less one is likely to be paid for it" (Graeber, 2013, p. 1). Lawlor, Beitler, Kersley, Steed, and Cottingham (2009) assessed the social utility and nuisance of various jobs and observed that the social and financial value of occupation are not always closely linked. Over time this can lead some less useful job to become more desirable, discouraging people to do jobs that are in fact more socially useful (Graeber, 2013; Lawlor et al., 2009). Guichard (2016) favors the notion of "life design interventions"—rather than the term career counseling—to point out the evolution and changes of work and societies and underline the importance of work in the construction of identity. The contextual factors—political, social, and economic—cannot be ignored in the intervention process, which seek to help counselees to deal with those current changes. Guichard (2016) explains that "Such life design interventions would concentrate on counselees' reflections concerning not their inclusion into the world of work as it is, but rather

their contribution to transforming it by their decent human(e) work" (p. 189). In this context, it is really important for practitioners to be in the front line by rethinking the content of interventions in order to support individuals not only in the construction of themselves but also of our world in a sustainable way, as work is a way to build on our society (Guichard, 2016). The point is that the society we create through work or new forms of social implications, only make sense if it serves humans and the world in which we live: If it is not the case, we have the right and the responsibility to rethink it.

3.4   Conclusion

Technological progress has brought positive as well as negative aspects in individual's work life. The reaction of individuals to the technical and technological progress is far from new, citing for instance the revolt against "the machine" as symbol of the industrial revolution of English textile workers in the early 19th century, or the Manifesto of the Unabomber-Theodore Kaczynski (1998) against industrial society. However, the current implications in terms of human dignity, the right to decent work and ecological issues impose criticism on the advancement of technology in the world of work. The current logic seems to rely on the valorization of the technical progress, and consequently on the human adaptation to the latter, focal point of the progress. It is therefore not surprising that it is indeed the human who pays the consequences, because "le progrès technique ne sait pas où il va. […] du fait de sa croissance causale et non finaliste. Et c'est pourquoi il est imprévisible, et provoque dans la société une imprévisibilité générale" [the technical progress does not know where it goes […] because its growth is causal and not finalist. And that is why it is unpredictable, and provokes in society a general unpredictability] (Ellul, 1988, p. 97). This is the reason why societies need to critically manage the impact of technical progress so that progress can serve people first, beyond the economic profit. Guichard (2016) draws attention to the importance for people "to develop a reflection on work and its individual and collective consequences in order to prevent the "invisible hand" (Smith, 1776)" (p. 186). The ambivalent nature of technical progress and the potential irreversibility of its consequences implies that these developments need our full attention and have to be regulated. It is an important issue to use the potential of this new era for, and not against, people (ILO, 2019). Technological progress should not marginalize the contribution of humans, who should remain the center of our collective actions. Career interventions may have to be rethought to promote sustainable careers, sustainable societies, and a sustainable world.

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Cecilia Toscanelli is a teaching assistant and doctoral student in psychology of counseling and orientation at the University of Lausanne. She has a Master's degree in clinical psychology and psychopathology. Her master thesis, in the field of social psychology, focused on the panorama around Proton Pump Inhibitors and on Swiss doctors' attitudes and beliefs about the latter. Her interests are in the field of work, specifically on the social utility of work, on Bullshit Jobs and on exhaustion trough boredom at work.

Laurence Fedrigo After a Master in Counseling Psychology at the University of Lausanne and a semester exchange at Université Laval (Québec), Laurence Fedrigo have worked in the field of professional and foreigners' integration and prevention of racism in the canton of Vaud. His master thesis was on the evaluation of refugees' aptitudes aiming at counseling them. Following these experiences, he is eager to deepen his understanding of the path of newcomers in Switzerland in order to propose a career counseling intervention. He is also interested in the relationship to work and access to decent work.

Jérôme Rossier After studying psychology at the Universities of Lausanne and Geneva, and the Catholic University of Louvain-la-Neuve (Belgium), and scientific stays at the Academy of Sciences of the Czech Republic, the National Institute of Health (United-States), and the University of Fribourg (Switzerland), Jérôme Rossier is a full professor of vocational and counselling psychology at the Institute of Psychology of the University of Lausanne, and member of the psychology and educational sciences panel of the Swiss National Science Foundation (SNF). His teaching areas and research interests include counseling, personality, psychological assessment, and cross-cultural psychology. He is the current editor of the International Journal for Educational and Vocational Guidance, and has recently co-edited the Handbook of the life design (Hogrefe). He is currently conducting several projects funded by the SNF about professional paths and people's adaptability abilities. The contribution of Jérôme Rossier benefited from the support of the Swiss National Centre of Competence in Research LIVES—Overcoming vulnerability: Life course perspective, financed by the Swiss National Science Foundation (grant number: 51NF40–160590). They particularly thank Amber Gayle Thalmayer and Jonas Masdonati for their helpful comments and suggestions on earlier drafts of this manuscript and Koorosh Massoudi for his support through this work.

Chapter 4
A Review of Career Success and Career Wellbeing Through the Lens of the Psychological Contract

Marais Bester

Abstract This chapter's objective is to explore the dynamic theoretical relationship between career success and career wellbeing through the lens of the psychological contract theory. The chapter opens by introducing several contextual (environmental) factors that influence the evolution, management and perception of the modern career. Then, for an understanding of the way the modern career is conceptualised, a number of associated theories are presented. Psychological contract theory in particular is discussed in terms of how the relationship dynamics between employers and employees have changed within the context of the modern career. This is followed by an exploration of the concept of career success. Career wellbeing is subsequently introduced and the theoretical relationship dynamics between career success and career wellbeing are discussed. A theoretical model which explores the theoretical relationship dynamics between career success and career wellbeing as studied through the theoretical lens of the psychological contract theory is presented. Finally, some practical implications for career wellbeing are indicated and suggestions for research are made.

Keywords Modern careers · Career theories · Psychological contract · Career success · Career wellbeing · Career management

4.1 Introduction

Society would seem to be obsessed with success, as success tends to breed more success (Spurk, Hirschi, & Dries, 2018). It is thus not surprising that the terms 'career' and 'career success' have been recorded as some of the most popular research constructs in the organisational behaviour field in recent years (Baruch, Szucs, & Gunz, 2015). Career success is emphasised as it is often associated with prestige, living standards, happiness and the sense of satisfaction that one gets from

M. Bester (✉)
PSI International, Dubai, UAE
e-mail: maraisbester@gmail.com

work. There has, however, been a major shift in the way that the term 'career' has been defined over the past twenty years.

In the past, careers were perceived as the sequence of positions that one individual would hold in their lifetime (Super, 1957). Traditional careers were often associated with commitment to a single employer, as well as a clear, planned and vertical path within an organisational structure. Moreover, driven employees tended to advance quicker within the organisation (Savickas, 2013). Today, as a result of a number of rapidly occurring socioeconomic transitions and industrial transformations, individuals and organisations are perceiving careers differently (Lyons, Schweitzer, & Ng, 2015).

Several developments in robotics, artificial intelligence (AI) and automation technologies (RAIA) (Bhaumik, 2018) have allowed organisations from most industries to adopt RAIA in the pursuit of cutting costs, quicker production levels and higher quality outputs. The developments in RAIA technologies are likely to accelerate over the next ten years and some scholars have contemplated the likelihood that artificial intelligence may exceed human intelligence in the very near future (Callaghan, Miller, Yampolskiy, & Armstrong, 2017). To remain employable within the rapidly changing career environment, modern employees need to be flexible in terms of considering their relationships with their employers, how they perceive career success and how they look at their career wellbeing.

Several contemporary perspectives, such as the boundaryless career (Arthur, Khapova, & Wilderom, 2005), the theory of psychological success (Mirvis & Hall, 1994) and the protean career (Hall, 2013), have arisen to encapsulate the modern career. While most career theorists agree that the traditional career still exists (Hirschi, Nagy, Baumeler, Johnston & Spurk, 2018) and job mobility is not necessarily beneficial to all individuals (Verbruggen, 2012), many researchers have found that there is greater variation in the career trajectories of modern employees (Ng & Feldman, 2014). Due to the complexities of the modern workplace which is becoming more digitalised in anticipation of the fourth industrial revolution, employees need to be more flexible and adaptable in the way in which they construct their careers.

One of the biggest changes that has taken place in the modern workplace is the change in the psychological contract between the employer and the employee. Organisations no longer provide the support that they used to in terms of assisting the individual with their career management and career success. This change has major implications for both career success and the long-term satisfaction that individuals have with their career success namely their career wellbeing.

The modern career can thus be described as the proactive changes, choices and alterations that individuals make in their lifetimes in order to achieve their career outcomes (Savickas, 2013). The satisfaction that individuals have with their career progress, achievement of career outcomes, salary, job level, relationship with their employer and ability to adapt to the challenges presented by the modern work environment has a significant influence on an individual's perception of their career success (Pan & Zhou, 2015). As people spend a large proportion of their lives working toward their career success, their perception of it may have a significant

effect on their satisfaction with life in general (Ng & Feldman, 2014). The consistent satisfaction that individuals have with their careers may be described as their career wellbeing (Bester, 2017; Kidd, 2008).

Career wellbeing is an important construct to explore, as individuals' satisfaction with their careers over time can be indicative of their happiness with life, work and relationships (Kidd, 2008). The career wellbeing of employees can also have an effect on an organisation's organisational culture, employee retention, productivity and success. However, there seems to be paucity of research currently on the theoretical elements of career wellbeing and how the construct relates to the concept of career success.

4.2 Chapter Objective

By making use of the psychological contract as a theoretical lens, this chapter aims to provide a theoretical overview of the modern career and its complexities, modern career theories that have developed to explain this phenomenon, the concepts of career success and career wellbeing, the theoretical associations between career success and career wellbeing within the context of the ever-changing modern work environment, as well as practical and theoretical recommendations for managing the modern career.

Firstly, the modern career and evolution of careers will be discussed.

4.3 Modern Careers

4.3.1 Redefining Careers

As individuals spend a large proportion of their lives working on their careers and they are central to most people's lives, the concepts of 'career' and 'career management' have held the attention of several vocational scholars over the past 50 years. Successful and proactive career management has been associated with positive outcomes such as better organisational performance (Stumpf, 2014) and individual wellbeing (Abele, Hagmaier, & Spurk, 2016).

A career is perceived as a process of work-related events that take place over a lifetime (Strauss, 2018). A career can also be seen as a person's occupational development, work-related mobility and the achievement of work-specific goals (Ke, Li, & Powell, 2018). Traditionally, a career was associated with a person's upward mobility and commitment to a single organisation (Strauss, 2018). Organisations typically looked for physical strength and physical agility as key skills that employees needed to have (Webster & Ivanov, 2019). There has, however, been a shift in the way a career is conceptualised in the modern workplace (Kalleberg, 2018).

Socio-political and socioeconomic changes, as well as the looming fourth industrial revolution, have resulted in organisations taking less responsibility for the careers of their employees in order to cut costs and remain flexible (Strauss, 2018). As a result, modern employees have increasingly had to take responsibility for the management of their own career outcomes without much support from their employers.

The World Economic Forum (2018) recently published a list of skills that they believe the modern employee needs to possess in order to remain employable. Conversely to the required physical skills from the past, modern employees need to display skills that are more emotional and intellectual in nature. These skills include complex problem solving, critical thinking, creativity, people management, coordinating with others, emotional intelligence, judgement and decision making, service orientation, negotiation and cognitive flexibility (World Economic Forum, 2018).

The contemporary work environment in which employees are constructing their careers is highly turbulent, unpredictable and unstable, and has become highly complex (Kalleberg, 2018). More specifically, major developments in RAIA, the Internet (Sendler, 2018) and Industry 4.0 (Skilton & Hovsepian, 2018) are even challenging the necessity of human labour to the extent that many industries are opting for technology to deliver their goods and services as opposed to humans. Webster and Ivanov (2019) predict that employees who will be successful in the future will have the ability to implement, support and maintain technology and perform the more emotional tasks that robots for example will struggle with.

In order to survive in this complex environment, modern employees are thus expected to be highly adaptable, proactive, able to learn, utilise technology and be self-reliant (Lyons et al., 2015). In essence, successful modern employees take responsibility for their own career direction as opposed to being dependent on their organisation to manage their careers on their behalf.

Concepts that have traditionally been associated with the traditional career such as upward mobility, job security and stability, status and long-term work commitment are not as prevalent as before (Lyons et al., 2015). In addition, the relationship between the organisation and the individual is becoming shorter and more complicated, as modern employees no longer expect a single organisation to fulfil a lifetime of work-related needs (Niesen, Van Hootegem, Vander Elst, Battistelli, & De Witte, 2018). Modern employees sell their skills and expertise to organisations to gain stability, satisfaction and social interaction and will move when they believe that these needs are no longer being fulfilled. In turn, organisations require knowledgeable, skilled employees to help them overcome the complexities of the environments that they are in. Hence, they will only invest in employees whom they believe will assist them in achieving this outcome. The successful modern employee is thus highly focused on the acquisition of new skills and knowledge which will make them more employable.

Traditional career perspectives were based on the milestones that individuals had achieved by a certain age; in contrast, the modern career is more concerned with the learning outcomes that individuals achieve no matter their age (Savickas, 2013).

Modern employees place more emphasis on having meaningful career experiences than climbing the organisational ladder. Modern careers are thus not only classified in terms of individuals' career achievements but also in terms of the satisfaction that individuals have with such achievements (Savickas, 2013).

Modern employees also tend to prioritise meaningful subjective career experiences over title, position, commitment and, in some cases, remuneration. Coetzee and Bergh (2009) describe subjective work experiences as individuals' self-ratings, ideas, attitudes, emotions and psychological experiences that symbolise their satisfaction with their lives, jobs and careers, overall happiness and the meaning they associate with their work activities.

A modern career can thus be seen as the proactive changes and choices that individuals make in relation to their work in order to fulfil their personal needs (Savickas, 2013). The next section explores some of theoretical frameworks that attempt to describe the elements of the modern career.

4.3.2 Modern Career Theories

As individuals' careers are in constant motion with the work environment where they need to make frequent changes and choices to adapt to the ever-changing work demands, modern careers have become highly dynamic and complex. Careers are no longer constrained by organisational structures and frameworks but have become boundaryless and more self-directed or protean (Crowley-Henry, Benson, & Al Ariss, 2018). The career theories discussed below attempt to encapsulate the dynamics of the modern career.

The authors of the boundaryless career model describe a boundaryless career in terms of the following criteria (Arthur & Rousseau, 1996). In a boundaryless career individuals can move freely across the boundaries between different employers in the pursuit of meaningful career experiences. Arthur and Rousseau (1996) also indicate that in a boundaryless career an individual can receive support from external sources other than the current employer in order to achieve career success. Such careers are typified and supported by building networks outside the current employer. The wider one's network, the more career opportunities one has and the more opportunities one has to fulfil one's subjective career needs. The boundaryless career challenges the hierarchical structure of the traditional career and individuals take account of their subjective wellbeing when making decisions about their career progress. The boundaryless career sees the future as limitless, which allows an individual to set any career goals. Research has found that within the ever-changing environment of work it is important to embrace the idea of the boundaryless career, as it increases the chances of achieving career success, employability and subjective wellbeing (Lo Presti, Pluviano, & Briscoe, 2018).

The notion of the protean career aligns with that of the boundaryless career in that in both individual career actors and not organisations drive career success (Hall, 2013) In a protean career, individuals drive their career outcomes on the basis

of their own psychological success and decisions and are not constrained by the structure, sequence or required behaviour enforced by the organisation (Hall, 2013). Individuals will leave an organisation in pursuit of their psychological success, in other words, their perceptions of and emotions related to the achievement of career outcomes.

Savickas's (2005, 2013) career construction theory (CCT) builds on the boundaryless and protean models of career development. The CTT proposes a shift from an organismic worldview of vocational development to a contextualist worldview. Savickas (2005, 2013) states that career success is driven by constant adaptation to the work environment with the purpose of person-environment integration. When an individual is able to adapt, they will draw on certain psychological resources to display adaptive behaviour that leads to coping with environmental changes and career success. Goodness of person-environment fit is indicated by career success, satisfaction and development (Savickas & Porfeli, 2012).

In the future employees will cross organisational and geographical boundaries to work for organisations where their skills related to technology can be fully utilised and rewarded. Individuals who will be able to understand and utilise technology in the future will experience less constraints in terms of their career planning, career goal setting and moving across organisational boundaries than individuals who are reluctant to accept and utilise technology. Individual who will be successful in the future will be individuals who are able to take a flexible approach toward technology and who can use technology to give them a competitive advantage in the job market.

Potential criticism against the boundaryless and the protean career theories, as well as the CTT, is that when an individual is constantly looking to have greater subjective career-related experiences it may make them less committed to the current employer and break down the trust relationship between the employee and the organisation. Accordingly, one of the most significant changes associated with the modern career has been a change in the psychological contract between the employer and the employee (Agarwal, 2015). The next section explores this phenomenon.

4.4 The Psychological Contract

4.4.1 Conceptualising the Psychological Contract

Research on the psychological contract has emerged in response to the dynamic and complex relationship between the modern organisation and its employees and the greater emphasis that employees place on having positive career-related experiences (Agarwal, 2015). The psychological contract is subjective in nature as it is associated with the perceptions that individuals have of the terms and conditions that are

associated with their relationship with their employer (Agarwal, 2015). This contract is thus associated with the understanding and belief that an individual has regarding the reciprocal responsibilities owed by the employee to the organisation and vice versa. The emphasis is placed on the perceived fairness of the exchange relationship between the two parties (i.e. the employee and the organisation) (Lam & De Campos, 2015).

The psychological contract has its roots in the idea of reciprocity. In other words, it is based on a person's understanding of the reciprocal agreement in terms of the responsibilities of a financial and social, emotional and physical nature that are a consequence of the perception of promises exchanged with the organisation (Lam & De Campos, 2015). Employees believe that they should receive certain rewards (e.g. a salary, benefits, promotions and satisfaction) in exchange for the contributions they make to the organisation (e.g. sharing ideas, completing tasks, reaching objectives and being loyal) (Lam & De Campos, 2015).

The successful completion of tasks, usage of technology, commitment, adaptability and teamwork can be seen as the employee's obligations to the organisation, while training and development, career enhancement, the provision of technological resources, financial reward, wellbeing support and encouragement of work-life balance are seen as the employer's obligations toward the employee (Payne, Culbertson, Lopez, Boswell, & Barger, 2015). Both the employee and the employer are thus involved in a give and take relationship and both parties may have different ideas on the equality of the relationship.

It should be noted that there is a difference between the psychological contract and the formal employment contract in that the psychological contract is based on the subjective evaluation of both parties involved. In most cases the psychological contract is an unspoken and unwritten contract as it is based on the perception of the mutual obligations in the employment relationship (Li, Wong, & Kim, 2016). The psychological contract is thus an undocumented agreement that commits the employee to the employer, defines the mutual obligations of both parties and may be associated with a degree of emotional trauma if breached (Li et al., 2016). In the psychological contract, mutual responsibilities can either be explicit, implicit or delivered to both employees and employers through a number of channels, such as policies and procedures, communication agents acting on behalf of the organisation and co-workers (Karagonlar, Eisenberger, & Aselage, 2016).

Psychological contract theory is based on social exchange theory which was developed by Blau (1964). Social exchange theory postulates that employees and organisations are part of an exchange relationship and feel a responsibility to reward the other party, in equal value, for the contributions that they have made to the relationship (Blau, 1964). Social exchange theory also holds that an imbalance in the reciprocal relationship between the two parties will result in negative outcomes for the relationship, such as feelings of unfairness and an ending of the relationship, whilst the opposite may be true when the exchange is perceived as fair (Blau, 1964). Work-related social exchanges have been associated with satisfaction with work, individual wellbeing and turnover intent (Le Roux & Rothmann, 2013).

According to Rayton, Brammer, and Millington (2015), psychological contract and social exchange theories agree on the idea that the respective parties that form part of the social exchange will respond to the responsibilities that are most significant to them. However, the two theories differ in that social exchange theory is focused on the delivered outcomes of the exchange relationship, whilst psychological contract theory is focused on whether the delivered outcomes have met the expectations of the parties that are part of this exchange relationship (Rayton et al., 2015).

Argyris (1960) initially introduced psychological contract theory in his study that focused on the unspoken relationships between leaders and their subordinates. Argyris (1960) found that leadership style had a significant effect on the social exchanges that exist between managers and subordinates. It was found that an unwritten agreement exists between managers and their subordinates where subordinates tend to perform based on the style of leadership that their managers employ (Argyris, 1960). In turn, Schein (1970) elaborated on the concept of the psychological contract by stating that numerous social exchanges and subsequently psychological contracts exist in organisations.

Later, Rousseau (1995) reconceptualised psychological contract theory by stating that a psychological contract is based on an individual's perceptions, which are developed by their work environment, of the terms of an exchange agreement between the individual and the employer. Rousseau (1995) maintained further that the psychosocial contract is based on the following three premises:

1. The type of psychological contract between the employee and employer may be influenced by the availability of resources, timeframes and performance-reward contingencies.
2. The breaking of the psychological contract will result in the triggering of psychological behaviours and attitudes in employees and/or employers.
3. The psychological contract is based on mutual perceptions and is subjective in nature.

4.4.2 Types of Psychological Contract

According to Bordia, Bordia, and Restubog (2015), a psychological contract is formed long before the formal employment relationship starts. Employees' perceptions of the responsibilities they have toward their organisation and vice versa thus take a long time to develop. These perceptions can change over time based on new information or realities and constant re-contracting may take place (Bordia et al., 2015). Table 4.1 lists some of the responsibilities an employee and employer may have toward the reciprocal relationship (Herriot, Manning, & Kidd, 1997).

As Table 4.1 shows, employees have certain perceptions of what the organisation has promised them, and the organisation has certain expectations of the employee. These elements of the psychological contract between the two parties

Table 4.1 The content of the psychological contract

Organisation responsibilities	Employee responsibilities
• Provision of training and development • Creating fair processes and procedures • Supporting work-life balance • Ensuring two-way communication • Creation of job autonomy • Supporting career success • Supporting the emotional needs of employees • Recognising employees for their input • The development of a secure work environment • Fair wages	• Delivering work according to high quality standards • Working the required hours. • Transparency • Loyalty • Respect for co-workers and organisational resources • Professionalism • Adaptability

can be broken down into three types of psychological contract, namely, transactional, relational and balanced contracts.

The transactional contract is associated with the clear and unambiguous exchanges that exist between the organisation and the employer, which include a restricted series of expected behaviours within a specific time period (Manxhari, 2015). Elements of this contract include such things as financial exchanges including salaries and bonuses and require little input from either the employee or the organisation. The employee gains financial reward in exchange for their time, effort, commitment, skills, ideas and effectiveness (Manxhari, 2015). This type of psychological contract is explicit in nature and is measured in terms of financial reward for employee effort. The breaking of transactional contracts is associated with high levels of turnover intention, job and career dissatisfaction and lower organisational commitment (Lu, Capezio, Restubog, Garcia, & Wang, (2016). There is a strong association between the upkeep of the transactional contract and elements of objective career success such as salary, job level and tenure (Manxhari, 2015).

The relational contract is the second type of psychological contract. This type of psychological contract is built on the premise that organisations will recompense the employee for their effort with both financial and non-financial rewards (Persson & Wasieleski, 2015). The relational contract is typically long term and open-ended in nature and includes social exchanges such as commitment, honesty and trust (Persson & Wasieleski, 2015). The psychological contract between organisations and employers is dynamic and ever-changing and includes mutual responsibilities between the respective parties.

Owing to the emotional nature of the relational contract, it can have far-reaching effects on the employee's personal life and requires extensive investment from both the organisation and the employee, which includes things like creating a secure and stable work environment and providing training and development and career planning (Festing & Schäfer, 2014). Characteristics of a positive relational contract include things such as loyalty, commitment and engagement. The main objective of

the relational contract is to establish a long-term, mutually beneficial and satisfactory relationship between the employee and the employer (Festing & Schäfer, 2014). Positive relational contracts are associated with commitment to the organisation, organisational citizenship behaviour, job and career satisfaction and higher intention to stay (Lu et al., 2016). There is a strong association between the relational contract and elements of subjective career success such as career satisfaction, due to the emotions that are involved (Festing & Schäfer, 2014).

The third type of psychological contract, namely the balanced contract, is a combination of the features of transactional and relational contracts (Persson & Wasieleski, 2015). The balanced contract emphasises the importance of striking a balance between the emotional and open-ended expectations related to the relational contract and the performance demands associated with the transactional contract (Persson & Wasieleski, 2015). The balanced contract can thus be described as the long-term agreement between the employee and the organisation, which allows for flexibility when renegotiating contract agreements based on changing environments (Persson & Wasieleski, 2015).

4.4.3 Contract Breach

Researchers state that the implementation of AI and robotics into the workplace will have a drastic effect on the relationship between the organisation and the employee (Brynjolffson & McAfee, 2015). Some researchers believe that self-aware AI will be mankind's final invention and completely mitigate the need for human intervention within the workplace (Barrat, 2013). The recent strides in the development of AI and robotics have caused major distrust by employees in organisations' intentions to replace them with machines (Barrat, 2013). Whilst organisations are losing trust in employees' abilities to compete with machines (Barrat, 2013). These expectations can put a lot of pressure on the psychological contract.

Employees tend to constantly assess the psychological contract with their employer (Bordia et al., 2015). The fulfilment of the psychological contract encourages mutual trust and has mutual benefits for both parties. However, when one party believes that the other party has failed in terms of upholding their side of the contract, contract breach will occur (Bordia et al., 2015).

Studies show that there are primarily three reasons behind contract breach. The first of these include deliberate reneging, where the organisation takes a decision to go back on an agreement that was reached with an employee (De Ruiter, Schalk, & Blomme, 2016). The second type of breach is referred to as unintentional reneging, where an organisation is willing but unable to deliver on its responsibilities or promises to an employee (De Ruiter et al., 2016). The third type of contract breach is called psychological contract breach.

Psychological contract breach typically takes place when an organisation believes that it has delivered on its responsibility toward the employee, but the employee has the perception that the organisation has failed to do so (De Ruiter

et al., 2016). Psychological contract breach could result from differing perceptions regarding the obligations that each party has toward the other party. This type of contract breach is highly emotional in nature, eliciting emotional states such as discontentment, apathy and antagonism (De Ruiter et al., 2016). A breach of the psychological contract is thus affective in nature as one of the parties experiences a sense of emotional violation (Restubog, Kiazad, & Kiewitz, 2015).

Employees who experience psychological contract breach struggle to uphold their responsibilities associated with the psychological contract, may reduce their inputs and even remove themselves from the relationship (Bordia et al., 2015). Studies show that employees who are experiencing psychological contract breach tend to be more sceptical of the goals, strategies and promises of the organisation, tend to struggle with their work commitment, display low citizenship behaviour and lower levels of performance, as well as having higher levels of turnover intent, absenteeism and presenteeism (Lam & De Campos, 2015).

Cassar and Buttigieg (2015) found that psychological contract breach has a major negative impact on the subjective wellbeing of employees as it is associated with high levels of self-doubt and stress. Contract breach also has a negative impact on the career success of individuals as it can cause a disruption in their career trajectories (Lam & De Campos, 2015). When the trust is broken between the employer and the employee employers may be highly reluctant to sponsor or support the career development of an individual (Ng, Eby, Sorensen, & Feldman, 2005). When employees do not trust their employers due to contract breach they may be reluctant to fully commit to their organisation, be productive and invest their creativity which may have an impact on their career satisfaction and their organisation's willingness to promote them.

Despite the complexities of the modern work environment, the perceived support that individuals experience regarding their career management and their career success has a major impact on their perception of the fairness of the psychological contract they have with their employers. Within the context of the psychological contract, the next section explores the concept of career success.

4.5   Career Success

Career success refers to the successful achievement of career-related outcomes (Arthur et al., 2005). Career success can be seen as both subjective and objective (Ng et al., 2005).

4.5.1   Objective Career Success

Objective career success refers to the external perception of an individual's career progress (Hirschi et al., 2018). Indicators of objective career success include things

like career advancement, remuneration, productivity and advancement in the organisational hierarchy (Ng et al., 2005). Judge, Cable, Boudreau, and Bretz (1995) classify objective career success as the level of occupational status and monetary achievement. Objective career success measures can thus be externally verified (Ng & Feldman, 2014).

Objective career success is important, as the problem with subjective career success is that individuals are predisposed to evaluate their own careers favourably (Baruch et al., 2015). The human capital model of career success by Becker (1975) indicates that organisations allocate compensation such as financial remuneration and promotion to their employees according to their inputs made to the organisation. In line with the transactional type of psychological contract (Manxhari, 2015), objective career success is an organisation's reward to an employee for keeping their side of the bargain.

The Association for Advancing Automation (2017) believe that individuals will be perceived as being successful employees in the future if they can harness the benefits of AI and robotics to improve their work environment, optimise their outputs and give advice to others on the complexities of technology. The most sought after, employable and successful employees in the future will be people who are able to sell their knowledge about the implementation of technology.

Positive associations exist between elements of objective career success such as salary level and subjective wellbeing. Studies have shown that the more a person earns the more they can spend on satisfying their life needs, which ultimately increases their subjective wellbeing (Silva, De Keulenaer, & Johnstone, 2012). Utility theory attempts to explain the relationship between salary and subjective wellbeing. Based on this theory, individual utility consists of both the financial and non-financial aspects (such as job demands) of a job (Böckerman, Ilmakunnas, & Johansson, 2011). The theory states that an organisation will pay a higher salary in order to manage an employee and their wellbeing when the non-financial job aspects (such as job demands) are unbalanced (Böckerman et al., 2011). In line with psychological contract theory, organisations will thus increase elements of objective career success to ensure that an employee feels that the contract is fair and is being honoured.

However, not all theorists agree that objective career success is associated with subjective wellbeing. For example, Easterlin (1974) established that an increase in a person's salary did not necessarily increase their subjective wellbeing. More specifically, it was argued that subjective wellbeing does increase with income, but only up to a point and only for a short period of time and decreases when a person compares themselves to their peers. This is referred to as the Easterlin paradox (Easterlin, 1974). Several studies have attempted to disprove the Easterlin paradox (Sacks, Stevenson, & Wolfers, 2010, 2012; Stevenson & Wolfers, 2013) by stating that comparison income plays a small role and that absolute income is associated with long-term subjective wellbeing. Paul and Guilbert (2013), however, contradicted this finding by stating that when individuals compare their income to that of their peers it has a significant effect on their subjective wellbeing.

Being employed and being employable can also be perceived as a form of objective career success. Career research has shown that employed individuals (whilst taking into account that they receive an income) experience greater levels of subjective wellbeing than individuals who are unemployed. This holds true even when individuals are employed under harsh conditions, with a prevalence of low job quality and poor job resources (Luhmann, Weiss, Hosoya, & Eid, 2014). Crews (2016) predicts that as technology, AI and robots will replace many people in jobs in the future that employability will become a major predictor of career success. Several studies have found a negative association between unemployment and subjective wellbeing (Binder & Coad 2015; Borra & Gómez-García, 2016).

There is a positive relationship between objective and subjective career success (Ng & Feldman, 2010). Objective measures of career success such as promotions and salary level may lead to improved self-perception and greater feelings of career success (Ng & Feldman, 2010). Stumpf and Tymon (2012) established that past promotions as a factor of objective career success predicted three factors of subjective career success, namely, human capital, core self-evaluations and career satisfaction.

4.5.2 Subjective Career Success

Subjective career success can be seen as a person's estimation and feelings regarding their career advancement, career achievements and the attainment of specific career goals (Abele & Spurk, 2009; Ng & Feldman, 2010, 2014; Park, 2010; Seibert, Kraimer, & Crant, 2001). Other research indicates that subjective career success is an individual's intrinsic recognition and measurement of their career progress in relation to different career areas that are important to them (Arthur et al., 2005). Subjective career success can thus be seen as an individual's internal assessment of and satisfaction with their career progress (Ng & Feldman, 2014) and is based on individuals' experiences of psychological success, subjective wellbeing, career commitment and career satisfaction (Hall, 2013; Ng & Feldman, 2014).

As mentioned, the modern career has become more complex, the relationship between the employer and employee is changing and individuals place great value on subjective career experiences such as feeling satisfied with their careers (Savickas, 2013). For an individual to feel that they have a meaningful and well-rounded career, career satisfaction has been seen as an integral part of their career life story (Abele & Spurk, 2009; Arnold & Cohen, 2008; Ng et al., 2005; Ng & Feldman, 2014). Career satisfaction has been classified as one of the most important subjective career experiences that an individual has (Abele & Spurk, 2009).

Research on career satisfaction has found that the construct pertains to an individual's general contentment with their choice of career path and the activities that make up their specific career path (Greenhaus, Parasuraman, & Wormley,

1990). According to Holland (1997) and vocational theory, career satisfaction has to do with an individual's career fit. In line with psychological contract theory, career satisfaction thus pertains to how well an individual believes they match their environment and are compensated for their efforts. Contract breach will take place when an individual believes that they no longer fit the organisation.

Other research stipulates that career satisfaction is an individual's positive emotions in relation to specific career-related accomplishments and overall career success (Wickramasinghe & Jayaweera, 2010). Spector (1997) found that job and career satisfaction can be measured on two levels. Firstly, on a holistic level which measures whether an individual is satisfied with their career as a whole, and secondly, on a facet level where an individual indicates whether they are satisfied with the different parts of their career path. An example of career satisfaction on a facet level is the satisfaction that individuals have with their ability to understand and utilise technology to achieve their career goals. Individuals who are unable to utilise and comprehend technology in their work have reported high levels of overall career dissatisfaction (Hwang, Lee, & Shin, 2016).

Stumpf (2014) notes that career satisfaction also includes the multifaceted psychological reactions to an individual's perception of their career. Stumpf (2014) indicates that these individual reactions could include cognitive, emotional or behavioural factors. Ng et al. (2005) state that when individuals have the impression that their careers are not making progress or are stagnating, or when they are demoted, they will feel dissatisfied with their careers. In essence, career satisfaction is an individual's subjective opinion of their own career-related accomplishments. An individual will break the psychological contract with their employer if they believe that the organisation is no longer able to support them in achieving their career outcomes.

Career satisfaction is an important construct for research, as subjective feelings of accomplishment are correlated with many aspects of subjective wellbeing (Abele & Spurk, 2009). As individuals spend a large proportion of their lives building on their careers, their satisfaction with their careers may preoccupy their minds and affect their overall subjective wellbeing. The relationship between career satisfaction and wellbeing-related constructs has been measured in several studies. For example, Lounsbury, Park, Sundstrom, Williamson, and Pemberton (2004) indicate that career satisfaction correlates positively with overall life satisfaction. They found that these two factors are reciprocal, which means that when a person is satisfied with their career they are satisfied with their life and the other way around. In turn, Rahim and Siti-Rohaida (2015) found that individuals' emotional wellbeing increased when they were satisfied with the achievement of their career goals. Certain work-related benefits of career satisfaction have also been established.

A positive correlation between career commitment and career satisfaction has been found, where more satisfied employees tend to commit more to keeping their end of the psychological contract with the employer (Ballout, 2009). Barnett and Bradley (2007) found a relationship between organisational support, career commitment and career satisfaction, while Seibert, Crant, and Kraimer (1999) found a positive correlation between career satisfaction and salary progression and Allen,

Eby, Poteet, Lentz, and Lima (2004) found that individuals who are more satisfied with their careers are more willing and will be better mentors to other employees. Wallace (2001) indicates that individuals who are satisfied with their careers are absent less often and are willing to work longer hours. Furthermore, certain research has indicated that when employees feel satisfied with their careers their general work morale will be higher and subsequently their turnover intent will be lower (Chan & Mai, 2015). Another benefit of having employees who are supported in their career satisfaction is overall satisfaction and engagement in their roles (Reitman & Schneer, 2003).

An organisation that is committed to upholding the psychological contract will benefit from committed employees and employees who are satisfied with their careers. When the organisation exceeds the transactional psychological contract and emphasises the relational contract or even the balanced contract by creating a safe, secure and supportive work environment in which an employee can takes steps to enhance their career satisfaction, employees are likely to remain with the organisation in spite of the complexities of the modern work environment and the changes in the concept of careers (Festing & Schäfer, 2014). Organisations should allow individuals to have meaningful career experiences in return for their knowledge, skills and expertise. Individuals who feel that they are supported in terms of moving across internal organisational boundaries and are able to set proactive career goals are likely to fit their environment better and stay longer.

As indicated by the balanced type of psychological contract (Persson & Wasieleski, 2015), organisations should allow their employees more flexibility in constructing their career paths as this is likely to lead to greater career satisfaction for modern employees.

Owing to the close association between objective career success, subjective career success (career satisfaction) and subjective wellbeing, career wellbeing has been proposed as an important indicator of a person's career success over time (Bester, 2017).

The concept of career wellbeing will be explored next.

4.6   Career Wellbeing

4.6.1   Career Wellbeing Conceptualised and the Theoretical Link Between Career Success and Career Wellbeing Defined

For organisations to perform optimally, survive, develop and adapt to ever-changing environments they need employees who are well. Organisations thus need to be able to measure individual wellbeing and determine the level of intervention that should be put in place when individuals are not well (Naghieh, Montgomery, Bonell, Thompson, & Aber, 2015). As employees spend a large

proportion of their lives crafting their careers and because they are constantly assessing their fit to the organisation in line with their perceived psychological contract with it, career wellbeing can be a key indicator of an individual's wellbeing over time.

Individuals' wellbeing may be conceptualised as the subjective feelings of contentment, happiness and satisfaction experienced in life and in work (Naghieh et al., 2015). It is difficult to measure these wellbeing factors objectively and they are thus related to individuals' subjective or psychological experiences (Alatartseva & Barysheva, 2015). Subjective wellbeing as a construct comprises two dimensions, namely, the cognitive judgement of individuals' satisfaction with their lives and the affective behaviour that individuals display when interacting with their environments (Diener & Tay, 2015).

There are, however, two distinct views on the classification of subjective wellbeing. The more popular, hedonic view of wellbeing focuses on overall subjective wellbeing, that is, an individual is happy and satisfied with their life in general (Diener, 2013). The eudaimonic view of subjective wellbeing, on the other hand, puts emphasis on experiences of greater depth such as meaning, purpose, happiness and satisfaction, importance and fulfilment (Diener, 2013).

Subjective wellbeing can be seen as the levels of satisfaction or happiness that individuals experience when considering their success in the various life roles they undertake. Rath and Harter (2010) developed a five-factor model, which postulates that the life aspects of career, social relationships, physical health, community and finances make up the key elements of subjective wellbeing. The subjective feelings that individuals have about the life role of work and career have a significant effect on individuals' wellbeing. As individuals spend most of their time at work it makes up a central part of their lives and, subsequently, the planning and maintenance of their careers has a major impact on the way they perceive their own general wellbeing (Rath & Harter, 2010).

Research has found that the feelings that individuals have pertaining to their work and careers play a central part in their subjective wellbeing (Diener, 2013). Grawitch, Ballard, and Erb (2017) support this by stating that job-related wellbeing is essential for individuals to be satisfied with their lives. Kidd (2008), who popularised the idea of career wellbeing, states that it is a form of subjective wellbeing where individuals evaluate the success of their career outcomes over time.

Kidd (2008) proposed the notion that career wellbeing is an important construct for study as it indicates a person's contentment with their career decisions over time. Career wellbeing goes above the much-researched concept of job satisfaction as it not only looks at a person's satisfaction with their job or vocational decisions at a certain point in time (Locke, 1969) but also emphasises a person's satisfaction with their career-related decisions over the long term.

Career wellbeing can thus be conceptualised as a person's satisfaction with their career decisions, career changes and career outcomes over the long term (Bester, 2017; Kidd, 2008; Schreuder & Coetzee, 2016). An individual's career wellbeing is thus determined by their long-term satisfaction with their objective career success (such as title and salary) and subjective career success (career satisfaction).

Studies show that there is a link between elements of objective career success (such as salary, promotions and employment) and subjective wellbeing (Binder & Coad, 2015; Böckerman et al., 2011; Luhmann et al., 2014; Paul & Guilbert, 2013; Sacks et al., 2010, 2012; Silva et al. 2012; Stumpf & Tymon, 2012). It can therefore be argued that there is also a link between objective career success and career wellbeing. In line with the transactional type of the psychological contract, where an individual is compensated (e.g. salary, promotion, stable employment) fairly for the work output, such contract should thus be consistently honoured for a person to experience career wellbeing. Individuals who feel that they are not being fairly compensated (e.g. salary, promotion, stable employment) for their work input will feel that there is a mismatch between their commitment to the psychological contract and could potentially leave the organisation (Manxhari, 2015). Furthermore, as links between objective career success and subjective career success have been found (Ng & Feldman, 2010), it can be argued that a relationship between objective career success and career wellbeing exists.

Bester (2017) used career satisfaction (a form of subjective career success) as an indicator of career wellbeing, as it was argued that consistent satisfaction with one's career leads to greater career wellbeing (Kidd, 2008). As indicated by the relational and balanced types of psychological contract (Persson & Wasieleski, 2015), disregard for or breaking of the psychological contract is an emotional experience and individuals will experience great dissatisfaction when this happens (Bordia et al., 2015). Career satisfaction is thus dependent on an organisation honouring the elements of the relational and balanced types of psychological contract, for example allowing employees to have meaningful career experiences (Persson & Wasieleski, 2015). As most modern employees have the boundaryless protean type career and strive for psychological success (Arthur et al., 2005; Hall, 2013; Mirvis & Hall, 1994), they will leave an organisation when they do not feel satisfied with the support that they are getting in terms of their career satisfaction.

Kidd (2008) identified several areas that organisations need to support in order to facilitate the development of individual career wellbeing, namely, purposeful and meaningful work experiences, positive work-related relationships, work autonomy, employability, environmental mastery and learning and development. Kidd (2008) indicates that when individuals are continuously satisfied with these areas over time that it will result in career wellbeing.

Kidd (2008) states that when individuals continuously feel that they have the opportunity to have meaningful experiences in the work and achieve their career purpose, they will experience career wellbeing. Scott and Zeidenberg (2016) add to this point, stating that individuals who experience increased meaning and purpose will experience greater psychological freedom and satisfaction in their work and careers. As meaning and purpose in work is more important to modern employees than commitment, salary and title (Savickas, 2013), individuals will move between the boundaries of organisations in pursuit of meaning and purpose if they feel that this is lacking in their psychological contract with their current employer (Persson & Wasieleski, 2015). Individuals who have career mobility and can make proactive

changes in their careers in the pursuit of meaning and purpose will experience greater career satisfaction (Olson & Shultz, 2013) and ultimately career wellbeing.

The second area that organisations need to support in order to facilitate career wellbeing is positive and mutual work-related relationships (Kidd, 2008). This notion is supported by the fact that research shows that individuals who constantly experience stressful work relationships will experience less subjective wellbeing (Somers, Birnbaum, & Casal, 2018). Psychological wellbeing at work is highly dependent on the instrumental and psychosocial support that individuals experience there (Diener, 2013). In turn, Ng and Feldman (2014) indicate that career satisfaction is highly dependent on individuals' feelings of support and collegiality within the work environment. It has also been established that individuals who are strong networkers and relationship builders experience greater career success (Spurk, Kauffeld, Barthauer, & Heinemann, 2015). Individuals who do not experience positive relationships in the work environment may break the psychological contract and go looking for meaningful work relationships elsewhere. As human beings crave positive relationships with others, it is paramount that organisations cultivate positive relationships with their employees and develop frameworks and structures that support teamwork, networking opportunities and peer support.

Kidd (2008) argues that work autonomy is essential for individuals to experience career wellbeing. Organisations should thus allow employees to take control and responsibility for their own work outcomes and craft their jobs as they deem fit. Raabe, Frese, and Beehr (2007) argue that career self-management (i.e. the ability to manage one's own career activities) is essential for individuals to experience career satisfaction. Hall (2004) agrees, indicating that individuals who feel independent regarding the management of their careers will experience greater career satisfaction. Organisations should thus trust individuals to take control of their own work and careers in order to uphold the psychological contract with their employees and facilitate career wellbeing.

The fourth area that Kidd (2008) describes as being essential to supporting career wellbeing is employability. When individuals feel that their knowledge, skills and expertise are highly sought after in the job market, they will perceive themselves as being employable (Baukens, 2017). Employability has been associated with subjective wellbeing, as individuals who feel that they are employable generally feel more content as they are able to make a living and have higher self-esteem and they feel that their skills and efforts are valued (Baukens, 2017). Modern employees need to continuously adapt and be flexible in order to remain employable (Savickas, 2013). Individuals thus need to ensure that they commit to their responsibilities toward the psychological contract and adapt to the requirements of their employers and the job market in order to remain employable. For individuals to experience career wellbeing they need to be highly sought after in the job market by developing the latest skills and expertise required by employers (Savickas, 2013). This leads to the next component of career wellbeing.

Kidd (2008) describes learning and development as an essential component of career wellbeing which organisations need to support, while Coetzee and Stoltz (2015) describe learning and development and feeling competent in one's job as

one of the key drivers for career satisfaction and employee retention. Creed and Blume (2013) go on to say that general boredom, lack of stimulation and growth opportunities will result in lower levels of subjective wellbeing and career satisfaction. Savickas (2013) argues that individuals who are constantly learning new skills and enhancing their expertise will be more employable and will be able to adapt to the complexities of the work environment which will in turn support their career wellbeing. Kidd (2008) states that individuals who do not have the opportunity to learn and develop will feel stagnant and demotivated and highly dissatisfied with their careers. In addition, if they will perceive their employers as breaking the psychological contract if they do not support their learning and development needs (Persson & Wasieleski, 2015).

Environmental mastery is the final component Kidd (2008) identified as being essential for organisations to support in order to facilitate individual career wellbeing. It has been well established that individuals who feel that they can successfully adapt to the needs of their environments will experience greater subjective wellbeing (Hogan, Chamorro-Premuzic, & Kaiser, 2013). Savickas (2013), in turn, argues that modern employees need to be highly adaptable and flexible in order to master their environments and feel successful in their careers. Employees who feel unable to master their environments are likely to break the psychological contract and cross boundaries in search of simpler environments to master. To address this, organisations should provide employees with the job resources that allow them to master their job demands (Schaufeli & Taris, 2014). Furthermore, individuals who feel that their job demands outweigh they job resources will feel out of control in terms of mastering their environments. The employer's responsibility toward maintaining the psychological contract is therefore to supply employees with job resources (which include physical and psychological resources) so that they can master their work environments and experience career wellbeing.

In addition to the components that Kidd (2008) identified as being essential for organisations to support in order to cultivate career wellbeing, Bester (2017) identified a number of other psychological constructs associated with career wellbeing. Bester (2017) found that harmonious work passion (i.e. the positive internalisation of work into an individual's self-concept, (Vallerand, 2015) has a positive relationship with career satisfaction (which served as an indicator of career wellbeing in his study). It was established that individuals who strive to find a balance between different work activities, roles and responsibilities tend to experience greater career satisfaction. Bester (2017) also found that individuals who experience obsessive passion toward work will experience lower levels of career satisfaction. Vallerand (2015) describes obsessive work passion as the unbalanced internalisation of work into a person' self-concept, where work plays such an overbearing part in a person's identify that that it constantly preoccupies their minds and negatively affects other life domains. As part of the organisational contract, organisations should thus put policies, processes and support systems in place that allow individuals to develop harmonious passion as opposed to obsessive passion toward work in order to experience greater career satisfaction and ultimately career wellbeing.

Bester (2017) also indicated that the psychological career resource (Coetzee, 2008) of flexible career preferences is associated with greater career satisfaction. In line with the requirements of the modern employee, who needs to be more flexible and adaptable in terms of their career decisions, objectives and outcomes (Savickas, 2013), Bester (2017) found that individuals who are flexible in their approach to their career decisions and goals will experience greater career satisfaction. Employers should provide ample internal career opportunities and allow freedom of movement between roles within the organisation in order to facilitate career wellbeing and commitment from employees to the psychological contract.

In line with Kidd's (2008) hypothesis that employability is a key driver of career wellbeing, Bester (2017) found that individuals who take proactive steps to satisfy career adaptation preoccupations will experience greater career satisfaction and ultimately career wellbeing. Employees thus need to take proactive steps to upskill themselves to be relevant and sought after within the contemporary work environment especially in the areas of AI, robotics and automation. Organisations must realise that individuals are concerned about their employability and should take steps to support them in terms of giving them the opportunity to enhance their expertise and master their work environments. Employees will not feel the need to break the psychological contract with employers who support them in terms of remaining employable.

4.7 Toward Constructing a Theoretical Model of Career Success and Career Wellbeing

Based on the above literature review, there seems to be close theoretical associations between the psychological contract and career success. In turn, there also seems to be close associations between career success and career wellbeing. The section below attempts to provide a theoretical framework (as illustrated in Fig. 5.1) which career researchers and career practitioners can use as a basis for further career research and career practices.

When individuals are satisfied with the elements of the transactional psychological contract (such as the financial reward that they receive for their time, effort and commitment that they have invested) they may experience greater levels of career satisfaction (subjective career success) (Manxhari, 2015; Ng et al., 2005). Individuals who benefit from the transactional psychological contract may receive higher financial reward which, in turn, may be perceived by others as them being successful in their careers (objective career success) (Ng et al., 2005). Conversely, the breaking of the transactional psychological contract by the employer may result in individuals being less satisfied with their careers and others perceiving them as being less successful in their careers (Lu et al., 2016). When individuals are continuously satisfied with how the transactional psychological contract supports their career success it may result in career wellbeing (Kidd, 2008).
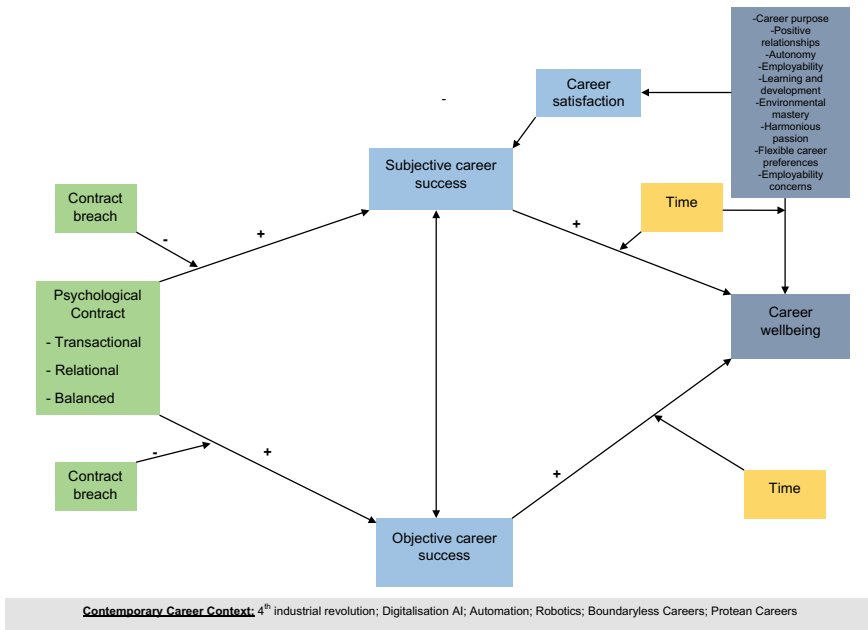
Fig. 4.1 The theoretical relationship between career success and career wellbeing (Source: Author's own compilation)

Organisations should be clear in terms of what they expect from their employees, in terms of the transactional contract, as a lack of role clarity has a strong correlation with turnover intention and lower levels of career satisfaction (Karim, 2017). Clear policies, procedures and processes will help employees to feel more in control of their work and careers which could potentially lead to greater career wellbeing. Industrial psychologists and HR practitioners should assist employees to understand how their skills and knowledge can be utilised and developed to be of greater value to the organisation and subsequently lead to greater career wellbeing (Kidd, 2008). Employees should be assisted to understand their employability concerns (Bester, 2017) and upskill themselves, especially in terms of utilising technology, to ensure that they satisfy the employers expectations of the psychological contact.

It is predicted, that in the future, employees who will have the ability to utilise technology, learn about technology, help others to utilise technology, are flexible in terms of adopting technology and are effective in selling their technological knowledge will be more sought after by employers. In other words, employers will be more satisfied in terms of what they get in return from these technologically capable employees. Individuals who are technologically competent will cross boundaries in pursuit of employers where their knowledge and skills are rewarded. The fact that these individuals will be in demand by employers will have a positive impact on their objective career success, their subjective career success and over the long-term their career wellbeing. Employees should be encouraged to keep an open

mind and be flexible in terms of implementing technology to achieve their career objectives. They should also be reminded to have to continuously adapt to the work environment and be flexible about their career objectives in the context of the ever-changing career environment (Bester, 2017).

When an employer breaks the relational psychological contract employees may question their career choices and aspirations which may result in lower levels of career satisfaction (Persson & Wasieleski, 2015). As the relational psychological contract is contingent on emotional elements such as trust, honesty and commitment, individuals may cross boundaries and leave their employers in pursuit of organisations where these emotional needs can be satisfied if they feel that the relational contract is not fair toward them. This break in employment may be perceived by others (objective career success) as the individual being unsuccessful in their career (Borra & Gómez-García, 2016). When organisations feel that the relational psychological contract has been broken and that they cannot trust the individual with more resources it may have a negative impact on their willingness to promote the individual or support their career development. This may result in the individual feeling trapped and dissatisfied with their career (Ng et al., 2005). When individuals are continuously satisfied with how the relational psychological contract supports their career success it may result in career wellbeing (Kidd, 2008).

Employees should continuously be equipped to be strong networkers and relationship builders to experience positive relationships with their employer and future employers and experience long-term career satisfaction (Kidd, 2008). It is predicted that individuals who will be able to utilise technology in the future to connect with others and build global networks will be more successful in their careers and experience more career wellbeing. In line with the sponsored mobility model (Ng et al., 2005) individuals who have positive relationships with their employers and multiple potential employers will experience greater career success and career wellbeing. Industrial psychologists and HR practitioners should encourage employees to build strong networks with individuals who are perceived as highly skilled and knowledgeable in their fields from which potential future career opportunities may arise. Employees should also develop their emotional and cognitive skills in order to remain employable in the context of AI, robotics and the internet (who do not have these emotional and cognitive skills) taking over more jobs (World Economic Forum, 2018).

Theoretically a relationship may also exist between the balanced psychological contract (which is a combination of the transactional and relational contracts) and career success (Persson & Wasieleski, 2015). As the balanced contract emphasises the importance of striking a balance between the emotional and open-ended expectations related to the relational contract and the performance demands associated with the transactional contract, a positive balanced contract may be associated with both subjective and objective career success (Persson & Wasieleski, 2015). When individuals are satisfied that their emotional needs are met by the organisation it may result in greater career satisfaction (subjective career success) and when others perceive an individual's financial, promotion and tenure rewards as being fair in relation to their inputs they may perceive that individual's career as

being successful (objective career success). When individuals are continuously satisfied with how the balanced psychological contract supports their career success it may result in career wellbeing (Kidd, 2008).

Individuals need to equip themselves to develop business skills, transactional skills, negotiation skills and relationship skills to ensure that they achieve career success and career wellbeing within the modern context of work. Foster (2016) predicts that more individuals will start acting as short-term consultants in the future as opposed to being employed permanently where they will be sell their skills, experience and expertise for financial reward and meaningful work experiences. Individuals who experience career success and career wellbeing in the future will thus need to implement the principles of the balanced contract where they need to make sure that the business transactions that take place for the acquisition of their skills is fair and be able to build positive relationships with current and future employers to remain employed.

In summary, as Fig. 5.1 illustrates, modern employees are constructing their careers within an ever-changing and complex work environment. The satisfaction that individuals have with their psychological contract with their employer may impact their career success. When individuals are content with their subjective and objective career success over time it will result in career wellbeing (Kidd, 2008; Ng et al., 2005). When individuals are supported by organisations and are able to be proactive and flexible in their career management they need to focus on the following areas to experience greater career satisfaction and ultimately career wellbeing (Bester, 2017; Kidd, 2008): Have a clear career purpose and plan; develop positive relationships with colleagues, managers and future employers; strive toward autonomy and to take responsibility for their own careers; be concerned with their employability by learning skills that are relevant for the current and future world of work; be able to adapt and master their environments and develop their passions and understand what their key strengths and motivators are.

The following section concludes the chapter and makes a number of recommendations.

4.8 Conclusions and Implications for Career Wellbeing Practice and Research

It is evident from this overview of the research literature on the elements of the contemporary career, the psychological contract, career success and career wellbeing in this chapter that the following should be taken into account when supporting individuals to experience career wellbeing:

1. Careers are changing at a rapid pace. Organisations are under pressure to perform and a number of socioeconomic changes have made the career environment more complex. Careers are no longer characterised by commitment to a single employer or even the traditional preoccupations that employees had

with salary and title. Modern employees are concerned with having satisfactory, purposeful and meaningful career experiences and will cross organisational boundaries in search of these.

2. Several modern career theories have emerged in an attempt to encapsulate the dynamics of the modern career. The boundaryless and the protean career models and the CTT are three of the most predominant theories related to the modern career. In the boundaryless career modern employees tend to move easily across departmental, organisational and global boundaries in search of meaningful career experiences. In turn, the protean career view states that individuals drive their own career success as opposed to the traditional career where the organisation took charge of driven career success. The CTT states that modern employees need to be highly flexible and adaptable in order to navigate the demands of the complex work environment.

3. The chapter highlighted the fact that the psychological contract between the employer and the employee is becoming more complex in the modern work environment. The psychological contract is a multifaceted construct which encapsulates the unspoken agreement between the employer and the employee. There are three types of psychological contract, namely, the transactional, relational and balanced contracts. These types of contract vary in terms of the emotional connection that both parties (employee and employer) have with the other party. An exploration of psychological contract break subsequently found that one or other party will discontinue the contract if they feel that the relationship is no longer reciprocal.

4. Career success and more specifically the types of career success, namely, objective and subjective career success were explored. It was established that objective career success refers to the observable indicators of career success such as salary, job level and employment. Subjective career success is the level of satisfaction that individuals have with their career outcomes, decisions and movements, which can be labelled as career satisfaction. Theoretical links between the two types of career success and subjective wellbeing were also presented.

5. Literature on career wellbeing was discussed. It was established that career wellbeing is a multifaceted and dynamic construct which is related to individuals' subjective wellbeing. Career wellbeing may be conceptualised as the level of satisfaction that a person has with their career choices, decisions and outcomes over time. It is an important construct to study as individuals spend a large proportion of their lives working on their careers. The individual and organisational drivers of career wellbeing were identified as being purposeful and meaningful work experiences, positive work-related relationships, work autonomy, employability, environmental mastery and learning and development, harmonious work passion, flexible career preferences and being concerned with one's employability.

6. Psychological contract theory was used as a theoretical lens through which the theoretical relationship dynamics between career success and career wellbeing were explored. Although the modern career environment is becoming more

complex and individuals are expected to take more autonomous control of their careers, the organisation still needs to put frameworks and structures in place as part of its responsibility to assist an employee to achieve career success and career wellbeing. Employees who feel that their objectives related to career success are supported by the psychological contract will experience greater career wellbeing. On the other hand, employees who feel that their career success and career wellbeing are not supported will break the psychological contract and leave. As this break up can be highly emotional it could have a negative effect on the satisfaction that individuals have with their careers and lead to lower levels of career wellbeing. As the research points out that there are links between objective career success and subjective career success and subjective wellbeing, it was argued that a link may also exist between career success and career wellbeing.

7. The chapter proposed a theoretical model which clarifies the theoretical relationship dynamics between career success and career wellbeing as studied through the lens of the psychological contract theory within the context of the highly complex 21st century career environment. This theoretical model can be used to inform future empirical studies and career practices.

8. It is recommended that organisations put policies, processes and frameworks in place that support individuals' career success and, more specifically, their career wellbeing. As individuals expect this as part of the organisation's responsibility toward the psychological contract, it is important that employers emphasise career wellbeing practices in order to retain talent.

9. Human resource practitioners and industrial psychologists should assist individuals to focus on their career wellbeing by helping them to optimise and develop the drivers of career wellbeing, namely, purposeful and meaningful work experiences, positive work-related relationships, work autonomy, employability, environmental mastery and learning and development, harmonious work passion, flexible career preferences and being concerned with one's employability.

10. As current empirical research on the concept of career wellbeing has been somewhat limited in terms of its design, samples and outcomes, it is recommended that further research be conducted on the antecedents and drivers of career wellbeing.

11. It is recommended that a measure of career wellbeing be developed in order to understand the factors that drive the career wellbeing in the modern employee.

4.9 Summary

Based on a systematic literature review, this chapter aimed to explore the theoretical relationship between career success and career wellbeing. By making use of the psychological contract as a theoretical lens, where both employers and employees

have responsibility toward each other in terms of establishing a positive working relationship, it was argued that a theoretical relationship between objective and subjective career success and career wellbeing can exist due to the constructs' close similarities and shared elements. The chapter started out by highlighting the fact that the modern career is becoming more complex and dynamic and that there are several career theories that have attempted to conceptualise the modern career. Secondly, the chapter presented psychological contract theory, the types of psychological contracts and what breaking the psychological contract entails.

The concept of career success was then presented as being central to the lives of many individuals. It was argued that modern employees no longer classify their careers as being successful based simply on salary and job level, but that they also search for meaningful career experiences. Fourthly, the chapter presented the theory on career wellbeing and the theoretical links between career success and career wellbeing which allowed the author to present a theoretical model which can be utilised by career researchers and practitioners. Finally, the conclusions and implications for career wellbeing practice and research were presented. This chapter hopes to contribute to the available literature on career wellbeing.

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Marais Bester is an industrial and organisational psychologist who is registered with the Health Professions Council of South Africa and the British Psychological Society. He works as a consultant, trainer and coach across Africa and the Middle East, with large multinational organisations, in the areas of talent acquisition, employee benefit management, employee wellbeing, change management, organisational development, team development, talent development, talent audits, succession planning, coaching and mentoring as well as performance management. He values the opportunity that he has to help individuals optimise within their careers. His research interests are in the fields of personality, diversity, wellbeing, coaching, emotions and careers.

Chapter 5
From Surviving to Thriving: Towards Career Wellbeing

Fathima Essop Mahomed and Sebastiaan Rothmann

Abstract In the long-term future, the quality, brand and reputation of universities would be crucial factors impacting experiences of work of knowledge and innovation workers. Academics in universities will play a significant role in preparing knowledge and innovation workers for their work. The aim of this chapter was to investigate the relationship between job crafting, high-performance human resource management practices and thriving of academics in higher education institutions. A cross-sectional survey design was used. A convenience sample of 276 academic employees from three universities of technology in South Africa participated in the study. The participants completed the Job Crafting Questionnaire, the High-Performance Human Resource Practices Questionnaire, and the Thriving at Work Scale. As hypothesised, thriving, job crafting, and high-performance human resource practices were positively related. Additionally, a significant interaction between job crafting and high-performance human resource practices was found. The relationship between job crafting and thriving was found to differ with respect to the extent to which academics perceived high-performance human resource practices. When human resource practices were perceived to be good, academics' thriving depended less on job crafting. However, when human resource practices were perceived to be poor, job crafting was needed for academics to thrive. The implications of these results are discussed.

Keywords Fourth industrial revolution · Precariousness · Thriving · Job crafting · Human resource practices · Higher education

F. E. Mahomed
Department of Human Resource Management, Vaal University of Technology, Vanderbijlpark, South Africa

S. Rothmann (✉)
Optentia Research Focus Area, North-West University, Vanderbijlpark, South Africa
e-mail: ian@ianrothmann.com

5.1   Introduction

The experience of working and work have positive and negative effects on individual and family wellbeing (Burke, 2019). Positive effects include flourishing (Rothmann, Van Zyl, & Rautenbach, 2019) and thriving (Spreitzer & Hwang,2019) at work. Negative effects include stress, burnout, and incivility (Burke, 2019). Longitudinal research showed that the nature of professional and managerial work has changed over the past decades: work now moves at a faster pace, individuals work longer hours in intense jobs, feel less control over their jobs and are more closely monitored (Worrall, Mather, & Cooper, 2016). According to Johannessen (2019), the Fourth Industrial Revolution will change workplaces and the nature of work dramatically and result in precariousness. The concept of precariousness captures the uncertainty and insecurity experienced not only by unemployed people living in poverty but also by individuals from the middle class who have good qualifications. Individuals who find themselves in the precariat are frustrated, angry and bitter at those who put them in the position in which they find themselves. Fourth Industrial Revolution technologies appear to undermine humans' choice and ability to apply their skills and interests to meaningful work and may lead to generations of workers living precarious and fragmented lives (Schwab, 2018).

In addition to the challenges of the Fourth Industrial Revolution, developing countries like South Africa, face the challenges of inequality, poverty and unemployment. People in societies with bigger income gaps between rich and poor are more likely to suffer from a wide range of health and social problems compared to those living in more equal societies (Wilkinson & Pickett, 2018). Also, as Turok (2018) pointed out, poverty levels in Southern Africa are unsustainably high, and unemployment is a real challenge. For example, in South Africa, 76% of people face an imminent threat of falling below the poverty line. Market-creating innovation, defined as a change in processes by which organisations transform, labour, capital, materials, and information into services and products of higher value is needed to increase prosperity (Christensen, Ojomo, & Dillon, 2019).

Johannessen (2019) stated that in the future, the quality, brand and reputation of universities would be crucial factors determining the work and working levels of individuals. Students from the best universities will be given more opportunities in their working lives. The graduates from top universities will have the best opportunities. According to Savage (2015, p. 221) "universities are affecting future careers". The length and depth of education are essential: a master's or PhD qualification is vital to become an innovation and knowledge worker. However, the quality of the university where individuals complete their degrees is a decisive factor. Mediocre and poor universities will provide opportunities for individuals who will belong to the precariat (Johannessen, 2019).

Based on the above-mentioned discussion, two conclusions can be made: First, the new world of work presents challenges to the career wellbeing and performance of individuals and organisations. Second, the wellbeing of temporary and

permanently employed people and non-working people is crucial to ensure stability in countries, especially when inequality, poverty and unemployment are high. Moreover, thriving is a critical factor in the long-term individual and organisational wellbeing and performance of university staff (Spreitzer & Hwang, 2019). Their thriving, in contrast with surviving, will impact the lives of future knowledge and innovation workers.

Contrary to what many people believe, emotions like sadness, fear, and anger do not entirely obstruct the path to optimal functioning of people. Achor (2018) argued that the opposite of joy is not sadness but apathy which is the loss of energy to continue to pursue one's goals. Apathy means that people survive, rather than thrive. Consequently, the pursuit of potential becomes both meaningless and futile. Studies have shown that thriving is positively associated with critical organisational outcomes such as employee health, high job performance, reduced absenteeism, innovative work behaviour, organisational citizenship behaviour, organisational commitment, development, and job satisfaction, as well as lower levels of burnout, job strains, turnover intentions and actual turnovers (Carmeli & Spreitzer, 2009; Cullen, Gerbasi,& Chrobot-Mason, 2015; Niessen, Sonnentag, & Sach, 2012; Porath, Spreitzer, Gibson, & Garnett, 2012; Wallace, Butts, Johnson, Stevens, & Smith, 2016). Therefore, the question arises how people can thrive in their work, given the demands and challenges of the Fourth Industrial Revolution, as well as challenges of inequality, poverty, and unemployment in developing countries.

According to Spreitzer and Hwang (2019), individuals desire a job situation that allows them to thrive, rather than merely survive. Thriving refers to a desirable subjective experience characterised by a sense of vitality and a sense of learning at work (Spreitzer & Porath, 2012). Academics who are thriving experience growth and motion marked by a sense of feeling energised and alive and recognise that they are incessantly improving and getting better at what they do (Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005). Thriving serves an adaptive function in that it helps individuals to navigate and change their work contexts to promote and sustain their professional development and efficiency (Spreitzer et al., 2005). Hence, thriving serves as a gauge of a person's progress at work and thus assists employees in increasing both their short-term functioning and longer-term development (Spreitzer et al., 2005). According to Herwitz (2018), academic staff at South African higher education institutions experience depletion and demoralisation, which are not acknowledged or addressed by authorities.

5.2   Chapter Objective

This study tested the notion that job crafting and high-performance HR practices predict thriving. It further investigated the interaction effect between job crafting and high-performance HR practices on thriving at work. The following hypotheses were set for this study:

Hypothesis 1: High-performance HR practices positively predict thriving at work.

Hypothesis 2: Job crafting positively predicts thriving at work.

Hypothesis 3: High-performance HR practices interact with job crafting to effect thriving at work.

5.3   The Present Study

Positive psychological constructs like flourishing (Janse van Rensburg, Rothmann, & Diedericks, 2017a, 2017b) and work engagement (Barkhuizen, Rothmann, & Van de Vijver, 2014), which are related to thriving, have been examined in the South African higher education context. These studies showed that sound human resource management practices (Barkhuizen et al., 2014), person-environment fit (Janse van Rensburg et al., 2017a), and manager and supervisor support (Janse van Rensburg et al., 2017b) predict positive psychological functioning (Porath, Spreitzer, Gibson, & Garnett, 2012).

Compared to constructs like burnout, work engagement and job satisfaction, workplace thriving has not enjoyed much attention in academic research and practice. A better understanding is required of how and why specific factors promote thriving at work which can have implications for human resource management scholarship (Kira & Balkin, 2014). Also, positive theories, such as thriving, offer new starting points for the consideration of wellbeing at work (Spreitzer et al., 2005). There is evidence of the relationship between thriving at work and various desired individual and organisational outcomes (Cullen et al., 2015). This study proposes individual and contextual enablers of agentic work behaviours that may be related to thriving at work.

Firstly, job crafting may play a role in thriving at work. Job crafting considers the role of proactive and self-initiated behaviours that academics can use to alter and craft their work roles (Berg, Dutton, & Wrzesniewski, 2013; Wrzesniewski & Dutton, 2001). Job crafting predicts employee engagement, organisational commitment, flourishing, psychological wellbeing and helping behaviours (Bakker, Tims, & Derks, 2012; Brenninkmeijer & Hekkert-Koning, 2015; Demerouti, Bakker, & Gevers, 2015; Leana, Appelbaum, & Shevchuk, 2009; Slemp & Vella-Brodrick, 2013, 2014; Van Wingerden, Bakker, & Derks, 2017). However, limited evidence could be found of job crafting studied in relation to thriving at work.

Secondly, an essential factor in the organisational context that has been overlooked in prior research on thriving at work is the quality of human resource (HR) practices. HR practices affect employee wellbeing (Guest, 2002, 2011; Huang, Ahlstrom, Lee, Chen, & Hsieh, 2016). More specifically, HR practices (whether labelled high-performance or high-commitment HR practices) such as

training, participation, and performance-related pay are associated with healthier work environments and lower levels of burnout (Castanhera & Chambel, 2010; Nishii, 2006).

5.4   Thriving at Work

Carver (1998) defined thriving as a positive response to a challenge. Thriving refers to "the psychological state in which individuals experience both a sense of vitality (i.e. the positive feeling of having energy available) and a sense of learning (i.e. the sense that one is acquiring, and can apply, knowledge and skills) at work" (Spreitzer et al., 2005, p. 538).

Spreitzer et al. (2005) described how thriving at work is similar to, yet distinct from, constructs such as resilience, flourishing, subjective wellbeing, flow, work engagement and self-actualisation. As they described, the fundamental distinguishing characteristic of thriving at work is the combination of learning and vitality, both of which are necessary for employees to thrive. Therefore, thriving reflects both the affective and cognitive component of psychological experience and combines the hedonic and eudemonic perspective of psychological functioning (Spreitzer et al., 2005).

The socially embedded model of thriving at work (Spreitzer et al., 2005) suggests that three types of agentic behaviours are associated with thriving. These behaviours are task focus, i.e. focussing behaviours and attention on job tasks and responsibilities; exploration, i.e. experimentation, innovation, risk-taking, and discovery to stretch and grow in new directions; and heedful relating, i.e. looking out for one another to heedfully connect to the social/relational environment. If the satisfactory enabling conditions and resources are present, there is an increased likelihood that individuals will thrive, even under onerous conditions that seem to exist within the higher education institutions in South Africa.

Porath et al. (2012) developed a ten-item scale to measure thriving at work. Although scholars have highlighted the importance of thriving for organisations (Gerbasi, Porath, Parker, Spreitzer, & Cross, 2015; Spreitzer & Porath, 2012a, 2012b; Spreitzer, Porath, Gibson, & Garnett, CitationID=`CR70'>2012), "research on thriving at work has been quite sparse" (Niessen, Sonnentag, & Sach, 2012, p. 468). Studies have shown the importance of thriving to work-related outcomes, such as individual task performance, innovative work behaviours, organisational citizenship behaviours, organisational commitment, and taking the initiative for career development, self-development and job satisfaction (Gerbasi et al., 2015). Thriving at work has also been linked to critical individual outcomes such as development, overall health (Carmeli & Spreitzer, 2009; Porath et al., 2008; Porath, Spreitzer, & Gibson, 2008), less burnout and strain (Porath et al., 2012; Spreitzer et al., 2012) and higher engagement (Gerbasi et al., 2015).

5.5 Job Crafting

In the ever-changing academic environment, it is essential to understand the ways to enhance the wellbeing of academics in higher education institutions for desirable work-related outcomes. Wrzesniewski and Dutton (2001) suggest job crafting as a possible strategy. Job crafting refers to making proactive alterations to the content and confines of one's job and relationships with others to change the meaning of one's work and the social environment at work. Academics have to anticipate and create changes in how work is performed, based on increases in uncertainty and dynamism (Grant & Parker, 2009), which is prevalent in higher education institutions. This deliberation activity can help them cope with ongoing changes. Therefore, job crafting can be viewed as a strategic advantage during a change in which several positive outcomes may present themselves, including job satisfaction, work engagement and thriving at work (Bakker, 2011; Ghitulescu, 2007).

Job crafters may participate in three types of crafting: (a) cognitive crafting, which encompasses altering task-related boundaries and mindsets; (b) task crafting, which comprises varying the content of work— the number, scope and type of job responsibilities, and (c) relational crafting, which includes transmuting the quality and amount of interaction with others while working. When individuals craft their jobs in these ways, the jobs become more meaningful or enjoyable to them. However, there is evidence that multiple positive individuals, group and organisational outcomes arise when employees job craft, mostly in the areas of employee wellbeing and performance (Rosso, Dekas, & Wrzesniewski, 2010).

It is important to realise that job crafting is not a single event. It is a process in which an employee engages over a period, and although job crafting is a form of proactive behaviour, i.e. actions that initiate and create change (Griffin, Neal, & Parker, 2007), it occurs in the context of employees' prescribed jobs. These are marked by prescribed tasks, expectations, and positions in the organisational hierarchy. Thus, any of these features may limit employees' perceptions of their opportunities to proactively change their jobs. Leana, Appelbaum, and Shevchuk (2009) found that educators who took part in job crafting displayed improved performance compared to those who did not engage in job crafting. Furthermore, Peral and Geldenhuys (2016) uncovered that teachers who are given the opportunity to craft their working practices might experience increased subjective wellbeing, leading to some positive organisational outcomes.

5.6 High-Performance HR Practices

Job crafting may not be enough for employees to thrive. High-performance HR practices matter for thriving and businesses. According to Ulrich, Kryscynski, Brockbank, and Ulrich (2017), organisations' capabilities are vital for the optimal functioning of talented people and business success. Having talented people is

critical, but if human resource departments are not organised appropriately to enable the capabilities of individuals, opportunities will not realise. Business leaders should care about HR practices because HR issues are business issues.

There always has been an interest in understanding how HR practices contribute to organisational outcomes and competitive advantages. However, more recently, however, scholars have called for more research which examines individual-level outcomes of employee perceptions of HR management practices as it may be more proximal predictors of individual attitudes and behaviours (Nishii, Lepak, & Schneider, 2008). High-performance HR systems are defined as "groups of separate but interconnected HR practices designed to enhance employees' skills and effort" (Takeuchi, Lepak, Wang, & Takeuchi, 2007, p. 1069). Beardwell and Claydon (2010) define high-performance HR systems as a combination of HR practices intended for enhancing the commitment, flexibility and quality of employees. These practices foster employees' shared perceptions of a supportive organisational environment that encourages participation in decision-making and motivates discretionary effort that contributes to improved organisational performance and sustained competitive advantage (Appelbaum, Bailey, Berg, & Kalleberg, 2000; Sun, Aryee, & Law, 2007).

Even though researchers continue to investigate the fundamental mechanisms linking the utilisation of high-performance HR practices to firm outcomes (Chadwick & Dabu, 2008), there is a lack of agreement on the specific practices that should be included in high-performance work systems. However, the most widely used practices include recruitment and selection, training and development, promotion, job security, performance-related pay, communication, and autonomy (Iverson & Zatzick, 2007; McClean & Collins, 2011; Price, 2011).

Recruitment and selection are critical for hiring employees who are a good fit for the organisation. These practices usually create positive work environments for highly skilled employees who are likely to perform in ways that benefit the organisation (Iverson & Zatzick, 2007; McClean & Collins, 2011). Ample training and development are essential for furnishing employees with current knowledge, skills and competencies. Such activities enhance employees' flexibility and increase their loyalty and commitment to the organisation (Iverson & Zatzick, 2007).

Providing promotion opportunities supports employees' emotional attachment to and identification with the organisation. These opportunities signal to employees that the employer is concerned about their development and can invest in their advancement as employees (McClean & Collins, 2011). Job security reduces employees' fear of losing their jobs. This will allow them to contribute freely to enhanced productivity and to act with the long-term in mind (Price, 2011). Performance-related pay will provide employees with a feeling of being rewarded. This is more likely to increase employees' commitment to the organisation and encourage them to contribute more (McClean & Collins, 2011).

Effective communication helps employees understand their tasks and roles within the organisation. By communicating effectively with employees, they might value the reasons behind organisational decisions and sanctioned procedures which, in turn, is more likely to increase their trust and commitment to the organisation

(Den Hartog & Belschak, 2013). Lastly, autonomy provides employees with sovereignty, independence and foresight when carrying out their work assignments (Morgeson & Humphrey, 2006).

It is vital to have high-performance HR practices aimed at managing employees in organisations in such a way that they work together to select, develop, and motivate a workforce that has appropriate qualities and that uses these qualities in work-related activities with flexible effort. It can result in employee outcomes such as job satisfaction, organisational commitment, work motivation, intention to quit and citizenship behaviours (Alfes, Shantz, Truss, & Soane, 2012; Boon, Den Hartog, Boselie, & Paauwe, 2011; Gould-Williams & Gatenby, 2010). However, it is not clear exactly how this relationship operates. Organisational outcomes do not originate from the HR practices themselves, but rather from the human efforts surfacing from these HR practices (Way, 2002).

HR practices have the desired consequences on employee attitudes and behaviours only to the degree that they are consistently experienced and perceived by employees as intended (Bowen & Ostroff, 2004; Nishii, 2006). However, employees all perceive and react differently to HR practices. Thus, high-performance HR systems have utility to the extent that they positively affect employees and inspire them to contribute to critical organisational outcomes. Scholars have presented a convincing body of empirical evidence supporting the high-performance HR practice–performance relationship (Combs, James, Liu, Hall, & Ketchen, 2006; Messersmith, Pankaj, Lepak, & Gould-Williams, 2011). However, limited evidence exists on the effects of high-performance HR practices on more connected outcomes, namely employee attitudes and behaviours.

5.7 Method

5.7.1 Research Design

This study used a cross-sectional survey design, as data were collected at one point in time. According to Creswell (2012), cross-sectional survey designs are useful in collecting data relative to "current attitudes, opinions, or beliefs" (p. 377). Data were gathered by utilising questionnaires regarding thriving, job crafting and perceptions of human resource practices of academic employees.

5.7.2 Setting and Participants

Knowledge and innovation workers with good qualifications will be needed as a consequence of the Fourth Industrial Revolution. They will have to be committed, engaged and focused on the customer, i.e. they should thrive rather than survive.

Table 5.1 Characteristics of the participants

Item	Category	Frequency	Percentage
Gender	Male	123	44.6
	Female	153	55.4
Age	20–30 years	38	13.7
	31–40 years	73	26.4
	41–50 years	87	31.5
	51–60 years	58	21.0
	Over 60	20	7.2
Home language	Afrikaans	109	39.5
	English	66	23.9
	African language	101	36.6
Highest qualification	Diploma	7	2.5
	Postgraduate diploma	7	2.5
	Degree	20	7.2
	Honours degree	31	11.2
	Master's degree	128	46.4
	Doctoral degree	83	30.1
Tenure	Less than five years	51	18.4
	5–10 years	70	25.3
	11–15 years	46	16.6
	16–20 years	42	15.1
	21–25 years	31	11.2
	More than 25 years	36	13.1

Those who do not adopt these attitudes will fail to succeed in their endeavours. Therefore, this study was conducted among academics at three universities of technology who are involved in the education of knowledge and innovation workers. A total sample of 276 was recruited. Most participants (80.4%) were permanently employed. Biographical characteristics of the participants are reported in Table 5.1.

The results in Table 5.1 show that a total of 44.6% of the sample were males, while 55.4% were females. The ages of the participants ranged from 20 years to 79 years. The mean age of the participants was 43.83 ($SD = 11.10$). Most participants were South African (88.8%), married (67%) and spoke Afrikaans (39.5%). Furthermore, almost half of the respondents (46.4%) held a master's degree, while most respondents (81.6%) had served more than five years in an academic profession.

Not shown in Table 5.1 is the percentage of participants who were thriving or not thriving. However, the results show that approximately 11% of employees did not thrive at all. A lack of energy was evident in 22% of the sample. However, 58% of the sample did not show optimal vitality scores, while 43% did not function optimally concerning learning.

5.7.3 Measuring Instruments

In this study, the following measuring instruments were used: the Thriving at Work Scale, the Job Crafting Questionnaire and the High-Performance HR Practices Questionnaire.

The *Thriving at Work Scale* (TWS; Porath et al., 2012) was used to measure the level of thriving. It is a 10-item scale measuring two dimensions: learning (e.g. "I continue to learn more and more as time goes by") and vitality ("I feel alive and vital"). Each subscale consists of five items. A Likert scale ranging from 1 (*not at all*) to 5 (*to a great extent*) is used to rate the 10 items. The alpha coefficient was 0.93 (Porath et al., 2012).

The *Job Crafting Questionnaire* (JCQ; Slemp & Vella-Brodrick, 2013) was used to measure job crafting. It measures ways in which employees take an active role in initiating changes to the physical, cognitive, or social features of their jobs. The full measure consists of three dimensions: *task*, e.g. "Introduce new work tasks that better suit your skills or interests"; *relational*, e.g. "Engage in networking activities to establish more relationships" and *cognitive*, e.g. "Think about how your job gives your life purpose". These three types of activities represent three distinct, yet meaningful ways in which employees can shape their work experience. In total, the questionnaire has 15 items, and participants indicate the frequency with which they have engaged in each job-crafting activity—on a scale ranging from 1 (*hardly ever*) to 6 (*very often*). The Cronbach alphas of the three subscales were all well above the recommended threshold of 0.70 (Slemp & Vella-Brodrick, 2013).

The *High-Performance HR Practices Questionnaire* (HPHRP; Mostafa & Gould-Williams, 2014) was used to measure employee perceptions of high-performance HR practices using 27 items. The practices included in the current study were divided into: (a) ability-enhancing HR practices (selection, and training and development; e.g., "My organisation's hiring policy and process is fair"); (b) motivation-enhancing HR practices (job security, promotion and performance-related pay; e.g., "Job security is almost guaranteed to employees in this organisation"); and (c) opportunity-enhancing HR practices (autonomy and communication; e.g., "I have the opportunity to earn individual bonuses for my performance"). The 27 items were measured using a seven-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach alpha coefficients for the measures of the seven HR practices ranged from 0.77 to 0.92. Discriminant validity of the questionnaire was assessed by comparing the square root of the average variance extracted for each construct with the correlation estimates between constructs. The square root of the variance-extracted estimate for each construct was higher than the corresponding inter-construct correlation estimates, suggesting that all the constructs in the questionnaire are valid (Mostafa & Gould-Williams, 2014).

A *biographical questionnaire* was developed to measure socio-demographic and biographical data of participants. Items included were gender, age, marital status,

qualifications, job position held at the University of technology, tenure, home language of choice, race, nationality, and type of contract.

5.7.4   Data Analysis

The data analysis was carried out using Mplus version 8.2 (Muthén & Muthén, 1998–2018), and SPSS24 (IBM Corp, 2018) was used to compute descriptive statistics and to test interaction effects. In Mplus, the maximum likelihood estimation with robust standard errors (MLR) was used as an estimator. Scale reliabilities (ρ) were computed using a confirmatory factor analysis-based estimate of scale reliability (Raykov, 2009). To measure the proposed relationships between constructs in the study, Pearson correlation coefficients were used. Effect sizes were used to determine the practical significance of the results (Cohen, 1988). Cut-off points of 0.30 (medium effect) and 0.50 (large effect) were set for the practical significance of the correlation coefficients (Cohen, 1988). The confidence interval level for statistical significance was set at a value of 95% ($p \leq 0.05$).

The following indices were used to assess model fit for measurement and structural models: (a) absolute fit indices, including the chi-square statistic (the test of absolute fit of the model), standardised root mean residual (SRMR), root mean square error of approximation (RMSEA), and (b) incremental fit indices, including Tucker-Lewis index (TLI) and comparative fit index (CFI) (West, Taylor, & Wu, 2012). For TLI and CFI values to be acceptable, scores higher than 0.90 are required, while values larger than 0.95 indicate excellent fit. RMSEA and SRMR values lower than 0.08 indicate a close fit between the model and the data. Akaike information criterion (AIC) and Bayesian information criterion (BIC) values were used to compare different measurement models (Kline, 2010).

Farrell (2010) recommends that researchers establish discriminant validity in latent variable analyses. Discriminant validity of a latent variable exists if it accounts for more variance in its observed variables than measurement error and other variables in a measurement model. According to Fornell and Larcker (1981), the validity of indicators and the construct is questionable if discriminant validity cannot be shown. To establish the discriminant validity of the measures, the average variance explained (AVE) for each construct was compared with the shared variance between the constructs (Farrell, 2010). A latent variable has discriminant validity if the AVE for a construct is greater than its shared variance with any other construct.

A moderation model with the effect of job crafting on thriving moderated by high- performance HR practices was estimated using PROCESS Version 3.2 (Hayes, 2018) in SPSS25 (IBM Corp, 2018). The independent variable and the moderator were not centred given that factor scores were used in the analysis.

5.7.5   Research Procedure

The researcher obtained ethics clearance from research ethics offices of partici-
pating universities. Ethical clearance was also obtained from the Ethics Committee
at the university from where the research was undertaken. The researcher admin-
istered the online electronic questionnaire in English via the myresearchsurvey.com
platform. A cover letter which clarified the purpose of the study as well as high-
lighting the confidentiality and anonymity of the research project supplemented the
survey. Participation in the survey was voluntary, and respondents had the option to
withdraw their participation at any time. Participants completed an online ques-
tionnaire from mid-February to mid-September 2017. The raw data were captured
and converted to an SPSS dataset for analysis.

5.8   Results

The results of tests of competing measurement models followed by results of
alternative structural models are reported.

5.9   Testing the Measurement Model

Seven measurement models were tested using confirmatory factor analysis. The
three-factor measurement model and alternative models were assessed to test
whether each of the measurement items would load significantly onto the scales
with which they were associated.

Model 1 consisted of three latent variables: thriving, job crafting and human
resource practices. Thriving consisted of two first-order latent variables: vitality
(measured by five items) and learning (measured by five items). Job crafting
consisted of three first-order latent variables: task crafting (measured by five items),
cognitive crafting (measured by five items) and relational crafting (measured by five
items). Human resource practices consist of seven separate factors. All the latent
variables in Model 1 were allowed to correlate.

Models 2, 3, 4 and 5 followed the same template as Model 1. However, in Model
2, thriving was modelled as two separate but related latent variables (and not a
second-order latent variable consisting of two first-order latent variables). In Model
3 job crafting was modelled as three separate but related latent variables (rather than
a second-order latent variable consisting of three first-order latent variables). In
Model 4 human resource practices were modelled as seven separate but related
latent variables. In Model 5 thriving was modelled as a single latent variable (rather
than a second-order latent variable consisting of two first-order latent variables).
In Model 6 job crafting was modelled as a single latent variable (rather than a

Table 5.2 Fit statistics of competing measurement models

Model	χ^2	df	TLI	CFI	RMSEA		SRMR	AIC	BIC
1	1,840.50	1233	0.93	0.93	0.04	[0.038, 0.046]	0.05	44,152.26	44,865.47
2	1,818.36	1226	0.93	0.93	0.04	[0.038, 0.046]	0.05	44,140.78	44,879.35
3	1,826.12	1217	0.92	0.93	0.04	[0.039, 0.047]	0.05	44,166.32	44,937.47
4	1,930.28	1259	0.92	0.92	0.04	[0.040, 0.048]	0.06	44,207.42	44,826.51
5	1,796.21	1208	0.93	0.93	0.04	[0.038, 0.046]	0.05	44,150.26	44,953.99
6	2,308.59	1261	0.87	0.88	0.05	[0.051, 0.058]	0.06	44,647.15	45,258.99
7	2,344.53	1262	0.87	0.88	0.05	[0.052, 0.059]	0.07	44,684.28	45,292.51

χ^2, chi-square statistic; df, degrees of freedom; TLI, Tucker-Lewis index; CFI, comparative fit index; RMSEA, root mean square error of approximation; SRMR, standardised root mean square residual; AIC, Akaike information criterion; BIC, Bayes information criterion

second-order latent variable consisting of three first-order latent variables) followed the same template with all items of thriving were ignored. And finally, in Model 7 human resource practices was modelled as a single latent variable (rather than a second-order latent variable consisting of seven first-order latent variables).

Table 5.2 presents the goodness-of-fit statistics for the five competing measurement models described above.

AIC and BIC fit statistics were used, including other fit indices in this study, to compare alternative measurement models. Although the AIC and BIC values of Model 2 were the lowest, they were not significantly different from the values of Model 4. For theoretical reasons, as well as in the interest of parsimony, Model 4 was used (AIC = 44,207.42; BIC = 44,826.51). This model yielded the following fit statistics: χ^2 = 1,930.28; df = 1,259; $p < 0.001$; TLI = 0.92; CFI = 0.92; RMSEA = 0.04; SRMR = 0.06. These statistics display a good fit for the hypothesised model.

5.10 Model Development

The analysis continued in an exploratory mode to improve the fit of the selected model. Based on modification indices (MIs), two items, item 21 ("The communication between other employees and me at work is good") and item 22 ("The communication between me and the managers/supervisors at work is good") in the High-Performance HR questionnaire, experienced a correlated error. Item 21 was removed because it significantly reduced the model fit. The revised Model 4.1 compared to Model 4 fitted the data better (AIC = 44,165.00; BIC = 44787.72; χ^2 = 1,892.69, df = 1,258; $p < 0.001$; TLI = 0.92; CFI = 0.93; RMSEA = 0.04; SRMR = 0.06). Items all loaded on their respective constructs as expected. The standardised regression coefficients were all statistically significant ($p < 0.001$).

Table 5.3 Reliability coefficients, correlations, AVE and shared variance of the scales (n = 276)

Variable	ρ	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Vitality	0.95	5.36	1.33	**0.78**	0.48	0.12	0.17	0.14	0.14	0.13	0.12	0.17	0.10	0.18	0.11
2. Learning	0.91	5.93	0.99	0.69[b]	**0.67**	0.10	0.14	0.12	0.13	0.12	0.10	0.14	0.10	0.15	0.10
3. Job crafting—Task	0.85	4.09	1.03	0.35[a]	0.32[a]	**0.53**	0.29	0.24	0.10	0.10	0.04	0.10	0.40	0.56	0.04
4. Job crafting—Cognitive	0.88	4.40	1.18	0.41[a]	0.38[a]	0.54[b]	**0.60**	0.32	0.10	0.10	0.10	0.10	0.10	0.10	0.10
5 Job crafting—Relational	0.77	3.68	1.09	0.37[a]	0.35[a]	0.49[a]	0.57[b]	**0.42**	0.10	0.10	0.10	0.10	0.04	0.09	0.10
6. HRP—Selection	0.91	3.85	1.63	0.38[a]	0.36[a]	0.25	0.29	0.27	**0.72**	0.40	0.35	0.50	0.29	0.53	0.34
7. HRP—Training and development	0.90	4.60	1.48	0.36[a]	0.34[a]	0.24	0.28	0.26	0.63	**0.68**	0.31	0.45	0.26	0.49	0.30
8. HRP—Job Security	0.87	4.37	1.53	0.34[a]	0.31[a]	0.22	0.26	0.24	0.59[b]	0.56[b]	**0.63**	0.40	0.23	0.42	0.26
9. HRP—Promotion	0.91	3.53	1.75	0.41[a]	0.38[a]	0.27	0.31[a]	0.29	0.71[b]	0.67[b]	0.63[b]	**0.73**	0.53	0.61	0.38
10. HRP—Job Design	0.92	5.21	1.46	0.31[a]	0.29	0.20	0.24	0.22	0.54[b]	0.51[b]	0.48[+]	0.57[b]	**0.78**	0.35	0.22
11. HRP—Communication	0.85	4.64	1.48	0.42[a]	0.39[a]	0.28	0.32[a]	0.30[a]	0.73[b]	0.70[b]	0.65[b]	0.78[b]	0.59[b]	**0.57**	0.41
12. HRP—Reward	0.92	3.03	1.70	0.33[a]	0.31[a]	0.22	0.26	0.23	0.58[b]	0.55[b]	0.51[b]	0.62[b]	0.47[a]	0.64[b]	**0.74**

Note: AVE is reported on the diagonal of the correlation and squared correlation above the diagonal

All correlations are statistically significant ($p < 0.01$)

[a]Correlation is practically significant $r \geq 0.30$ (medium effect)

[b]Correlation is practically significant $r \geq 0.50$ (large effect)

5.11 Descriptive Statistics and Correlations of the Scales

The descriptive statistics, reliability coefficients of the measuring instruments, the Pearson correlation coefficients between the constructs as well as the average variance extracted are reported in Table 5.3.

From the results in Table 5.3, the reliabilities of all the measuring instruments were acceptable, ranging from 0.77 to 0.95 (Nunnally & Bernstein, 1994). The TWS dimensions of learning and vitality had good reliability with values ranging from 0.91 to 0.95.

Table 5.3 provides the correlation coefficients of the study variables. Task, cognitive and relational dimensions of job crafting were all practically and statistically significantly related to thriving at work dimensions of learning and vitality with a medium effect. Selection, training and development, job security, promotion, communication and reward were all practically and statistically significantly related to the thriving at work dimensions of learning and vitality with a medium effect. However, job design was practically and statistically significantly related to the thriving at work dimensions of vitality (medium effect) and learning (small effect).

The discriminant validity of the scales of all measuring instruments was acceptable. The average variance extracted of each scale was larger than the squared correlations between the relevant scale and each of the other scales (Fig. 5.1).

Table 5.4 shows that thriving at work is predicted by job crafting ($\beta = 0.44$, SE = 0.07, $p < 0.001$) and high-performance HR practices ($\beta = 0.34$, SE = 0.08, $p < 0.001$). Selection ($\beta = 0.82$, SE = 0.03, $p < 0.001$), Training and development $\beta = 0.78$, SE = 0.04, $p < 0.001$), Job security ($\beta = 0.72$, SE = 0.04, $p < 0.001$),
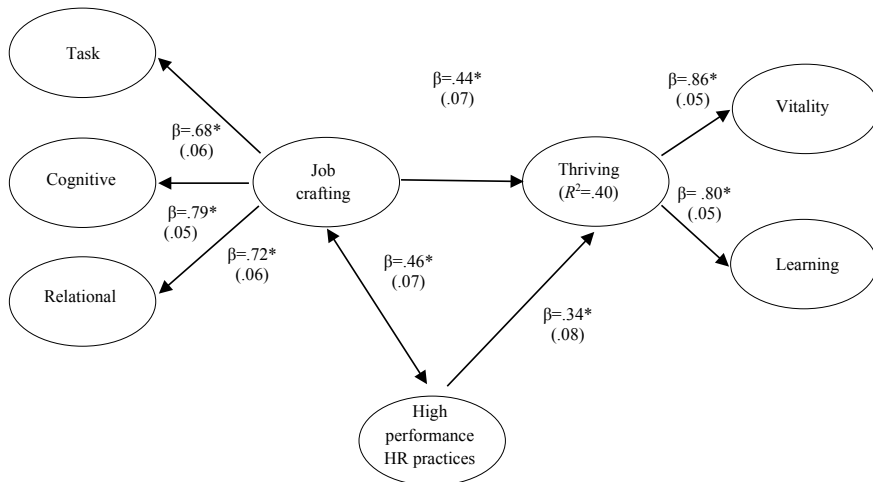

Fig. 5.1 The structural model (standardised solution with standard errors in parentheses). Note: All the regression coefficients are statistically significant ($p < 0.01$)

Table 5.4 Standardised regression coefficients of thriving on job Crafting and high-performance HR practices

Variable	Estimate	SE	Estimate/SE	p
Job crafting	0.44	0.07	6.13	0.0001**
High-performance HR practices	0.34	0.08	4.60	0.0001**

Note: SE: standard error; Est/SE: estimate divided by standard error; p: obtained significance value
** $p < 0.01$

Promotion ($\beta = 0.87$, SE = 0.02, $p < 0.001$), Job design ($\beta = 0.66$, SE = 0.05, $p < 0.001$), Communication ($\beta = 0.90$, SE = 0.03, $p < 0.001$), and Reward ($\beta = 0.71$, SE = 0.04, $p < 0.001$). Hypotheses 1 and 2 are accepted.

5.12   Moderating Effects

Consistent with the guidelines suggested by Hayes (2018) for examining moderating effects between continuous variables, hierarchical regression analyses were performed to examine the extent to which HR practices might moderate the influence of job crafting on thriving of academics. With thriving as the dependent variable, standardised job crafting scores (predictor) were entered in the first step, followed by standardised HR practices scores (moderator) in the second step. To examine the possibility of a significant moderating effect, standardised interaction scores between job crafting and HR practices scores were entered in the third and final step. According to Hayes (2018), evidence of a moderating effect is present when the interaction term between the predictor and moderator is significant. Regression results for the moderation effect are presented in Table 5.5.

The interaction between job crafting and HR practices accounted for a significant addition of 3% in the variance of thriving. The complete regression model accounted for 62% of the variance in thriving ($F(3, 272) = 146.74$, $p < 0.001$). Table 5.4 shows that the interaction of job crafting and high-performance HR practices is significant ($\beta = -0.24$, SE = 0.05, $t = -4.98$, $p < 0.01$ [$-0.33. -0.14$]).

Table 5.5 Regression results for the moderation effect

Variable	Estimate	SE	t	p	LLCI	ULCI
Constant	0.09	0.04	2.24	0.03	0.01	0.17
Job crafting	0.91	0.08	11.88	0.00	0.76	1.06
High-performance HR practices	0.28	0.04	7.83	0.00	0.21	0.35
Interaction	−0.24	0.05	−4.98	0.00	−0.33	−0.14

Note: SE: standard error; Est/SE: estimate divided by standard error; p: obtained significance value
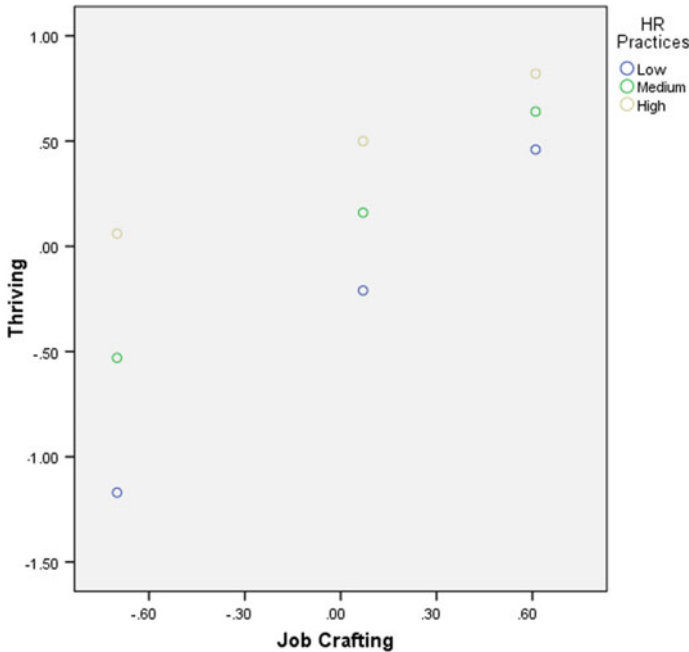*$p < 0.05$; **$p < 0.01$

Fig. 5.2 The interaction between job crafting and HR practices

High-performance HR practices were found to moderate the relationship between job crafting and thriving significantly. Overall, these results indicate that high-performance HR practices have a direct influence on thriving beyond what can be accounted for by job crafting and moderate the relation between job crafting and thriving.

To examine the interaction effects that emerged, we plotted the simple slopes of the job crafting-thriving linkage at the 16th, 50th and 84th percentiles, which correspond to a standard deviation below the mean, the mean and a standard deviation above the mean (Hayes, 2018). We also tested whether each slope was statistically significant (Fig. 5.2).

As shown in Fig. 5.1, the results matched the predicted pattern: The job crafting-thriving linkage exists in the low HR practices condition (simple slope = 1.24, $p < 0.01$ [1/05, 1.44]), but was not lower in the high HR practices condition (simple slope = 0.58, $p > 0.01$ [0.38, 0.78]). Thus, Hypothesis 3 was supported. Specifically, when high-performance HR practices are perceived to be good, academics who measure low on job crafting thrive more than those who perceive high-performance HR practices as high. When the scores on high-performance HR practices are low, academics' thriving increase when job crafting increases.

5.13   Discussion

This study aimed to test a structural model that distinguishes the nature of relationships between job crafting, high-performance HR practices and thriving. Results confirmed the two-factor structure of thriving (vitality and learning), a three-factor structure of job crafting, and a seven-structure of high-performance HR practices. The findings support a model in which job crafting and high-performance HR practices interact to affect the thriving of academics in higher education institutions.

As hypothesised, job crafting positively predicted thriving at work. The more academics practised cognitive, task and relational job crafting, the more they experienced vitality and learning in their jobs. According to Spreitzer and Porath (2012), individuals could affect their thriving through specific actions. First, crafting jobs could result in meaningful work, which impacts vitality and learning, confirming the significant role of individual thriving at work. Second, by looking for opportunities to innovate, academics gain knowledge that could fuel thriving. Third, by investing in relationships that energise, academics experience higher vitality and learning.

The results showed that job crafting was a stronger predictor of thriving than high-performance HR practices. However, high-performance HR practices such as recruitment and selection, training and development, promotion, job security, performance-related pay, communication, and autonomy (Iverson & Zatzick, 2007; McClean & Collins, 2011; Price, 2011) play an essential supporting role in thriving at work.

Findings from the present study confirmed that employee perceptions of high-performance HR practices have a direct impact on the extent to which academics thrive. Academics who perceive high-performance HR practices experience higher levels of thriving (vitality and learning). Communication, promotion, and selection had the strongest associations with thriving. Furthermore, the results showed that high-performance HR practices play a significant role to enable academics to thrive, even when they are not crafting their jobs. If high-performance HR practices are poor, academics will thrive when they are crafting their jobs. Therefore, high-performance HR practices are critical to enable academics to thrive, rather than only survive.

What practices can higher education institutions implement to promote the thriving of academics? According to Spreitzer and Porath (2012), sharing of information, providing decision-making discretion, minimising incivility and offering performance feedback lead to the thriving of people at work. Understanding the mission and strategy of their institutions is vital to promote feelings of competence, which increase vitality and growth. Providing decision-making discretion acknowledges the autonomy of individuals, which fuels their vitality and growth. High-performance HR practices which minimise incivility in the institution build experiences of vitality and learning. Feedback creates opportunities for learning.

Three types of job crafting, namely cognitive crafting, task crafting, and relational crafting, are relevant for academics (Wellman & Spreitzer, 2011). Individuals could craft their jobs cognitively by enlarging their perspectives and by leveraging more of their best selves. Enlarging their perspectives could be done by appreciating different ways in which in which their work can impact others, e.g. through the advancement of knowledge, integrating disciplines and paradigms, applying their knowledge to solve societal problems, and by extending and transforming the knowledge of students. Task crafting can be attained by focussing on meaningful work and by crafting more challenges into their jobs by developing new teaching modules. Relational crafting entails changing the quality and amount of interactions with others at work through building high-quality connections and by increasing their contact with beneficiaries of their work (e.g. students, parents, and community members).

Employees need high-performance HR practices to promote their thriving even if they crafting their jobs. Human resource management professionals within higher education need to develop an integrated set of high-performance HR practices and ensure they are consistently and fairly implemented. Hence higher the opportunity for job crafting the better the opportunity to thrive but if the perceived high-performance HR practices are seen as good and just it will give the opportunity for academics to thrive even if there is not much of an opportunity to job craft. Ideally, if academics can job craft and high-performance HR practices are implemented, academics will be more capable to thrive.

5.14 Limitations and Suggestions for Future Research

This study had various limitations. One limitation derives from the use of single time-point, self-report measures. Because of this study design, it was unable to assess whether employees appear to other observers to be thriving at work and whether their ratings of job crafting carry through to influence their job crafting at work. It was also not possible to provide insight into the direction of effects existing among job crafting, high-performance HR practices, and thriving. Future research would benefit from obtaining observer reports of thriving and workplace behaviours. Furthermore, longitudinal designs will allow greater insight into reciprocal influences over time.

Finally, this study focused on a very narrow topic, namely the thriving of academics to develop well-functioning and performing academics and universities. However, the effects of the Fourth Industrial Revolution are much broader. For example, as Rajan (2019, p. 2) pointed out "moderately educated workers are rapidly losing or are at risk of losing good middle-class employment." The latter contributes to precariousness and has grievous effects on individuals, their families, and the communities in which they live. Moreover, inequality, poverty and

unemployment in communities make the challenges precariousness and (in)stability of countries more significant. These factors, which will impact individuals, organisations and communities must be researched in the future.

5.15   Conclusions

This study contributes to understanding of career wellbeing of academics in higher education institutions by focusing on "thriving at work" and its antecedents. Job crafting and high-performance HR practices are linked to career wellbeing in higher education institutions. Characteristically, academics who craft their jobs are more likely to thrive in their work, as are those who experience high-performance HR practices. Moreover, an interaction between job crafting and high-performance HR practices adds to the explanation of thriving and emphasises the importance of high-performance HR practices, particularly for people who are not crafting their jobs. High-performance HR practices may provide an essential route to thriving and may compensate for academics' inability to craft their jobs.

5.16   Implications for Career Wellbeing

Institutions should focus on personal and contextual factors such as job crafting and high-performance HR practices to promote career wellbeing, *Job crafting* captures the dynamic changes individuals render to their job designs in ways that can create many positive outcomes. However, job crafting should be applied and administered effectively. To be appropriately implemented, job crafting needs alignment with both the academics' and the university's goals.

In order to entice and hold on to academic staff, higher education institutions should try to be innovative in the recruitment, selection and onboarding processes. Real innovation stems from the ability to knock down existing structures and arrange them back in a more meaningful manner. The HR department together with academics identify and remove the aspects of work that are not necessarily beneficial to the achievement of the overall purpose of being an academic and to then successfully reassemble the relevant parts. In this way, academics will be job designing, which puts them in the driver's seat and helps them to proactively reorganise the boundaries of their jobs and to reframe how they would relate to their job and ponder about their contribution to the organisation, scrutinising the larger purpose of their work and whom it might benefit.

High-performance HR practices and job crafting are both essential constructs for career wellbeing. HR departments together with the managers should make use of the JCQ, which is a statistically validated tool to measure the extent to which their staff engage in job crafting strategies (Slemp & Vella-Brodrick, 2013) by indicating the frequency with which they have engaged in each job crafting activity. The HR

department can then initiate the use of the Job Crafting Exercise either as a group workshop or one-on-one coaching. It is a tool that allows employees to apply job crafting interventions by supplying them with an adaptable set of building blocks to build a graphic picture of how employees presently spend their energy and time at work. The Job Crafting Exercise has been used in a variety of ways successfully by many companies in the private sector internationally. Investing in it, within the higher education sector in South Africa might prove beneficial as academics can be trained on how to engage in activities that potentially impact proactive behaviour and thriving.

High-performance HR practices are a set of interconnected human resource practices intended to improve the quality and performance of employees in organisations (Messersmith, Patel, Lepak, & Gould-Williams, 2011). With regards to the *ability-enhancing HR practices* (selection, training and development), innovative selection methods and onboarding are crucial to select academics and keep them happy. There must be a learning culture, and this learning culture needs to be in sync with the universities' values and the broader macro environment. The higher education institutions should not silo their learning and development (L&D) away from their job crafting strategies and interventions and their employee engagement initiatives. Instead, there should be an integrated approach. L&D should not be a top-down approach. Employees should be able to create their individual learning goals in line with their development plans for job-related skills, and personalised L&D programmes should be designed to provide academics with competencies needed to satisfy their career aspirations (Mostafa, Gould-Williams, & Bottomley, 2014). This can imply that universities value their employees and are prepared to invest in their careers and expectations.

With regard to the *motivation-enhancing HR practices* (job security, promotion and performance-related pay), time should be devoted to developing a proper performance-related pay management structure and process by including all role players to ensure a shared comprehension of the purpose and the implementation and of what the performance at different levels looks like (Seyama & Smith, 2013). Offering performance feedback creates opportunities for learning. Opportunities for promotion and job security should be communicated; this reveals the universities' appreciation and recognition of employees' long-term worth.

Concerning *opportunity-enhancing HR practices* (autonomy and communication), Spreitzer and Porath (2012) advocate for the sharing of information about the organisation hence the universities need to make sure that they communicate their strategy, culture and values to the academics. Meaningful communication reinforces to employees that their contributions are valued and not only reassures them about the importance of their job; this is vital to promote feelings of competence, which increase vitality and growth. Advancement focused employees are most motivated when the communication they obtain emphasises how they can succeed in the attainment of their goals (Van-Dijk & Kluger, 2004). Furthermore, providing for decision-making discretion and latitude in the job will allow them to craft their jobs (Wrzesniewski & Dutton, 2001) in a manner that provides for the ability to modify roles in a manner that will likely satisfy the employee's needs for autonomy

and competence, which fuels their vitality and growth. Moreover, the well-designed working environment should offer academics places for focused work as well as places for interaction with colleagues.

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Fathima Essop Mahomed is a lecturer in Human Resource Management at the Department of Human Resource Management at the Vaal University of Technology. She is a registered as a Chartered human resource practitioner in the category learning and development with the SA board for people practices (SABPP) since 2010. She also is a committee member of two of the SABPP committees, namely the CPD committee and the registration and evaluation committee.

Fathima Essop Mahomed completed her MA degree in Industrial Psychology in 2005 at the North West University. She also has an Advanced Diploma in Higher Education from University of Free State which she completed in 2011. She completed her Ph.D. in Industrial Psychology at North West University in April 2019. She is also an author and co-author of several published articles in accredited journals and has presented some papers at national and international conferences.

Sebastiaan (Ian) Rothmann is a professor in Industrial/Organisational (I/O) Psychology and Director of the Optentia Research Focus Area at the North-West University, Vanderbijlpark Campus (since 2010). Before this, he was professor in I/O Psychology and head of the Department of Human Sciences at the University of Namibia. He completed Master's (1986; cum laude) and Ph.D. (1996) degrees in Industrial Psychology. Ian's research interest is the assessment and development of human potential and flourishing in institutions within a multicultural context. He is author/co-author of 210 articles and chapters in peer-reviewed journals and handbooks. Ian supervised a total of 145 Master's and 53 Ph.D. students.

Chapter 6
Career Self-Management as a Key Factor for Career Wellbeing

Francisco Wilhelm and Andreas Hirschi

Abstract Career self-management (CSM) is an important factor for achieving career wellbeing and is becoming increasingly crucial in career environments characterized by higher volatility, uncertainty, complexity, and ambiguity. The objective of this chapter is to provide an overview of current research on CSM, and conceptually and empirically clarify its relation to career wellbeing. First, we define CSM and delineate its dimensionality. Second, we concisely summarize the empirical research on predictors and career wellbeing related outcomes of CSM. Third, based on our literature review, we suggest how CSM can be promoted through interventions, and how organizations can create synergies between organizational and individual career management. Finally, we suggest avenues for further research addressing identified research gaps: conceptual refinement, investigating facilitators of CSM at different action stages, broadening the scope of investigated career wellbeing outcomes of CSM, conducting theory-based intervention studies to systematically promote CSM, and examining contextual influences emerging in Industry 4.0 work-life spaces.

Keywords Career self-management · Career wellbeing · Industry 4.0

6.1 Introduction

The fourth industrial revolution is predicted to increase the volatility, uncertainty, ambiguity, and complexity of career environments for workers across the skill spectrum. In the coming decades, we can expect to see the elimination of many jobs and fundamental changes to the skill requirements of many occupations (International Labour Organization, 2018). For example, a recent report by the

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F. Wilhelm · A. Hirschi (✉)
University of Bern, Bern, Switzerland
e-mail: andreas.hirschi@psy.unibe.ch

World Economic forum predicts that around half of the global workforce will require major re- or upskilling by 2022 (World Economic Forum, 2018). Furthermore, the traditional employment model of stable full-time employment within a single organization is receding as a result of new employment types, such as gig work (Ashford, Caza, & Reid, 2018), shifting responsibility for career management from organizations to individuals. These changes are likely to result in growing job, occupational, and career insecurity, especially when workers are left to face these changes unprepared. Therefore, it seems clear that the fourth industrial revolution is a potential threat to the career wellbeing of workers (Hirschi, 2018).

One aspect of the solution to this problem emphasizes strengthening the capabilities of individuals for career self-management (CSM). Through CSM, it is argued, workers are enabled to adapt to the upcoming transformations in a way that serves both their own goals and those of the economy (e.g., Lent, 2018). This argument is backed up by several studies and meta-analyses pointing out the potential of facets of CSM (e.g., continuous learning, networking) for enhancing career wellbeing (e.g., Fuller & Marler, 2009; Ng, Eby, Sorensen, & Feldman, 2005). In our chapter we refer to career wellbeing broadly, as the various positive outcomes associated with successful career development across the lifespan. Furthermore, the need for building the capabilities for CSM and lifelong learning of the workforce is recognized on the policy level across many Western states (e.g., Commission of the European Communities, 2003; Hooley, Watts, Sultana, & Neary, 2013). In sum, CSM can be a powerful contributor to career wellbeing amidst the complexities of career environments in Industry 4.0.

Despite the high value put on CSM in theoretical works and at the policy level, the current academic literature on CSM has several shortcomings. Foremost, there is a striking lack of integration of empirical research on the topic. As such, the literature is heterogeneous, with little agreement on how to define or measure the construct, and inconsistencies between findings. In this chapter, we seek to address these issues. In the following section, we first define CSM and delineate the dimensionality of the construct. Second, we summarize the empirical research on predictors and wellbeing related outcomes of CSM. Based on these steps, we suggest how CSM can be enhanced through career counseling, and how organizations can achieve a synergy between organizational career management and individual career management. Finally, we suggest avenues for further research that could advance our understanding of the interrelations among CSM, shifts in the structure of career environments, and career wellbeing.

6.2   Chapter Objective

The objective of this chapter is to provide an overview of current research on CSM, and conceptually and empirically clarify its relation to career wellbeing.

6.3 Conceptual Clarification

6.3.1 Defining the Construct

There are numerous definitions of CSM. Greenhaus, Callanan, and Godshalk (2010) define career (self-)management[1] as "a process by which individuals develop, implement, and monitor career goals and strategies" (p. 12). Another highly cited framework describes CSM as a "dynamic process, involving execution of a set of co-occurring behaviors (…) that is intended to prevail upon the decisions made by those gatekeepers who are in a position to influence (…) desired career outcomes" (King, 2004, p. 119). These definitions highlight several core aspects of the construct which we will now unravel.

First, based on existing frameworks, we conceptualize CSM as a *process of action regulation* (Raabe, Frese, & Beehr, 2007) and *resource management* (Hirschi, 2012). We thus propose that CSM is a process of intentionally building, maintaining, and using various personal and contextual resources through processes such as goal setting, mapping the environment for resources, planning, monitoring actions, and feedback-processing in a way that leads to positive career outcomes (Spurk, Hirschi, & Dries, 2018). This process can range from a highly conscious, proactive, integrated process of setting, executing, and regulating goals pursuits in a strategic and well-planned manner, to a more reactive, loosely integrated process that occurs more or less improvised as a response to external cues and events (King, 2004). Second, it is the individual, not the organization or another entity, that ultimately generates and regulates this process. Therefore, CSM puts heavy emphasis on personal *agency*. Third, CSM focusses on *behavior*, rather than attitudes, abilities, or other psychological aspects. Such psychosocial constructs and abilities are closely related to CSM but should theoretically be seen as predictors or outcomes of CSM, rather than its core components.

As a corollary to the focus on behavior and the varying degree of integration of these behaviors into a process, CSM behaviors are conceptualized as co-occurring and interdependent, rather than isolated and independent from each other. It follows that CSM research is not only interested in the relation between CSM and its antecedents and outcomes, but also in the *internal* relations between different kinds of CSM behaviors by which these form a process.

Furthermore, we posit that CSM can be used by people for a variety of goals extending beyond the sphere of traditional norms of career success. In contrast to preceding constructs such as career strategies, defined as "strategies or methods

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[1]Because we want to distinguish career management by the individual from career management by the organization, we prefer the term career self-management (CSM) to denote the former, and refer to the latter as organizational career management.

which might be employed to hasten the achievement of upward mobility and salary progression" (Gould & Penley, 1984, p. 244), our definition of CSM thus acknowledges the plurality of meanings careers can have for persons, and the diversity of roles careers play in relation to other life domains. These multiple goals need to be reflected when considering which types of behaviors can be considered CSM behaviors.

6.3.2   Types of Behavior Considered CSM Behavior

Since CSM is a construct with a behavioral focus, it is of critical interest to delineate which types of behavior can be considered CSM behavior. Table 6.1 lists a synthesis of the types of behaviors discussed in the literature. We propose that

Table 6.1 Overview of CSM behavior classification

Direction of behavior	Examples of behaviors	Scale examples
Directed at self		
Applies, maintains or develops personal resources, such as knowledge, human capital, or position	Self-exploration	Stumpf, Colarelli, & Hartmann (1983)
	Environmental exploration	Stumpf et al. (1983)
	Learning, investment in human capital	Gould & Penley (1984), Hirschi, et al. (2018)
	Job crafting	Tims, Bakker, & Derks (2012)
	Self-initiated mobility behavior	Otto, Dette-Hagenmeyer, & Dalbert (2010), Gubler, Arnold, & Coombs (2014), Sturges et al. (2008)
Directed at context		
Applies, maintains, or develops contextual resources such as social capital, influence, or mentorship	Self-promotion, creating visibility	Gould & Penley (1984), Sturges et al. (2002)
	Networking	Wolff, Schneider-Rahm, & Forret (2011)
	Guidance and feedback seeking	Gould & Penley (1984), Claes & Ruiz-Quintanilla (1998)
	Influencing others	Gould & Penley (1984)
Directed at regulation of CSM processes		
Regulates process of CSM and the relation between multiple life roles	Goal setting, planning, and monitoring	Gould (1979), Claes & Ruiz-Quintanilla (1998)
	Boundary management	Kossek, Ruderman, Braddy, & Hannum (2012)

CSM behaviors can belong into one of three categories, according to its direction: (1) behavior that is directed at applying, maintaining, or developing personal resources, such as investment in human capital, (2) behavior that is directed at applying, maintaining, or developing contextual resources, such as networking, or (3) meta-behavior directed at the regulation of the CSM process, including regulation of the boundaries between work and other life domains.

Furthermore, we have added examples of measures that assess these behaviors. While many studies have relied on composite measures of CSM, either aggregating scores over multidimensional CSM scales (such as the Career Strategies Inventory, Gould & Penley, 1984) or employing unidimensional scales of general CSM (Hirschi, Freund, & Herrmann, 2013) there are often good reasons to measure individual CSM behaviors separately. Although never examined systematically, previous studies indicated that intercorrelations between individual CSM behaviors are not high enough to consider them unidimensional (e.g., Sturges, Guest, Conway, & Davey, 2002); in addition, both theory and empirical results point out different types of CSM behavior have different relations with third variables (e.g., Claes & Ruiz-Quintanilla, 1998; Gould & Penley, 1984).

6.4 Examining the Evidence: Antecedents and Career Wellbeing Outcomes of CSM

Figure 6.1 shows an overview of the reviewed constructs in this chapter. We will first summarize the research on personal and contextual antecedents of CSM, and then continue with the wellbeing outcomes of CSM.
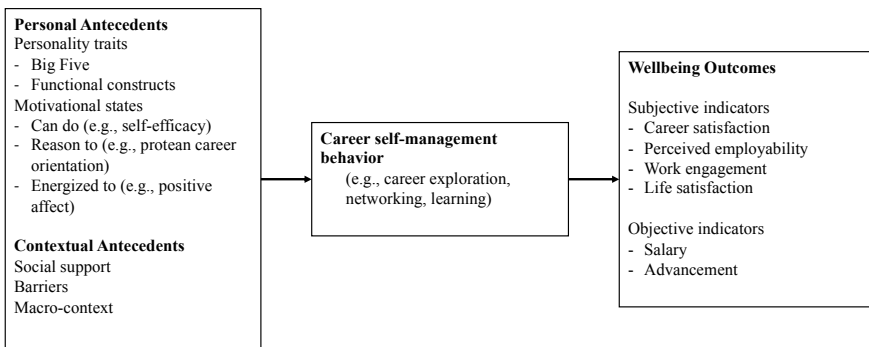

Fig. 6.1 Overview of reviewed constructs in this chapter

6.4.1 Personal Antecedents of CSM

Personality traits. A number of studies have investigated the relation between personality and CSM. It seems that that the effect of personality (e.g., the Big Five traits) on different CSM behavior is mediated through more proximate variables such as self-efficacy and outcome expectations. Most attention in the literature has been devoted to *conscientiousness*. Studies applying social cognitive career theory show largely that conscientiousness positively predicts CSM behavior mediated through self-efficacy, outcome expectations, and social support (Lent, Ezeofor, Morrison, Penn, & Ireland, 2016; Lent, Morris, Penn, & Ireland, 2018; Lim, Lent, & Penn, 2016). A study of US undergraduates has shown how extraversion and neuroticism influence CSM process through affect: *extraversion* facilitated the CSM process through increasing positive affect, which in turn was positively related to self-efficacy and outcome expectations. Conversely, *neuroticism* impeded the CSM process through increasing negative affect, which in turn was negatively related to self-efficacy and outcome expectations (Ireland & Lent, 2018).

Apart from the Big Five, functional personality constructs such as *hope* (Hirschi, 2014) and *proactive personality* have also been studied. Proactive personality has received strong support as an antecedent of CSM by meta-analytic (Fuller & Marler, 2009) and longitudinal studies (Hirschi, Lee, Porfeli, & Vondracek, 2013; Ok & Vandenberghe, 2016). However, meta-analytic results of proactive personality as an antecedent of networking have been inconsistent (Thomas, Whitman, & Viswesvaran, 2010), indicating that proactive personality does not predict all CSM facets equally. Moreover, research suggests that the effects of proactive personality on CSM are mediated through variables such as occupational self-efficacy (Hirschi, Lee, et al., 2013), protean career orientation (Herrmann, Hirschi, & Baruch, 2015) and career resilience (Chiaburu, Baker, & Pitariu, 2006).

Overall, research often shows that different personality traits relate to different CSM behaviors (Guthrie, Coate, & Schwoerer, 1998). Future research should thus investigate further which traits are the most important antecedents of specific CSM behaviors. Recent developments also suggest that the relation between personality constructs and career behavior is more complex, with moderating effects of situational cues and mindsets (Heslin, Keating, & Minbashian, 2018).

Motivational states. Several studies addressed attitudinal and emotional variables as the motivational foundation to engage in CSM. Following the model of proactive motivation (Parker, Bindl, & Strauss, 2010), these can be classified as "can do", "reason to", and "energized to" motivational states. Within the "can do" group of motivational states, *self-efficacy* has received the strongest support as an antecedent of CSM behavior, both conceptualized in accordance with social cognitive theory (Bandura, 2001) as an expectancy for a specific behavioral domain (e.g., Hirschi, Lee, et al., 2013; Kim, Kim, & Lee, 2019; Lent et al., 2018) or as more domain-free, general construct (Zikic & Klehe, 2006).

Constructs such as values and goals which refer to content of motivation, or the "reason to" motivation to engage in CSM have also been studied. Positive *outcome expectations*, that is, the expectation that engaging in CSM will have positive consequences for one's career, have received mixed support as an antecedent of CSM in recent studies with college students and job seekers (e.g., Lent et al., 2018; Lim et al., 2016). Moreover, career orientations may provide reasons to engage in CSM. In this regard, *career calling* (Creed, Kjoelaas, & Hood, 2016), as well as *protean* or *boundaryless career orientation* (Wiernik & Kostal, in press), have been associated with increased CSM behavior. In a study of Greek graduates, a traditional career orientation with an eye towards internal promotion was related to stronger CSM (Mihail, 2008). Other studies looked at differences in the extent to which motivation for CSM behavior is experienced as autonomous, rather than controlled, seem to impact CSM, with *autonomous goals* showing a positive relation to CSM behavior (Hirschi, Lee, et al., 2013). Finally, a person's *future work self,* that is, the self-concept of hopes and aspirations for future work life (Strauss, Griffin, & Parker, 2012), may provide motivation for engaging in CSM and has been positively associated with CSM behaviors (Taber & Blankemeyer, 2015).

Relatively few studies have examined "hot" affect-related motivational states as antecedents of CSM, although theoretically this "energized to" motivational component of proactive behaviors is important to consider in relation to CSM (Parker et al., 2010). Positive affect regarding ones future career seems to increase engagement in CSM (Hirschi, Lee, et al., 2013). Positive trait affectivity can increase CSM self-efficacy and outcome expectations, while negative trait affect seems to reduce CSM self-efficacy and has a mixed relation to outcome expectations (Ireland & Lent, 2018; Lent, Ireland, Penn, Morris, & Sappington, 2017). Within-person differences in positive, but not negative, affect have also shown a positive relation to CSM (Hirschi & Freund, 2014). The matter is made more complex when focusing on CSM as an action regulation process, with affect having different functions for different stages in the process. It seems that high-activation pleasant affect (e.g., excited, enthusiastic) increases execution of CSM behavior, whereas low-activation pleasant affect (e.g., serene, relaxed) has no effect (Bindl, Parker, Totterdell, & Hagger-Johnson, 2012). Furthermore, low-activation negative affect (e.g., sad, fatigued) may lead persons to deliberate more on their careers, but does not translate into concrete planning or execution (Bindl et al., 2012). This is line with theory and experimental evidence which shows that emotions modulate goal regulation processes (Achtziger & Gollwitzer, 2018; Maglio, Gollwitzer, & Oettingen, 2014).

Overall, a range of "can do", "reason to", and "energized to" motivational states seem to influence CSM. Future studies should try to replicate these findings and employ integrative models of motivation, such as the motivational model of proactivity (Parker et al., 2010), when examining the role of motivational antecedents of CSM.

6.4.2   Contextual Antecedents of CSM

Social support. Among contextual variables that can facilitate CSM, most attention has been given to *social support*. In cross-sectional studies, social support has received corroboration as a predictor of a range of CSM components such as career exploration (Lent et al., 2016), composite measures of CSM behavior (Moon & Choi, 2017; Noe, 1996), and career exploration and planning in unemployed job seekers (Zikic & Klehe, 2006). The positive relation between social support and CSM seems to generally be consistent across different sources of interpersonal support, including peers, family, coworkers, coaches (Huang & Hsieh, 2015) and mentors (Godshalk & Sosik, 2003).

Organizational support. Organizational support, which has been studied both as the general support of the employee (e.g., caring about the wellbeing of the employee) and more specifically as the support for the employee's career development (e.g., offering career training), seems to have a complex relation to CSM, for at least three reasons. First, organizational support and CSM form a reciprocal relation. CSM behaviors, such as networking and guidance seeking, establish support, for example by building positive relations with important gatekeepers in the organization, which in turn may further increase CSM behaviors (Sturges, Conway, Guest, & Liefooghe, 2005; Sturges et al., 2002). Second, the effect of organizational support on CSM seems to be moderated by personal attributes such as gender and locus of control (Sturges, Conway, & Liefooghe, 2010). For example, studies report that external locus of control reduces sensitivity to positive reinforcement (Ng, Sorensen, & Eby, 2006), which may reduce the facilitating effect of organizational support for CSM. Third, macro-contextual variables may influence the relation between CSM and organizational career management through differences in career deals. Contemporary career deals, more common in countries with less regulated labor markets, show a "virtuous circle" between CSM and organizational career management, whereas traditional career deals in countries characterized by more regulated labor markets, organizational career management may increase organizational commitment but not CSM (Sturges, Conway, & Liefooghe, 2008).

Barriers. *Perceived barriers* (e.g., disapproval of one's career path by significant others, lack of developmental opportunities in one's career field) may hinder persons from effectively engaging in CSM. The evidence for this is mixed, however, with studies showing a small positive or no effect (Hirschi & Freund, 2014; Hirschi, Lee, et al., 2013). It is plausible that the effect of barriers on behavior rests on their appraisal in terms of likelihood of success (Brehm & Self, 1989), with barriers appraised as manageable signaling the need to invest more effort, while barriers appraised as insurmountable could lead to disengagement. Hence, future studies could test whether self-efficacy interacts with barriers in predicting CSM.

Macro-context. At a macro-level, *national culture* predicted CSM behaviors in a comparison of six Western countries, showing, for example, that cultures high on masculinity (vs. femininity) showed less social CSM behavior, but also less skill development (Claes & Ruiz-Quintanilla, 1998). Future studies might test whether

these relations still hold 20 years later, examine other cultural values, or model culture as a moderator linking personal factors and CSM rather than treat culture as a direct predictor of CSM.

The *structure of labor markets* affect how easy it is for individuals to move between organizations, jobs, and occupations (Ng, Sorensen, Eby, & Feldman, 2007), likely resulting in differential opportunities and perceived utilities for engaging in CSM. Research suggests that CSM may be more prevalent in contexts where it is easy to "hire and fire" employees, but less so in contexts with more traditional employment relations (Sturges et al., 2008). However, macro-contextual variables have received sparse attention and merit further study in order to situate research on CSM within the complexities of social environments.

6.4.3 Career Wellbeing as an Outcome of CSM

A number of studies support the notion that CSM is positively related to career wellbeing (Quigley & Tymon, 2006; Spurk et al., 2018). As mentioned before, we refer to career wellbeing broadly, as the various subjective and objective positive outcomes associated with successful career development across the lifespan. The subjective side of career wellbeing refers to the personal experiences of individuals, reflected by constructs such as career or life satisfaction, whereas the objective side of career wellbeing refers to objective indicators such as salary level, number of promotions, and health. The relation of CSM to career wellbeing can be explained in the way that CSM builds resources such as networks (Forret, 2018), mentors (Singh, Ragins, & Tharenou, 2009), or career goal clarity which in turn result in higher career wellbeing (Ng et al., 2005; Ng & Feldman, 2014). In this chapter, we focus on outcomes at the individual level and exclude outcomes at the organizational and societal level. Although CSM may prove beneficial to organizations by boosting organizational commitment (e.g., Sturges et al., 2002), psychological contract fulfillment (Sturges et al., 2005), or performance, there is little research in this area.

Cross-sectional studies consistently support the relation between CSM and subjective indicators of career wellbeing, such as career satisfaction (e.g., Abele & Wiese, 2008; De Vos, Dewettinck, & Buyens, 2009; Seibert, Kraimer, & Crant, 2001), work engagement (De Vos & Segers, 2013), and thriving (Porath, Spreitzer, Gibson, & Garnett, 2012). Studies examining the relation between CSM and subjective indicators of career wellbeing in a longitudinal design are still sparse, but have so far generated inconsistent results (Raabe et al., 2007; Vos, Clippeleer, & Dewilde, 2009). These inconsistencies may be due to differences in time-lags between CSM and career wellbeing measurements. A number of studies also looked at whether different facets of CSM are of different importance to different indicators of career wellbeing (Aryee & Debrah, 1993; Chang Boon Lee, 2002; Nabi, 1999), but evidence in this regard is too limited to draw any inferences.

The positive relation between CSM and objective indicators of career wellbeing such as salary and leadership position is supported by both cross-sectional associations (Abele & Wiese, 2008; Smale et al., 2018; Tharenou & Terry, 1998), and longitudinal increases regarding salary (Raabe et al., 2007) and number of promotions (Seibert et al., 2001). A study of Sri Lankan migrants to New Zealand has found that CSM predicts subjective and objective career success over and above both human capital and social integration (Tharmaseelan, Inkson, & Carr, 2010). However, not every study has found an association between CSM and objective indicators of career wellbeing (e.g., De Vos et al., 2009).

Apart from more traditional subjective and objective indicators of career wellbeing, CSM seems to be beneficial for a number of outcomes rising in importance in a globalized world and a shift towards a knowledge economy; furthermore, CSM may be of specific importance for special populations such as migrants. CSM was associated with life satisfaction in a study of first year university students (Praskova, Creed, & Hood, 2015), suggesting that CSM has effects on wellbeing beyond the career domain. Engaging in CSM may carry special significance in the transition from school to work. CSM has been shown to be associated with perceived employability of graduates both in the UK and Australia (Jackson & Wilton, 2017a, 2017b; Okay-Somerville & Scholarios, 2017), and was more important than social background and human capital variables in predicting the perceived employability of UK graduates (Okay-Somerville & Scholarios, 2017). CSM may also be important in proactively coping with job and career insecurity as well as job loss (Shoss, Jiang, Jundt, Lavigne, & Probst, 2017). Studies of unemployed job-seekers indicate that CSM can increase the likelihood as well as the quality of reemployment (e.g., Zikic & Klehe, 2006), but it has to our knowledge not been studied whether CSM is similarly helpful in coping with job and career insecurity. Finally, CSM may be of high value for older employees in dealing with challenges such as outdated skills or shifting career preferences (Kanfer & Ackerman, 2004). However, to our best knowledge this is a topic that has received little attention.

Negative (side) effects of CSM have been rarely studied. According to a qualitative study of UK professionals some CSM behaviors, such as extended work involvement, may lead to a prioritization of the work domain that leave little resources for other valued life goals and can hence put a strain on other life domains (Sturges, 2008). As one interviewee describing his CSM strategy put it: "it's a marriage wrecker, really" (p. 126). The lack of studies on negative effects of CSM is a major gap in the literature and we discuss possible research directions on the issue further below.

In sum, the majority of studies support the assumption that CSM leads to increased career wellbeing. Several limitations, however, need to be addressed by further studies: Most studies are cross-sectional in nature, lack a differentiated measurement of CSM and career wellbeing outcomes, with a particular negligence of the potential negative effects of CSM.

6.5   Implications for Practice

6.5.1   Supporting Career Self-Management Through Career Guidance and Counseling

As this review shows, CSM is not achieved through becoming a perfectly self-sufficient "free agent". To the contrary, social support is key to career agency. Career counseling can thus be a crucial means to empower people in their CSM. Given our understanding of CSM as an action regulation process and the literature reviewed above, we now make several recommendations along that line.

Since autonomous goals have been shown to predict CSM (Hirschi, Lee, et al., 2013) and are known to enhance wellbeing (Sheldon, 2014; Sheldon, Kasser, Smith, & Share, 2002), counselors can assist clients in clarifying their personal values (Dahl, 2015) and setting self-concordant goals (Sheldon et al., 2002). Here, interventions from action regulation literature, such as mental contrasting (Oettingen, Schnetter, & Pak, 2001) and implementation intention setting (Gollwitzer, Mayer, Frick, & Oettingen, 2018), can facilitate developing, monitoring and implementing career plans. When creating plans, it is also beneficial for the client to develop a realistic assessment of barriers, and strategies to deal with these barriers. This is likely to result in the perception of barriers as manageable challenges, which could improve motivation for CSM (Hirschi, Lee, et al., 2013). Successfully managing these barriers in turn can raise self-efficacy and outcome expectations, which are key predictors of CSM. Furthermore, clients should be encouraged to build social support through behaviors such as networking and feedback-seeking. When plans have been implemented, or turn out to be unfeasible, counselors can assist in monitoring and feedback processing of the CSM process. In sum, career counselors can facilitate the CSM process of their clients and thereby prepare them for the challenges of a complex and volatile career environment.

6.5.2   Creating Synergies Between Career Self-Management and Organizational Career Management

Organizations are often concerned that if they encourage CSM, it will weaken the ties between the organization and the employee, resulting in reduced commitment or even turnover. Yet research suggests that the impact of CSM on organizations can be quite positive, depending on the way in which organization shape this process (Kraimer, Seibert, Wayne, Liden, & Bravo, 2011). In this section we propose some recommendations how organizations can go about creating a career environment that results in a synergy between organizational career management and CSM, establishing a win-win situation for employee and employer.

Organizational career management can empower employees to be agents of their careers, while benefiting from the enhanced agentic capabilities of their employees. This is unlikely to be achieved by closely managing staff and imposing one-size-fits-all career paths that may not suit the diversity of career goals employees hold. Rather, it requires organizational support for career development that empowers the agentic capacities of employees for self-management and proactive generation of career opportunities within the organization. This can be achieved through means such as mentoring, developmental feedback, or career workshops, turning the relation of managing of the career between employee and employer into a "joint responsibility" (Orpen, 1994).

There are two components crucial to success in achieving such a synergy. First, when organizations set the expectation that employees are responsible for their career management, organizations need to provide enabling career development support that is integrated into the organizational culture. An intervention study by Kossek, Roberts, Fisher, and Demarr (1998) suggests that if CSM-directed development practices are executed isolated from the organizational culture, employees may engage in *less* CSM. From a social exchange theory perspective, employees will react to CSM interventions and organizational career practices with different expectations towards the organizations. Indeed, people with higher CSM have higher expectations towards organizational career management (De Vos et al., 2009). Second, organizations need to provide individualized career opportunities. If organizations provide organizational support for career development but no career opportunities, they risk employee turnover (Kraimer et al., 2011). This opportunity structure does not need to take the form of traditional career ladders characterized by hierarchical, upward progression. Instead, organization and employees co-develop career opportunities within and across job roles in order to enhance workers' employability in a fast-paced knowledge economy.

Taking this empowering role towards employees will benefit organizations and employees in several ways. Meeting the individual expectations and needs of their employees, studies suggest, results in fulfilling psychological contracts, increased organizational commitment, and increased work performance (Kraimer et al., 2011; Sturges et al., 2005, 2002). Organizations, in turn, reduce their reliance on inflexible career structures ill-suited to fast-paced business environments and achieve higher productivity, a workforce more capable in dealing with change, and possibly, employees taking more proactive stances in other areas within the organization.

In sum, organizations should implement a form of organizational career management that empowers their employees to be proactive in managing their careers. This rests on career development practices that do not exist as isolated elements, but are integrated into continuous forms of career support and a fitting opportunity structure. If these conditions are met, a synergy that boosts both organizational capabilities and employees career wellbeing will likely result.

6.6 Future Research Directions

6.6.1 Conceptual Refinement and Facilitators of CSM

Future research may benefit from a more fine-grained analysis of the action process underlying CSM. Previous frameworks and research on CSM often have used what has been called a continuum model of behavior (for a discussion of this classification, see Schwarzer, 2008). In models of this type, the likelihood to engage in a behavior is seen as a continuous function of a single set of predictors. Action regulation perspectives, on the other hand, posit stage models of behavior (Achtziger & Gollwitzer, 2018; Lord, Diefendorff, Schmidt, & Hall, 2009). In such models, individuals must pass through different stages before engaging in a behavior, such as developing and setting goals, mapping the environment for goal-facilitating resources, and planning for goal attainment. Different models propose different stages, but they usually feature a stage in which a goal or intention is formed and a volitional stage in which behaviors to pursue the goal are executed.

By analytically distinguishing between such action regulation stages, future research may generate better insights into the process dynamics of CSM. An important avenue is the exploration of facilitators of CSM at different stages of action regulation. For example, future research could explore which factors facilitate goal setting and lead to adequacy of these goals in terms of fit with personal values and available resources (Greenhaus, Callanan, & Kaplan, 1995); another pertinent question is which facilitators help to overcome "intention-behavior gaps" relating to CSM. Ultimately, such research could greatly benefit interventions, making it possible to tailor interventions to motivational stages.

6.6.2 Broadening the Scope of Investigated Career Wellbeing Outcomes of CSM

A large majority of studies we reviewed has focused on wellbeing outcomes of CSM in terms of success and satisfaction. We propose that future research pays more attention to two aspects of potential career wellbeing outcomes of CSM: (1) the potential negative side of high engagement in CSM, and (2) eudemonic and whole-life perspectives of career wellbeing.

The near future will see a workforce that is at the same time growing older and needs to stay continuously up-to-date. This calls for greater attention to the long-term *sustainability* of careers (De Vos, Van der Heijden, & Akkermans, 2018). In this regard, CSM can be double-edged. Related theory and research on proactivity has shown that proactive behavior, which CSM can be seen as a special kind of, can lead to resource loss and exhaustion resulting from continuous resource investment (Cangiano & Parker, 2015). Such effects seem particularly likely if proactive behavior is driven by controlled motivation rather than autonomous

motivation (e.g., Strauss, Parker, & O'Shea, 2017), or if the social context is unsupportive (Zacher, Schmitt, Jimmieson, & Rudolph, 2018). Hence, future research could examine under which conditions CSM becomes unsustainable in the long-term, potentially leading to burnout and other negative career wellbeing outcomes.

Furthermore, future studies should broaden the scope of positive outcomes of CSM, such as career wellbeing from a eudemonic angle. For example, CSM may lead to the satisfaction of intrinsic needs of mastery, relatedness, and autonomy (Ryan & Deci, 2000), as well as higher levels of functioning (Vittersø, 2013). Second, CSM may also have implications for outcomes at the work-nonwork interface, such as achieving work-family balance, that could be considered in future research. Research also suggests that career wellbeing may not only be an endpoint to CSM, but can also be a resource that spurs further CSM; hence, future studies could study wellbeing also an antecedent of engagement in CSM and test whether wellbeing and CSM are reciprocally related (Spurk et al., 2018).

6.6.3   Conducting Theory-Based Intervention Studies

Current research is mostly observational. Our literature search identified only three intervention studies (Buunk, Peiró, & Griffioen, 2007; Kossek et al., 1998; Raabe et al., 2007). We thus encourage future research that conducts theory-based intervention studies. These serve two purposes: (1) To develop better interventions and translate theories into practice, and (2) to test theories and hypotheses experimentally. One possible avenue is to conduct micro-interventions that have a solid theoretical base and allow to test which component of an intervention is effective in a way proposed by theory. This approach towards intervention and theory development has for example been successfully used in Acceptance and Commitment Therapy (Hayes, Luoma, Bond, Masuda, & Lillis, 2006).

6.6.4   Examining Emerging Contextual Influences

The fourth industrial revolution will further increase the trends towards the pluralization of lifestyles, working arrangements, and career trajectories (Spreitzer, Cameron, & Garrett, 2017). Furthermore, the workforce may see a polarization in terms of high-skilled and well-paid work as well as various forms of low-skilled, precarious work (Hirschi, 2018). These trends pose new challenges for CSM research. CSM will likely become a necessity for most workers, but the respective implications for CSM are different. For high-skilled workers, CSM may help selecting autonomous goals (Hall, Yip, & Doiron, 2018) and achieving effective boundary management (Hirschi, Shockley, & Zacher, 2019), whereas for disadvantaged workers CSM may help in securing decent work (Duffy, Blustein,

Diemer, & Autin, 2016; Ghai, 2003). Therefore, we encourage future studies to measure the context in which persons employ CSM in greater detail. Previous research has been too negligent in measuring these contexts, and has produced largely context-free models and research. Studying the boundary conditions under which different facets of CSM are effective in attaining career wellbeing will be an important contribution to theory and practice.

6.7 Conclusion

In this chapter, we hope to have shown the potential of CSM research for gaining an understanding of the mechanisms through which we can prepare the current and future generations of the workforce for a "future-fit" form of career wellbeing. The field of CSM shows much promise, but is also still in its early stages. Through our synthesis of the current state of research we hope we can move the field forward into promising new directions that will keep it relevant for the challenges posed by the fourth industrial revolution.

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Francisco Wilhelm is a doctoral researcher at the Department for Work and Organizational Psychology, University of Bern, Switzerland. He obtained a M.Sc. in Psychology from the University of Marburg, Germany. His major research interests are career development and career counseling, with a focus on applying theories of motivation and volition. Besides this, he develops packages for the statistical software R.

Andreas Hirschi PhD, is a full professor and chair of the department of Work and Organizational Psychology at the University of Bern, Switzerland. He obtained his PhD from the University of Zurich and a post-master degree as Master of Advanced Studies in Psychology of Career Counseling and Human Resources Management from the Universities of Zurich, Bern, and Fribourg, Switzerland. He previously worked at the Pennsylvania State University, USA, the Leuphana University of Lueneburg, Germany, and at the University of Lausanne, Switzerland. His major research interests are career development, career counseling, and the work-nonwork interface.

Chapter 7
The Value of Future-Fit Psychosocial Career Self-management Capabilities in Sustaining Career Wellbeing

Melinde Coetzee

Abstract Future-proofing individuals for sustainable and meaningful careers amid the challenges and demands posed by Industry 4.0, calls for a critical review of enabling career self-management capabilities. The objective of the chapter is to offer an analytical assessment of the role of psychosocial career capabilities in individuals' self-directed career management and the relevance of these capabilities in facilitating future-fit careers. The chapter presents a thematic synthesis of the careers literature on future fit career self-management capabilities. The role of these capabilities as psychosocial career resources that facilitate career wellbeing are evaluated from the perspective of the normative social cognitive model of wellbeing and the broaden-and-build theory. The proposition is made that people and their career development remain important in the digital era, and a broadened repertoire of essential psychosocial career self-management capabilities are crucial to help them successfully adapt to rapidly changing technological-driven work contexts. The chapter offers implications for practice and makes recommendations for future research.

Keywords Career self-management capabilities · Digital era · Broaden-and-build-theory · Normative social cognitive model of wellbeing · Career wellbeing · Future-Fit career

7.1 Introduction

The capability to adapt to unpredictable smart-digital technological disruption and uncertain employment contexts plays a growing role in individuals' career management and development (Colbert, Yee, & George, 2016; Hirschi, 2018; Van Dam, Bipp, & Van Ruysseveldt, 2015). Organisations have come to rely on

M. Coetzee (✉)
University of South Africa, Pretoria, South Africa
e-mail: Coetzm1@unisa.ac.za

their workers' ability to be self-directed in regulating their career management and development for sustained success as a business. Individuals' career development dynamics are transforming amidst the dwindling of traditional career paths, the emergence of transitive careers and occupations, as well as the new job requirements of the digital-driven Industry 4.0 work context (Colbert et al., 2016; Spurk, Kauffeld, Barthauer, & Heinemann, 2015; Van Dam et al., 2015). The increasing prevalence of digital and smart technology in workplaces has a pervasive influence on the professional and career success of individuals (Hirschi, 2018; Lent, 2018; Zylka, Christoph, Kroehne, Hartig, & Goldhammer, 2015). The digital economy has expanded the boundaryless career by allowing people to work simultaneously for multiple employers on multiple projects in a short or long-term sequence, or both. Personal growth in terms of career development seems to increasingly occur in both work and nonwork roles (Hirschi, 2018). Owing to the changing nature of occupations and job characteristics, people seem to open up to exploring new career options and choices which require new capabilities for career success. The changing career development dynamics of Industry 4.0 witnesses an increased need to develop new career self-management competencies, as well as a self-regulated capability for continuous learning and upskilling in order to keep abreast with technological advancements and new job requirements (Hirschi, 2018). Scholars emphasise the increasing importance of cultivating the capability for career self-management for sustaining successful career development and growth in the digital era (Hirschi, 2018; Lent & Brown, 2013).

The self-regulatory capability for sustaining one's career is a precondition for career wellbeing and satisfaction (Van Dam et al., 2015). Positivity (i.e. the tendency to assess all aspects of life as good in reality) is regarded as a basic trait determinant of general wellbeing and effective psychological functioning (Çikrikci, 2016; Diener, Scollon, Oishi, Dzokoto, & Suh, 2000). In the career wellbeing space, self-regulatory career management presupposes certain positive psychosocial resources in the form of capabilities and attributes that help individuals to be proactive and successful in sustaining their career wellbeing amidst the turmoil of chaotic conditions (Van Dam et al., 2015). The present chapter focuses on the key psychosocial capabilities that are seen to enable positive self-directed career management and career wellbeing in the emerging digital workspaces.

7.2 Problem Statement

Although digitalisation and shifts in the nature of technology-driven work, industries, and occupations are currently considered as the most important socio-economic trends in the world, the research literature in career studies has been largely sparse on the impending impact of Industry 4.0 on individuals' career wellbeing (Hirschi, 2018; Lent, 2018). Emerging debates in the career psychology sphere point to the need for research that answers the question of which potentially

new career capabilities individuals need in order for them to thrive in a digital-driven economy and society (Hirschi, 2018; Lent & Brown, 2013). Research on the impact of technology on people emphasises the psychological wellbeing and mental health of people when interfacing with others in cyberspaces and utilising technology in the work and social context (Brusilovskiy, Townley, Snethen, & Salzer, 2016; Çikrikci, 2016; Zeng & Lee 2016).

Studies on the effect of the problematic use of technology on the wellbeing of individuals shows an increase in mental health problems such as depression, anxiety, stress, loneliness and insomnia (Çikrikci, 2016). However, little attention has been given in the career psychology realm to the manner in which digital workspaces may affect the career wellbeing of people. More specifically, it is not clear how self-regulatory career management capabilities may help individuals become future fit for smart digital-driven career contexts. In this chapter, future-fit assumes a capacity to experience a sense of career wellbeing in managing the career in rapidly changing technology-driven workspaces. Career wellbeing implies the presence of positive capabilities for living a satisfying career-life over the lifetime, as well as positive self-beliefs about one's ability to control and impact upon the environment (Gawke, Gorgievski, & Bakker, 2017; Schreuder & Coetzee, 2016). It is imminent that career research will witness increased attention paid to future-proofing individuals for crafting meaningful careers amid the challenges and demands posed by Industry 4.0 (Hirschi, 2018; Lent, 2018; Lent & Brown, 2013). This chapter fills the current gap in career research by offering a thematic synthesis of enabling career self-management capabilities relevant to managing one's career wellbeing in the digital era.

7.3   Chapter Objective

The objective of the chapter is to present a critical review of the value of the positive psychosocial career resources embedded in future fit self-regulatory career self-management capabilities, and the manner in which these resources help enhance the career wellbeing of individuals. Positive career resources help individuals become future fit while regulating their career wellbeing in the turbulent context of technological advancement and employment uncertainty. This chapter contributes new knowledge by presenting an analytical assessment and thematic synthesis of the role of psychosocial career resources in individuals' self-directed career management and the relevance of these resources in enabling future-fit careers. The thematic synthesis of the literature review is approached from the theoretical perspective of the normative social cognitive model of wellbeing and career self-management (Lent, Taveira, Cristiane, Sheu, & Pinto, 2018) and the broaden-and-build theory (Frederickson, 2001).

7.4   Theoretical Framework

Career wellbeing is distinct from general subjective wellbeing which is charac-
terised by measures of emotional, cognitive, and physical states of being such as
happiness, psychological and physical health, and work-life satisfaction (Ekermans,
2016; Sirgy, 2012). Research on the concept of career wellbeing is scant. In this
chapter, career wellbeing denotes sustainable psychological wellbeing which is
about a cognitive-affective state of positive psychological functioning fostered by
the personal agency belief that one has the required capabilities to craft a mean-
ingful life-career even amidst adverse circumstances.

The concept of psychological functioning involves the self-efficacious devel-
opment of one's potential, exercising self-regulatory control over life's circum-
stances, cultivating beliefs that life has meaning (i.e. one has a purposeful role to
play in life), and that one has the capability to build positive relationships with
others (Kidd, 2008; Sirgy, 2012). Personal agency beliefs represent individuals'
self-efficacy which is fundamental to their career wellbeing. The notion of agency
combines three self-efficacy beliefs: (1) individuals have the power to influence the
world; (2) the career-life serves a meaningful purpose, and people have the ability
to craft a meaningful career-life; and (3) individuals are responsible for, and in
control of their career goals and choices (Robertson, 2015).

Career self-management capabilities denote the agentic potentiality for under-
going transition from a current form of career functioning to one of viable future
functioning, specifically a career-life that one has reason to value (Robertson,
2015). Self-efficacy extends beyond the notion of confidence about capability; it is
an ability catalyst because it helps determine what individuals believe they can
achieve with their abilities (Lent, 2016). Self-efficacy beliefs about one's capability
to demonstrate agency in career self-management and achieving one's career-life
goals are key to optimal psychological functioning and career wellbeing (Lent,
2016; Robertson, 2015).

In this chapter, I first draw from the basic premises of the normative social
cognitive model of wellbeing and career self-management to explain the manifes-
tation of career wellbeing (Lent & Brown, 2008, 2013; Lent et al., 2018). Second, I
draw from the broaden-and-build theory (Frederickson, 2001) to further delineate
the process through which career self-management capabilities influence individ-
uals' career wellbeing. The normative social cognitive model of wellbeing and
career self-management proposes that people are more likely to be satisfied within a
given life domain to the extent that they anticipate positive outcomes through
self-directed career behaviour, feel capable and efficacious in the behaviours that
help them successfully engage in goal-directed activity, and the extent to which
they feel they make progress at their central goals in the domain. People's satis-
faction and wellbeing are also influenced by the perception of having access to
environmental support and resources to accomplish goals and perform effectively
(Coetzee & Schreuder, 2018; Lent et al., 2018).

Broaden-and-build theory explains that positive self-directed behaviours have the ability to broaden people's momentary thought-action repertoires and build their enduring psychosocial resources. Seen through the lens of broaden-and-build theory, career wellbeing is a positive state-like outcome of the broadened thought-action repertoire's resources (Frederickson, 2001; Frederickson & Branigan, 2005; Lussier & Hartmann, 2017). Unifying the two theoretical lenses (i.e. social cognitive model of wellbeing and career self-management and broaden-and-build theory), contributes new insights to future-fit career wellbeing theory. The unifying approach elucidates the manner in which the self-regulatory career self-management capabilities enable individuals to accomplish positive functioning and career wellbeing under typical and atypical career-life conditions, as well as within and across particular employment domains.

7.5 The Future-Fit Career

The future-fit career is understood as flexible and agile movement through a relational space or setting (social, occupational, or organisational) within time, and within and/or across distinct career fields (Latzke, Schneidhofer, Pernkopf, Rohr, & Mayrhofer, 2015). Individuals accumulate and invest in career-related capital within particular career fields. Latzke et al. (2015) differentiate between the four career fields of (1) the company world (i.e. traditional organisational careers); (2) free floating professionalism (i.e. individuals as specialists have close relationships with one customer at a time); (3) self-employment (i.e. individuals have several customers simultaneously who do not change rapidly); and (4) chronic flexibility (i.e. frequent job changes, radical professional transitions, and a great diversity of tasks). The complexities of transitions across and within these career fields are compounded by the digital transformation of jobs and occupations which may give prominence to the career field of chronic flexibility (Hirschi, 2018; Lent, 2018).

Successful navigation of the career in Industry 4.0 features continuous learning, periodic renewal, the security that comes from sustainable employability, and self-regulatory career self-management (Lent, 2018). The accumulation and investment of career-related capital should be viable (i.e. fit to a field and enable agency that realise the potential embedded in a relation between individuals and the chosen context without overstretching individual, organisational, or societal resources), as well as flexible, agile adaptation with due consideration of personal wellbeing (Latzke et al., 2015; Lent, 2018). Sustainable career development within the future-fit career space is based on four elements: (1) the interdependency of the relationship between the individual careerist and the career field ecosystem at a point in time; (2) the focus on both short-and long-term career development strategies; (3) a balanced perspective between economic, environmental, and social concerns; and (4) the self-regulatory career self-management capability of the individual as career agent (Hirschi, 2018; Latzke et al., 2015; Lent, 2018).

Recently, the notion of an agile careerist has emerged to characterise the nature of career development in the digital era and to address the need for capacitating individuals for the career field of chronic flexibility (Konstant, 2017; Tirard, 2017). Konstant (2017, p. 1) describes the agile career as a "self-reflective, iterative career path, guided by response to change, evolving job roles, commitment to career segments as high performance projects owned by the individual, and designed to optimise creativity, a growth mindset, and happiness". The career is thought of as a series of projects with measurable milestones of accomplishments through the lifespan of work. Career development is reframed as navigating through multiple evolving job roles turned into high impact projects that make the best use of individuals' talents and interests for the length of the individual's employment. Individuals need self-regulatory career self-management capabilities and mindsets that enable them to reframe their jobs into high impact projects which not only expand on their expertise and unique talents, interests, and skills, but also help them broaden and build their continuously expanding portfolio of talents and skills (Konstant, 2017). Building on these notions of the digital-era career, career well-being is a result of the flexibility embedded in career agility through the broadening and building of self-regulatory career self-management capabilities that help individuals navigate their careers and career transitions within and across the future fit career fields.

7.6   Career Self-management Capability

Career self-management refers to the proactive, self-regulatory nature of career capabilities. The capability approach to people's career management and wellbeing assumes that people are able to learn and develop the capabilities they need to be able to engage in behaviour that help them accomplish important and valued goals, and sustain a state of optimum psychological functioning (Lussier & Hartmann, 2017; Robertson & Egdell, 2018). People's wellbeing is promoted through fostering their personal agency and self-efficacy in managing their career development (Lent et al., 2018; Robertson & Egdell, 2018). In this chapter, the focus is on those career self-management capabilities that facilitate goal-directed career behaviours. It is assumed that self-regulatory career management behaviours enable the successful attainment of important career goals, and that the satisfactory accomplishment of career goals fosters general career wellbeing through positive states of mind about the career-life. The digital era calls for highly adaptive capabilities such as self-regulation which allows individuals to intentionally alter their responses, including thoughts, actions, emotions and behaviours (Maranges & Baumeister, 2017).

The objective of the chapter is to present a critical review of the value of the positive psychosocial career resources embedded in future fit self-regulatory career self-management capabilities, and the manner in which these resources may help enhance the career wellbeing of individuals in contemporary and future career

contexts. Taking a capability approach in helping individuals become future-fit (i.e. functioning psychologically optimal in terms of their career development), has the benefit of designing interventions that help individuals recognise their career capabilities and how to broaden and build these as important psychosocial career wellbeing resources (Robertson & Egdell, 2018). Psychosocial career resources represent individuals' self-beliefs of their ability to control and impact upon the environment. Personal resources are expected to increase individuals' potential to become flexible, agile careerists who can proactively respond to the demands of digital work environments and jobs regardless of the organisational and occupational context conditions of a future-fit career field (Gawke et al., 2017; Lent, 2018).

7.7 Method

7.7.1 Study Design

The critical review of the research literature entailed a broad systematic review (Petticrew & Roberts, 2006) of contemporary research on the theme of career self-management capabilities in relation to career wellbeing. This approach allowed the author to evaluate documented research on future fit career self-management capabilities in terms of its relevance for inclusion in the database.

7.7.2 Study Eligibility Criteria

The boundary of the systematic review was defined to include only documented contemporary research on career self-management capabilities published from 2015 to 2018. A search was done by means of an on-line information technology service, including search engines such as EBSCOhost/Academic Search Premier, PsycINFO, Scopus database, and Google Scholar academic databases. The terms (keywords) career self-management, self-directed career management competencies and capabilities, and career wellbeing were used in the search. The full texts of publications were downloaded from the databases in order to ascertain which articles to include or exclude from the systematic review. The more rigorous inclusion criteria involved choosing only articles published in academic and peer-reviewed journals. Only studies that explored individuals' career self-management competencies in terms of capabilities, enabling behaviours and wellbeing in contemporary and Industry 4.0 contexts were included in the systematic review. This review methodology enabled the author to reduce potential biases in data collection (Chan, Cheung, & Lee, 2017; Suh & Prophet, 2018).

7.7.3 Data Analysis

A qualitative, inductive approach, anchored in grounded theory, was followed in identifying core themes of career self-management competencies/capabilities and their link with career wellbeing. In the first stage the author read the studies carefully to gain an overall impression of the link between type of career self-management competencies/capabilities and career wellbeing, using free line-by-line coding and theme categorisation. The categorisation process entailed going through the sources of data manually, line by line to identify the dominant themes, and clustering them into categories of career self-management capabilities that relate to career wellbeing. In the next stage, the author used the descriptive themes in the interpretation of a new thematic synthesis that went beyond the original studies. Fifteen key studies relevant to the digital era were identified in the systematic search for research published between 2015 and 2018 in the following electronic databases: EBSCOhost/Academic Search Premier, PsycINFO, Scopus, and Google Scholar Academic database. Publications were evaluated for quality, and a thematic analysis was performed by using the normative social cognitive model of wellbeing and career self-management, and the broaden-and-build theory, as theoretical lenses.

7.7.4 Strategies Used to Ensure Data Quality and Thematic Synthesis

Qualitative systematic reviews imply a reasonable degree of freedom and creativity in the interpretation of data, and the resultant personal construction of inferred meaning (Barnard & Fourie, 2007; Patton, 2002). Considerations were made in terms of potential publication bias (i.e. the assumption that all research on the topic may not have been published), trustworthiness or credibility, true value and quality, appropriateness, and reflection on the research endeavour in its entirety, as well as best practice. The theme sorting, labelling and categorisation process concerned searching for the underlying meanings embedded in the included studies. The emerging themes were reexamined to ensure trustworthiness. The author attempted to avoid bias by not focusing on one study at the expense of another in order to enhance objectivity and trustworthiness of the systematic review and synthesis of data (Holm & Severinsson, 2013). Value and quality were assured by reviewing each article in terms of scientific and methodological rigour in assessing links between self-regulatory career self-management capabilities and wellbeing. The aim, design, and analysis used in the included studies were assessed in terms of their appropriateness for helping individuals enhance their career wellbeing in contemporary and future employment contexts. All data were retained for possible future scrutiny.

7.8   Findings of the Thematic Review

As shown in Table 7.1, the inductive analysis yielded five core themes that seem to dominate the 2015 to 2018 literature on future-fit career self-management capability: (1) capacity for psychological adaptation, (2) career adaptability, (3) work self-efficacy, (4) intrapreneurial self-capital, and (5) relational career capital. The five themes were evaluated in terms of their value as self-regulatory psychosocial resources for career self-management that could be broadened (i.e. developed) in order to positively influence individuals' career wellbeing.

7.8.1   Capacity for Psychological Adaptation

Individuals' capacity to psychologically adapt to changing work and occupational contexts help them to be future-fit by means of their ability to adjust in the long run without comprising their own needs and desires (Hirschi, 2018; Lent, 2018). Previous research by Van Dam et al. (2015) shows positive links between the capacity for psychological adaptation and positive, optimistic, affective-emotional and cognitive states of wellbeing.

7.8.2   Career Adaptability

Career adaptability represents an important self-regulatory career self-management resource for coping with, and adapting to changeable and unpredictable environments, as well as for solving the problematic challenges presented by occupational transitions and work-career related traumas. Broadening and building the career adaptabilities of career concern (i.e. ability to plan future career moves); career control (i.e. taking responsibility for building a career, and negotiating occupational transitions through self-discipline, effort and persistence); career curiosity (i.e. actively exploring the world of work and seeking information about occupational requirements); and career confidence (i.e. demonstrating self-efficacy in attaining career goals and pursuing vocational aspirations), are associated with career wellbeing-related adaptation results such as career satisfaction, life satisfaction, positive affect, and career optimism (Hirschi, 2018; Nilforooshan & Salimi, 2016; Rudolp, Lavigne, & Zacher, 2017; Van Dam et al., 2015).

Career adaptability through especially the capability of career control empowers people for taking agency in governing and shaping their career. Research generally suggests that the presence of a repertoire of career adaptability resources facilitates the psychological availability to engage in proactive career self-management behaviours which contribute to individuals' career wellbeing and success (Coetzee & Schreuder, 2018). The career control capability reflects mastery over the domain

Table 7.1 Core themes: future fit self-regulatory career self-management capabilities

Theme	Description (capability for self-regulatory career self-management)	Link with career wellbeing	References
Capacity for psychological adaptation	Help organisms adjust to a changing and/or demanding environment in the long-run without compromising own needs and desires; affective-emotional and cognitive-evaluative wellbeing	Enhances in the long-run employee health, motivation, human capital and career opportunities; lower stress, higher psychological wellbeing; optimism	Hirschi (2018), Lent (2016, 2018), Van Dam et al. (2015)
Career adaptability	Modifying career behaviour and competencies to achieve better person-environment congruence; psychosocial resources for coping with changes affecting the career; resources for coping with career tasks and implement identities in a work role	Positive links with career and job satisfaction, wellbeing, proactive personality, career optimism, career success; psychological availability for career self-management behaviours	Coetzee and Schreuder (2018), Hirschi, (2018), Nilforooshan and Salimi (2016), Rudolph et al. (2017), Van Dam et al. (2015)
Intrapreneurial self-capital	Psychosocial resources in the form of core positive self-beliefs (i.e. self-esteem, self-efficacy, locus of control, absence of pessimism), hardiness, and self-efficacy regarding the ability to solve problems creatively	Contributes to mental health and wellbeing	Coetzee and Schreuder (2018), Di Fabio et al. (2017), Lent et al. (2018)
Work self-efficacy	Perceived capability to manage and cope with different situations in the search for a job (enterprising exploration; proactive career planning; relational integration)	Enhances career adaptability; frustration coping	Bocciardi et al. (2017), Coetzee & Schreuder (2018), Lent (2016), Lent et al. (2018), Nicholas (2018)

Table 7.1 (continued)

Theme	Description (capability for self-regulatory career self-management)	Link with career wellbeing	References
Relational career capital	Social-emotional competencies invested in broadening/building career-relevant social networks relevant to the future-fit career	Enhances psychological wellbeing, and the constructive use of technology in digital-mediated social interactions	Dickmann et al., 2018, Gurbuz et al. (2016), Latzke et al. (2015), Nasaescu et al. (2018), Sultana et al. (2016), Spurk et al. (2015)

in which the career is enacted. Career curiosity denotes the capability to investigate one's surroundings, seeking opportunities to grow, and valuing broadening one's horizons by exploring different vocational possibilities. Career confidence reflects agency beliefs in the ability to solve problems and successfully overcome career barriers. Research generally shows that career adaptability resources may foster positive appraisals of work changes, which in turn lead to positive affective states and attitudes (Rudolph et al., 2017). The modern notion of career agility also seems to benefit from career adaptability resources (Konstant, 2017; Tirard, 2017). However, empirical research on the phenomenon of career agility is lacking.

7.8.3 Work Self-efficacy

Previous studies show that individuals' career adaptability could be sustained through the development of self-efficacy at work or in the search of work in a career field (Coetzee & Schreuder, 2018; Lent, 2016; Lent et al., 2018; Nicholas, 2018). Searching for work self-efficacy is the capability to manage and cope with different situations in the search for a job through enterprising exploration and proactive career planning. Work self-efficacy is the perceived ability to relate to others and being committed to one's work tasks in a career field (Bocciardi, Caputo, Fregonese, Langher, & Sartori, 2017).

7.8.4 Intrapreneurial Self-capital

Intrapreneurial self-capital is a relatively new construct that denotes psychosocial resources in the form of core positive self-beliefs (i.e. self-esteem, self-efficacy, locus of control, absence of pessimism), hardiness, and self-efficacy regarding the ability to solve problems creatively (Coetzee & Schreuder, 2018; Fabio, Palazzeschi, & Bucci, 2017). These psychosocial resources are seen to enhance the

health and wellbeing of individuals in the emerging future-fit career. Research shows positive links between intrapreneurial self-capital and eudaimonic wellbeing in terms of social and psychological prosperity and wellbeing in areas such as relationships, presence of purpose, and optimism (Fabio et al., 2017).

7.8.5   Relational Career Capital

Relational career capital denotes social-emotional competencies invested in broadening and building career-relevant social networks relevant to the future-fit career. These networks may include inter-firm communication, relationships with key customers and suppliers, support network structures with family, friends and colleagues that help to gather career-relevant information, and build new contacts that are beneficial to one's work and career. Relational career capital has positive links to perceived internal and external marketability and career success (Dickmann et al., 2018; Latzke et al., 2015). Relational interactions benefit from social and emotional competencies.

Digital workspaces involve interpersonal interactions through smart information and communication technology. Research shows associations between high levels of social and emotional competencies, psychological wellbeing, and the constructive use of technology in digital-mediated social interactions (Nasaescu et al., 2018). Social and emotional competence refers to the self-regulatory ability to apply knowledge, attitudes and skills to understand and manage one's own and others' emotions, showing empathy, initiating and maintaining desirable interpersonal relationships, and responsible decision making (Nasaescu et al., 2018). Research shows positive links between emotional intelligence, creative metacognition, career adaptability, stress management, and career wellbeing (Gurbuz, Ergun, & Teraman, 2016; Sultana, Yousaf, Khan, & Saeed, 2016).

7.9   Discussion of the Thematic Synthesis

The objective of the chapter was to present a critical review of the value of the positive psychosocial career resources embedded in future fit self-regulatory career self-management capabilities, and the manner in which these resources may help enhance the career wellbeing of individuals in contemporary and future career contexts. The five themes of career self-management capabilities all point to the importance of individual self-regulation. Self-regulation in terms of career self-management refers to mindful, intentional, proactive, thoughtful behaviour that is personally initiated and monitored, and aimed at accomplishing valued, long-term goals in a particular environment (Van Dam et al., 2015). The overarching principle of self-regulatory career self-management represented by the capabilities that emerged from the research literature alludes to the
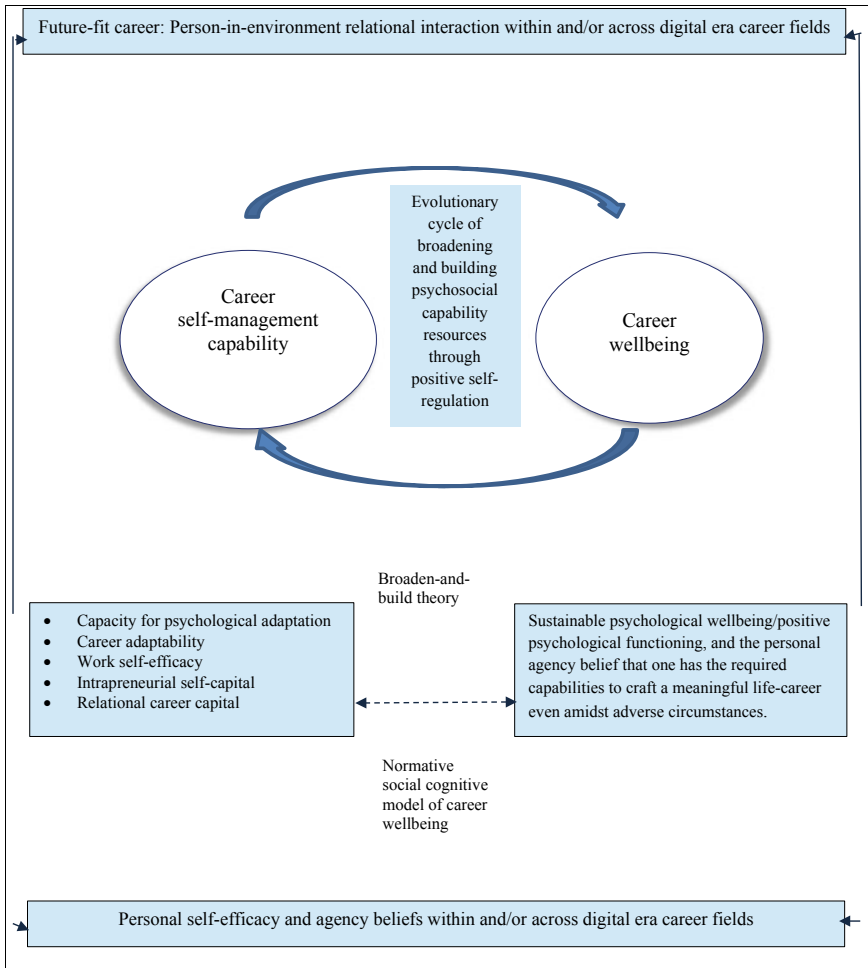
Fig. 7.1 Conceptual framework of the thematic synthesis (*Source: Author's own work*)

person-in-environment perceived control belief system. As a general-purpose belief system, perceived control functions as a vital resource which facilitates psychological adaptation and adjustment to major life events and changing context conditions that challenge people's psychological functioning (wellbeing) over the life course (Infurna, Gerstorf, Ram, Schupp, Wagner, & Heckhausen, 2016).

As shown in Fig. 7.1, the five themes of career self-management capabilities seem to allude to individuals' personal self-efficacy and agency beliefs which the research literature showed to be an important precondition for self-regulatory career self-management capability (Bocciardi et al., 2017; Coetzee & Schreuder, 2018; Fabio et al., 2017; Lent, 2016; Robertson, 2015). Self-efficacy refers to the ability to manage vocational tasks with the confidence needed in goal-directed career

exploration, decision-making, flexibility, and adjustment across diverse occupational tasks. Self-efficacious goal-directedness and personal agency beliefs are core elements of the intrinsic motivational state of competence demonstration (Coetzee & Schreuder, 2018; Lent et al, 2018). Previous research shows that capabilities which require individuals to exert their self-motivating potential lead to positive affective-motivational and wellbeing states (Brauchli, Schaufeli, Jenny, Füllemann, & Bauer, 2013; Lent et al., 2018).

The research literature further points to the bi-directional interface between self-regulatory career self-management capabilities and states of wellbeing. Drawing from the broaden-and-build theory (Frederickson, 2001; Frederickson & Branigan, 2005), career self-management capabilities broadened in the short-run, and the self-efficacy developed in the long-run, seem to function as important antecedents of optimal psychological functioning and career wellbeing. On the other hand, the broadening of individuals' cognitive-affective state of career wellbeing in the short-run, may potentially in the long-run support the cultivation of self-efficacy and agency beliefs for proactively regulating, building and demonstrating the career self-management capabilities needed for successful career goal attainment.

Building on the basic premises of broaden-and-build theory (Frederickson & Branigan, 2005) and the social cognitive model of wellbeing (Lent et al, 2018), positive states broaden individuals' thought-action repertoires. The broadened repertoire enables them to draw flexibly on wider-than-usual ranges of self-motivating percepts, ideas, and actions. Individuals' broadened cognition and self-beliefs create behavioural flexibility that over time builds the psychosocial resources inherent to career self-management capability. Research generally shows that positive states, over time, build durable personal resources. When people experience positive cognitive-psychological states of wellbeing consistently, these states help them to build their psychosocial resources over the long term (Frederickson & Branigan, 2005).

Unifying the theoretical premises of the two theories, the proposition is made that the incremental accrual of psychosocial capability resources broadened and built through positive self-regulation, creates a positive evolutionary cycle which enables individuals to flexibly adapt and adjust to changing context conditions and demands through enhanced self-efficacy beliefs. Unlike the transient nature of cognitive-psychological states of career wellbeing, individuals' psychosocial resources of self-regulatory career self-management capability are durable and worthy of investment for sustainable future fit career agility and success. When people experience positive cognitive-psychological states of wellbeing consistently, these states help them to build their psychosocial resources over the long term (Frederickson & Branigan, 2005). In essence, it appears from the thematic synthesis that when people are functioning optimally in terms of their careers, they become increasingly confident, innovative, adaptable, and flexible in their future fit career self-management capability.

7.10   Implications for Practice

The thematic review and synthesis revealed new insights that are important for future-fit career wellbeing practices. Organisations and career counselors who want individuals to attain career success and wellbeing in the digital era, should pay attention to enabling interventions that help individuals develop self-regulatory future fit career self-management capabilities. Managers and counselors need to know how people's self-efficacy in the demonstration of self-management capability can be developed and sustained. Moreover, managers and counselors must take note of the value of developing and broadening individuals' self-regulatory career self-management capabilities both in the short-run and in the long-run because of their positive influence on individuals' state of psychological functioning. Creating a work climate that supports individuals' career development through frequent career discussions, career coaching and counseling on career goals and plans, may help to foster the positive states of mind associated with career wellbeing, which in turn may help to generate the motivation and self-efficacy needed to take agency in managing one's career development in changing digital-driven contexts.

7.11   Limitations and Directions for Future Research

The literature review was limited to research published only between 2015 and 2018 which could imply that not all research on career self-management capabilities and career wellbeing is necessarily covered in the thematic review. Researchers and practitioners should note that the number of published studies on the themes relevant to this chapter is continuously increasing. Career research continues to evolve with the requirements and dynamics of career development in the digital era becoming clearer. Therefore, career self-management capabilities and other attributes beyond those identified in this chapter will continue to emerge. As a result, the search strategy for a qualitative review of the research literature could always be either too broad or too narrow, and the possibility of excluding relevant studies is ever present. New evidence could change the relevance of the present themes that emerged from the literature review in terms of the concept of dependability (i.e., the stability of data and conditions over time may influence the outcome of future studies). The culture reflected in the studies may vary between west and east, and in African contexts. The different views and experiences of career wellbeing and career self-management capabilities all over the world, in all continents, must be taken into account in future studies. Continuous studies are recommended in order to strengthen the trustworthiness of the themes that emerged from this study.

7.12   Conclusion

Notwithstanding the limitations of the qualitative study on future fit career self-management capabilities and career wellbeing, the chapter makes a novel contribution to the study of ways to future proof individuals' career wellbeing in the digital era. Career wellbeing remains an understudied and complex phenomenon that deserves more attention in the fast technological-evolutionary employment contexts of the digital era. This chapter contributed new insights that hopefully will stimulate further research on the challenge of future proofing individuals for attaining career success in Industry 4.0.

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Melinde Coetzee (DLitt et Phil) is a professor in the Department of Industrial and Organisational Psychology at the University of South Africa, Pretoria, South Africa. She has extensive experience in the corporate environment on psychological interventions pertaining to organisational development, human capacity and career development and talent retention. Her research interests include issues of employability and career and retention psychology in multi-cultural work contexts. She served from 2014 to 2019 as Chief Editor of the South African Journal of Industrial Psychology. She has published in numerous accredited academic journals. She has also

co-authored and contributed chapters to books nationally and internationally. She has presented numerous academic papers and posters at national and international conferences. She is a professionally registered Psychologist (cat. Industrial) with the Health Professions Council of South Africa (HPCSA) and a master human resource practitioner with the South African Board for People Practice (SABPP). She is a member of the Society of Industrial and Organisational Psychology (SIOPSA), European Work and Organizational Psychology (EAWOP), International Association of Applied Psychology (IAAP) and South African Career Development Association (SACDA).

Overview and Insights

This part, *Psychological Factors of Career Wellbeing*, comprises four chapters that illustrate the different psychological factors influencing individuals' future-fit career wellbeing in the VUCA (volatile, uncertain, complex and ambiguous) and digital landscape of the fourth industrial revolution.

Overview

Chapter 8 by Rebekka Steiner and Daniel Spurk, 'Career Wellbeing Form a Whole-Life Perspective: Implications from Work-Nonwork Spillover and Crossover Research', explores career wellbeing from a whole-life perspective, where wellbeing encompassing various life domains, including wellbeing related to one's career (career satisfactions), wellbeing in nonwork domains (family satisfaction, leisure satisfaction) and wellbeing relating to the intersection between work and nonwork (work–nonwork positive spillover). The chapter contributes to the theory, research and dynamics of future-fit career wellbeing by developing avenues for future research and provide guidelines for practitioners on how career wellbeing from a whole-life perspective can be fostered among employees. The authors propose practices such as proactive interventions related to work and personal life that could support employees to systematically develop various career resources in order to positively enhance their career wellbeing. This chapter deems to be informative for the development of new career wellbeing theories and concepts that reflect the connection between work–life balance and career wellbeing.

Chapter 9 by John Kolawole Aderibigbe and Tendai Chimucheka, 'Career Concerns, Career Satisfaction and Career Wellbeing as Contemporary Human Resources Management Issues: Theoretical Perspective', contributes to the career wellbeing literature by exploring the relationship between career concerns, career satisfaction and career wellbeing in the digital workspace. The authors present these concepts from the social cognitive theory perspective. The chapter focuses on

defining the concepts as well as the different approaches associated with career concern, career satisfaction and career wellbeing, and the differences between the three career concepts are also highlighted. The chapter informs effective career development practices and management of human resources and may be of interest to human resource professionals and industrial and organisational psychologists conducting research in this niche area.

Chapter 10 by Nadia Ferreira, 'Enhancing Career Wellbeing: The Role of Workplace Friendship, Career Adaptability and Organisational Commitment', contributes to the career wellbeing literature by exploring the role of self-regulatory career behaviour (workplace friendship, career adaptability and organisational commitment) in the future-fit career wellbeing context. The chapter makes a theoretical contribution by providing an overview of current research and clarifying career wellbeing conceptually as well as empirically. The author highlights that Industry 4.0 brings about changes in relationships between employees and machines as well as between employees and their own careers. The chapter proposes interventions on how these self-regulatory career behaviours (workplace friendship, career adaptability and organisational commitment) can be developed to enhance employees' future-fit career wellbeing. This chapter deems to be informative for researchers and organisations in planning new career wellbeing interventions as well as future research.

Chapter 11 by Louise Engelbrecht, 'Facilitating Career Wellbeing: Exploring a Career Satisfaction and Employability Profile of Knowledge Workers', contributes to the career wellbeing literature by applying the social cognitive career theory, the person–environment fit theory and the conservation of resources theory as the theoretical lens when exploring the relationship dynamics between career cognitions, career resources and career outcomes. The author highlights career satisfaction and employability are key constructs that can enhance career wellbeing in the increasingly volatile, uncertain, complex and ambiguous (VUCA) world of work. The chapter proposes practices and psychological interventions to enhance the future-fit career wellbeing of knowledge workers. This chapter highlights that knowledge workers need to engage in social interactions and networking behaviour and be confident in their own abilities to attain sustainable employment and enjoy a satisfying career, which then facilitate career wellbeing.

Key Insights Contributing to Future-Fit Career Wellbeing Theory, Research And Practice

This part of the book positions the psychological factors of career wellbeing within the pervasive influencing context of the VUCA and digital landscape which demands innovative thinking regarding future-fit career wellbeing theory, practice and dynamics.

The dynamics of the context conditions in this part was highlighted by a number of theories, such as the whole-life perspective theory, the social cognitive theory, workplace friendship theory and the career adaptability theory. The emerging themes for research identified in this part included positive development and

functioning, work–life balance, individual career concern, career satisfaction, the importance of workplace friendships, career adaptability as part of the digital workplace and employability of knowledge workers. In this part, the emerging themes for practice include the establishment of work–life balance, creating a whole-life perspective, promoting career satisfaction, developing self-regulatory career behaviour (such as career adaptability and workplace friendships), enable sustainable employability and the enhancement of organisational commitment in the digital workplace in order to ensure future-fit career wellbeing. The following core contributions are identified in this part as the transfer of work and nonwork resources, the effective development of a self-regulatory career behaviour framework, creating the necessary training and development opportunities for individuals and creating awareness and opportunities for career development in the contemporary digital age.

The pervasive influence of the VUCA rapid evolving digital landscape on future-fit career wellbeing needs further research. However, more empirical evidence can be conducted through the lens of other contemporary career theories, such as the career construction theory, self-determination theory and psychology of work theory. Further research would be valuable for career development and guidance purposes in order to help managers/supervisors and industrial and organsational psychologists to provide the necessary guidance to individuals when making career decisions that would fulfil their career needs and so enhance their future-fit career wellbeing.

Chapter 8
Career Wellbeing from a Whole-Life Perspective: Implications from Work-Nonwork Spillover and Crossover Research

Rebekka Steiner and Daniel Spurk

Abstract The present workforce is characterised by commitments to various life domains, which continue to change our understanding about careers and career wellbeing. Thus, the objective of the chapter is to focus on career wellbeing from a whole-life perspective, that is wellbeing encompassing various life domains, including wellbeing related to one's career (e.g., career satisfaction) but also wellbeing in nonwork domains (e.g., family satisfaction; leisure satisfaction), or the intersection between work and nonwork (e.g., work-nonwork positive spillover). Therefore, we combine relevant research from work-nonwork literature to explain career wellbeing from a whole-life perspective. Specifically, we rely on current research on work-nonwork positive spillover (i.e., intraindividual transmission of resources and positive experiences across work and family domains) and research on crossover at the work-nonwork interface (i.e., dyadic transmission of work-family experiences between key others). Based on the theoretical models and empirical evidence discussed in this chapter, we develop avenues for future research and suggestions and guidelines for practitioners on how career wellbeing from a whole-life perspective can be fostered among employees.

Keywords Career wellbeing · Whole-life perspective · Work resources · Nonwork resources · Work-nonwork positive spillover · Crossover

8.1 Introduction

Career wellbeing and how it can be facilitated among employees is an important topic for career researchers (e.g., Kidd, 2008). Kidd (2008) referred to career wellbeing as emotions that refer to several career features: career transitions,

R. Steiner (✉) · D. Spurk
University of Bern, Bern, Switzerland
e-mail: rebekka.steiner@psy.unibe.ch

interpersonal relationships, relationship with the organization, work performance, sense of purpose, learning and development, and work–life issues. Career wellbeing also shares similarities with career success, which is defined as the accomplishment of desirable work-related outcomes at any point in a person's work experiences over time (Arthur, Khapova, & Wilderom, 2005). Specifically, subjective career success, referring to a focal career actor's evaluation and experience of achieving personally meaningful career outcomes (Spurk, Hirschi, & Dries, 2019), can also be seen as career wellbeing. Subjective career success is typically measured as career satisfaction (Greenhaus, Parasuraman, & Wormley, 1990; Seibert, Kraimer, Holtom, & Pierotti, 2013) or perceived career success (Heslin, 2003; Turban & Dougherty, 1994), and more recently as a multidimensional evaluation of career facets, such as growth and development, personal life, and authenticity (Shockley, Ureksoy, Rodopman, Poteat, & Dullaghan, 2016).

8.2 Chapter Objective

The objective of the chapter is to focus on career wellbeing from a whole-life perspective, that is wellbeing encompassing various life domains, including wellbeing related to one's career (e.g., career satisfaction) but also wellbeing in nonwork domains (e.g., family satisfaction; leisure satisfaction), or the intersection between work and nonwork (e.g., work-nonwork positive spillover).

8.3 What Is Career Wellbeing from a Whole-Life Perspective and Why It Is Important?

Several societal and technical trends continue to change the nature of careers and relatedly our understanding of career wellbeing. First, the present workforce is characterised by commitments to various life domains, and thus, many people consider nonwork domains when evaluating their career success and wellbeing (Hirschi, Herrmann, Nagy, & Spurk, 2016). Second, the proportion of women who pursue a career as well as the number of dual career-couples has significantly increased over the last decades (e.g., Crawford, Thompson, & Ashforth, 2019). Therefore, the number of people for whom pursuing a career and career wellbeing is closely intertwined with commitments to and wellbeing in other life domains has significantly increased. Third, technical advancements and new working styles (e.g., telework; results-oriented work environments, Ressler & Thompson, 2011) increase the intertwinedness of the work domain with other life domains and relatedly, the intertwinedness of career wellbeing with wellbeing in other life domains.

Against these backgrounds, it is crucial to understand how people can be high performing at work and be satisfied with their careers, while at the same time

remain healthy and satisfied in other life domains, such as family or leisure. However, career researchers have only recently begun to integrate nonwork issues into their conceptual models and empirical studies in general (cf. Greenhaus & Kossek, 2014), and into their research on career wellbeing in specific (cf. Hirschi et al., 2016). Thus, the aim of this chapter is to highlight career wellbeing from a whole-life perspective. Thereby, we broadly define career wellbeing from a whole-life perspective as wellbeing encompassing various life domains, including wellbeing related to one's career (e.g., career satisfaction) but also wellbeing in nonwork domains (e.g., family satisfaction; leisure satisfaction), or wellbeing related to the intersection between work and nonwork (e.g., work-nonwork positive spillover).

8.4 Chapter Outline

We introduce two streams of research that we think are particularly useful to understand career wellbeing from a whole-life perspective. Specifically, we (i) introduce research on work-nonwork positive spillover (i.e., intraindividual transmission of resources and positive experiences across work and family domains) and (ii) research on work-nonwork crossover (i.e., dyadic transmission of work-family experiences between key others). Research on work-nonwork positive spillover can provide us with important insights into the bidirectional relations between career wellbeing and wellbeing in other life domains. Thus, we suggest that from a whole-life perspective, conceptualisations of career wellbeing could be enlarged to include work-nonwork interactions (e.g., work-nonwork positive spillover) as well as the implications they have for wellbeing in other life domains (e.g., family satisfaction; leisure satisfaction), and vice versa, the implications that wellbeing in other life domains has for career wellbeing.

Crossover research can provide us with important insights into career wellbeing from a whole life perspective because it highlights the close interrelation between one's career wellbeing with the wellbeing from key others in the nonwork domain, such as the spouse. Thereby crossover research has implications for career wellbeing from a whole-life perspective by enlarging the focus of career wellbeing from the focal person to include the wellbeing of key others. In fact, key others such as family members are an elementary part of an individual's nonwork domain, and thus, their wellbeing should also be considered with respect to career wellbeing from a whole-life perspective. Therefore, we suggest that from a whole-life perspective, career wellbeing could also include the effects that an individual's career wellbeing has on the wellbeing of significant others in the nonwork domain (e.g., spouses' life satisfaction), or vice versa, the effects that a significant other's wellbeing in the nonwork domain has on an individual's career wellbeing.

For each of these two streams of research, we suggest areas for future research to enhance our understanding of career wellbeing from a whole life perspective. We then use the theoretical and empirical work discussed in this chapter to derive

suggestions and guidelines for practitioners on how career wellbeing from a whole-life perspective could be fostered. The chapter ends with a short conclusion summarising main findings.

8.5   Work-Nonwork Spillover Research

The notion that work and nonwork are closely intertwined and that the quality of the work-nonwork intersection has important implications for work- and nonwork-related aspects of wellbeing is well established (e.g., Amstad, Meier, Fasel, Elfering, & Semmer, 2011; McNall, Nicklin, & Masuda, 2010). Initially, the main focus of this research was on negative spillover (work-family conflict; work-family interference), that is, an intraindividual transmission across work and family domains, where demands and strain spill over from one area of life to another (Bakker, Demerouti, & Dollard, 2008; Greenhaus & Beutell, 1985). Later, in the course of the emergence of positive psychology, work-family researchers begun to include positive spillover between work and family,[1] that refers to an intraindividual transmission of resources and positive experiences across work and family domains (Greenhaus & Powell, 2006). Recently, research also started to not exclusively focus on the intersection between work and family, but started to include other nonwork domains, such as leisure (Hall, Kossek, Briscoe, Pichler, & Lee, 2013). This broadened focus on the nonwork side of the interface can be seen as a positive development, now targeting a broader range of people (e.g., employees without children; employees with a time-intensive hobby; employees who are engaged in community work). Yet, on the work side of the interface, past research has mostly focused on work-related wellbeing (e.g., work satisfaction) or work-related strain (e.g., burnout), and less on outcomes that reflect career wellbeing more specifically (e.g., career progress; career satisfaction).

Thus, in what comes next, we highlight the relevance of work and nonwork resources and work-nonwork positive spillover for wellbeing in various life domains. We do not systematically include research on work demands and work-nonwork conflict because past research has illustrated that resources and positive experiences are particularly prone to understand positive states such as wellbeing (e.g., Voydanoff, 2004a, 2004b). We also do not systematically include research on work-family balance, that is, peoples' overall appraisal of how the effectiveness and satisfaction devised from each role are consistent with their own values and standards (Casper, Vaziri, Wayne, DeHauw, & Greenhaus, 2018).

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[1]Similar concepts are work-nonwork enhancement, work-nonwork enrichment, and work-nonwork facilitation. Although there are subtle distinctions in the definition of these concepts, the underlying assumption is that resources and positive experiences spill over from one domain of life to the other. In the present chapter, we use the term "work-nonwork positive spillover" to refer to all these concepts.

In fact, balance is considered as a non-directional phenomenon, and thus, seems less apt to illustrate the bi-directional relations between career wellbeing and resources and nonwork wellbeing, and vice versa.

8.6 Relevance of Work and Nonwork Resources to Foster Career Wellbeing from a Whole-Life Perspective

Resources are considered key for wellbeing (e.g., Hobfoll, Halbesleben, Neveu, & Westman, 2018), while conceptualizations of resources include a broad range of things, such as object resources (e.g., tools for work), condition resources (e.g., tenure), personal resources (e.g., skills), social resources (e.g., networks), and energy resources (e.g., money). A recent review on career success also provided a resource taxonomy specifically relevant for the career domain (Spurk et al., 2019). Importantly, resources are finite, and people have to invest resources to create new resources (Hobfoll et al., 2018).

Based on the finiteness of resources, combined with the close intertwinedness between work and nonwork (e.g., Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005), it becomes evident that individuals jiggle resources across life domains, and that how successfully they manage their investment across life domains (career, family, leisure) is crucial to remain high wellbeing in various life domains. In fact, several work-nonwork frameworks stress the importance of resources in various life domains, their transferability across life domains, and highlight processes through which they relate to wellbeing in various life domains (Brummelhuis & Bakker, 2012; Greenhaus & Powell, 2006; Hirschi, Shockley, & Zacher, 2019; Voydanoff, 2005b). For example, according to the work-home resources model (Brummelhuis & Bakker, 2012), resources in one domain can be transferred to the other domain to increase wellbeing in the other domain, while this process of resource accumulation across domains is considered work-nonwork positive spillover. Specifically, work-nonwork positive spillover reflects the process whereby resources related to one' domain (e.g., work or career) replenish, or add to one's personal resource supply, which subsequently improves wellbeing in the other domain (e.g., family). According to Greenhaus and Powell (2006), positive spillover can occur through an affective path (e.g., positive affect experienced during a pleasant leisure activity spreads to the work domain and increases wellbeing at work), or a behavioral path (e.g., skills relevant to foster career progress can successfully be applied in the nonwork domain and increase wellbeing in this domain). Other models stress that fit between resources and demands are essential for how they relate to work-nonwork balance and ultimately wellbeing. For example, Voydanoff (2002, 2005b) stresses that resources in one domain should fit demands in the other domain (i.e., work demands–family resources fit; family demands–work resources fit) in order to facilitate work-family balance and ultimately wellbeing. Although these models slightly differ in their conceptualizations of positive spillover and the

underlying mechanisms through which it relates resources to wellbeing, they agree with the fact that resources are key for positive spillover and ultimately wellbeing, and that resource transfer and accordingly positive spillover can occur in two directions. That is, (i) career resources can be used to increase nonwork wellbeing through work-to-nonwork positive spillover (work-to-nonwork positive spillover), and (ii) nonwork resources can be used to increase career wellbeing through nonwork-to-work positive spillover (nonwork-to-work positive spillover).

8.7   Empirical Evidence for Positive Spillover from Work to Nonwork

Career resources can be transferred, through work-to-nonwork positive spillover, to the nonwork domain to increase wellbeing in the nonwork domain. For example, job autonomy (a career resource) can be used to schedule work in an efficient manner, thus saving time (a personal resource). Additional time can be invested, in turn, in other activities, such as leisure, work, or family, thereby fostering wellbeing in the nonwork domain (e.g., relationship satisfaction; leisure satisfaction). Alternatively, positive affect related to a career-related event, such as a promotion, can spill over to the home domain, thereby increasing positive affect and wellbeing there. In fact, several studies support the contention that work resources relate positively to work-to-nonwork positive spillover, and that work-to-nonwork positive spillover in turn relates positively to nonwork wellbeing. For example, supervisor support (Siu et al., 2010), organizational support for combining work and family (i.e., family-friendly organisational policies, work-family benefit usage, family supportive organisational culture) (Siu et al., 2010; Voydanoff, 2004b) or job-related resources, such as flexible work arrangements (e.g., flextime, compressed workweek, McNall, Masuda, & Nicklin, 2009), job autonomy and meaningfulness of work (Siu et al., 2010; Voydanoff, 2004b; Wayne, Randel, & Stevens, 2006) were positively related to work-to-nonwork positive spillover. Several studies furthermore found that work-to-nonwork positive spillover fostered nonwork wellbeing outcomes, such as physical or mental health (Grzywacz & Bass, 2003; Hanson, Hammer, & Colton, 2006) and life or family satisfaction (van Steenbergen, Ellemers, & Mooijaart, 2007). Importantly, several studies found that work-to-nonwork positive spillover has not only beneficial implications for nonwork wellbeing but also can positively affect wellbeing related to one's work or career, for example, reflected in higher job satisfaction (Boyar & Mosley, 2007; McNall et al., 2009; Wayne, Musisca, & Fleeson, 2004), or lower turnover intentions (McNall et al., 2009). In fact, according to the source attribution perspective (e.g., Amstad et al., 2011; Shockley & Singla, 2011), people tend to see the sending role (in this case work) as responsible for the positive spillover, and as a consequence, evaluate the work domain positively, ultimately also increasing work- and career-related wellbeing.

8.8   Empirical Evidence for Positive Spillover
from Nonwork to Work

Importantly, nonwork resources can also be transferred, through nonwork-to-work positive spillover, to the domain of work to increase career wellbeing. For example, spending time with friends (a nonwork resource) may lead to positive mood and enhanced self-esteem (a personal resource). Those personal resources may be invested, in turn, into one's career, leading to a vigorous and resilient work attitude or improved work performance, and ultimately to increased career wellbeing. Alternatively, skills learned in the nonwork domain (e.g., multitasking in the presence of young children) can also be successfully applied in the work domain, thereby eventually increasing work performance and ultimately career success and wellbeing. In fact, several studies support the contention that nonwork resources are positively related to nonwork-to-work positive spillover, and that nonwork-to-work positive spillover in turn is positively related to work- and career-related wellbeing. For example, several studies found that nonwork resources, such as family support (Siu et al., 2010), support from friends (Voydanoff, 2004b), affective connections with friends and neighbors, as well as volunteer work (Voydanoff, 2005a) were positively related with nonwork-to-work positive spillover. Interestingly, Siu et al. (2010) found that the effect of family support on nonwork-to-work positive spillover occurred through work engagement. That is, employees who received more support from their families were more engaged at work, presumably because they used this support to be more inclined at work, and therefore, experienced more nonwork-to-work positive spillover.

Other studies found evidence for the link between nonwork-to-work positive spillover and work wellbeing outcomes, such as affective commitment or work satisfaction (van Steenbergen et al., 2007). Specifically, Wayne et al. (2006) found that emotional, but not instrumental support from the family, increased nonwork-to-work positive spillover, which in turn related to lower turnover intentions, potentially reflecting higher career wellbeing. Furthermore, Voydanoff (2005a) found that individuals with more social nonwork resources (i.e., spending time for volunteer work; having affective connections with friends and neighbors) reported of more nonwork-to-work positive spillover but also more work-to-nonwork positive spillover. Work-to-nonwork positive spillover in turn was related to higher wellbeing at work (i.e., lower job stress), and nonwork-to-work positive spillover in turn was related to higher marital satisfaction and lower marital risk, i.e., the perception that a marriage is in trouble and may end. These findings again are in line with the source attribution perspective and illustrate, that, nonwork resources can not only increase work- or career-related wellbeing, but can also foster wellbeing in the nonwork domain, which seems relevant from a whole-life perspective on career wellbeing.

Taken together, the work-nonwork theoretical models and empirical findings described above provide a promising avenue to perceive career wellbeing from a whole-life perspective to include resources in various life domains, as well as the

processes through which they foster wellbeing in one's career as well as nonwork domains. Moreover, it highlights the important role of nonwork contextual resources (e.g., family support), thereby, broadening the focus from work contextual resources, which dominated career wellbeing research, to include also nonwork resources.

8.9   Future Research

Various directions for future research on career wellbeing can be derived from the theoretical models and empirical findings described above. We would like to highlight three. First, although various work-nonwork theoretical models acknowledge the relevance of resources and positive spillover for wellbeing in various life domains, little research has specifically investigated career outcomes and outcomes that careers researchers typically are interested in, such as career success, career satisfaction, or career resilience. One career concept that would be particularly promising to be investigated from a resource spillover perspective and a whole-life career wellbeing perspective is the sustainable career concept. In fact, a sustainable career can be defined as a sequence of career experiences in which a person is productive at work (e.g., performance), happy (e.g., career satisfaction) and healthy (e.g., physical and mental health) (Vos, van der Heijden, & Akkermans, 2018). Similarly, Newman (2011) defined a sustainable career as incorporating renewability (e.g., times when employees pause briefly to reinvigorate themselves), flexibility (e.g., continuous learning in response to change and/or in anticipation of change), and integrity (e.g., consistency between values and actions). These definitions suggest that a sustainable career should be closely related to career wellbeing as well as wellbeing in other life domains. Specifically, the health component of a sustainable career (cf., Vos et al., 2018) already points to the relevance of a sustainable career for a broader range of life roles than only work, as health is generally understood as a domain-unspecific aspect of wellbeing (e.g., Amstad et al., 2011). Furthermore, resources are important to assure sustainability and thus wellbeing. In fact, career sustainability can be comprised as a process of preservation, as well as generation of resources across one's life span (Vos et al., 2018). Despite this fact, past sustainable careers research has mostly focused on the career-related implications of a sustainable career (e.g., employability, career success). Going a step further, sustainable career models could well be extended to the inclusion of nonwork resources and how they can be transferred to the work domain to foster career sustainability. Furthermore, future research on outcomes of sustainable careers could systematically include outcomes in various life domains, i.e., career-related outcomes (e.g., career success) and nonwork-related outcomes (e.g., family satisfaction).

Second, career researchers generally acknowledge the fact that people take an active role in their resource and career management, that is, that they actively invest, create or preserve career resources (e.g., Hall, 2004) and thereby actively

foster their career wellbeing. At the same time, many work-nonwork researchers focus in their models more on the underlying processes through which resources in one domain relate to wellbeing in the other domain (e.g., through work-nonwork positive spillover), without specifying the strategies that people may apply to shape these processes actively. A notable exception is the action-regulation model to achieve work-family balance from Hirschi et al. (2019) that highlights four action strategies to foster work-family balance by jointly attaining work and family goals. The model also highlights the conditions under which each strategy is used, and under which condition a change in strategy might be beneficial and thus likely to occur. Another notable exception is a study by Direnzo, Greenhaus, and Weer (2015) who investigated how a protean career orientation, that is, an agentic attitude toward one's career, in which the person aspires to be self-directed in his or her career choices and guided by intrinsic values (Hall, 2004), related to work-family balance. They found that a protean career orientation related positively to work-family balance two-and-a-half years later through the fact that individuals with a more protean career orientation created more career resources, which then were used to increase work-family balance, at least for individuals who took a whole-life perspective on their careers. That is, individuals who seek effectiveness and satisfaction in multiple life roles and make career decisions with an awareness of their impact on other aspects of their life. However, more such research is needed that considers the active role that individuals take (e.g., through career self-management behaviors) to foster their career and nonwork resources and ultimately their career wellbeing and wellbeing in other life domains.

Finally, an important point to understand career wellbeing from a whole-life perspective seems to be a longitudinal framing. In fact, also resources have a future-oriented component, which can take many forms, ranging from the amount of time over which they are lost or gained (e.g., acute or chronic resources) to the length of recovery periods necessary to regain resources (cf. Hobfoll et al., 2018). In fact, although we often think about resources as something finite, they may also be replenished over time if they are appropriately used (Hobfoll et al., 2018). Accordingly, the benefits of a sustainable resource management for career wellbeing from a whole-life perspective likely becomes evident in the long run, a notion that is supported by existing longitudinal studies. For example, Lu (2011) found that family resources (i.e., family support), family-to-work positive spillover and family satisfaction were mutually related to one another over time among Taiwanese employees. More such longitudinal studies would be needed that, for example by applying diary methods, investigate how work and nonwork resources conjointly relate to career wellbeing and wellbeing in other life domains over shorter and longer time spans. For example, whereas in the short run, certain resource depleting behaviors (e.g., workaholism) can be compensated without negative effects on wellbeing, this may become difficult in the long run, ultimately provoking negative effects on wellbeing (e.g. decreased family or marital satisfaction). Moreover, longitudinal research could provide insights into how resource spirals (gains and losses) affect career wellbeing from a whole-life perspective. For example, how career resources (e.g., autonomy) increase family resources (e.g.,

family support), and their conjoint positive effect on career and nonwork wellbeing outcomes. In line with this reasoning, Hakanen, Peeters, and Perhoniemi (2011) found reciprocal impacts (i.e., gain spirals) between domain specific resources (job, home resources) and domain-specific wellbeing (work engagement, marital satisfaction) among Finnish dentists.

8.10   Work-Nonwork Crossover Research

Crossover was originally defined as the interpersonal process that occurs when the job stress or psychological strain experienced by one person affects the level of strain of a key other person (Bolger, DeLongis, Kessler, & Wethington, 1989). That is, while spillover is an *intraindividual* transmission, crossover is a *interindividual* or dyadic transmission of stressors or strains among key others (Westman, 2001), and often across work and nonwork roles. More recently and in line with the growing body of positive psychology (e.g., Seligman & Csikszentmihalyi, 2000), researchers begun also to investigate positive crossover, that is, crossover of resources and positive experiences across key others and life domains (cf. Steiner & Krings, 2016, for a review).

Westman and Vinokur (1998) proposed two main mechanisms through which crossover can occur. First, crossover can be direct, that is, occurring through emotional contagion. Specifically, because typically key others, such as spouses, identify and care for each other, they tend to automatically mimic and synchronize each other's facial expressions, vocalizations, postures and movements, and consequently to converge emotionally (Hatfield, Cacioppo, & Rapson, 1994). For instance, if the wife comes home from work tense, she is likely to trigger an empathetic reaction in her husband, thereby "infecting" him with strain. Second, crossover can be indirect, occurring through social interactions. For example, if the wife comes home in a good mood because she experienced something positive at work, she is likely to interact with her husband in a positive manner, thereby increasing her husband's wellbeing (Steiner & Krings, 2016).

Crossover research initially was a niche research topic within the broader work-nonwork research field; now, it receives growing interest, also beyond work-family research (cf. for example Hobfoll et al., 2018). Nevertheless, careers researchers have so far only rarely payed attention to potential crossover effects in their empirical research and theoretical models on career wellbeing. In what comes next, we elaborate on the relevance of crossover research on career wellbeing from a whole-life perspective. We therefore specifically focus on positive work-nonwork crossover effects on wellbeing in various life domains. Unless otherwise indicated, we do not systematically include research on negative work-nonwork crossover because transferring resources or positive experiences seem particularly prone to understand positive states such as wellbeing (for a literature review including also negative crossover effects on various aspects of wellbeing, see Steiner & Krings, 2016).

8.11 Relevance of Crossover for Career Wellbeing from a Whole-Life Perspective

Similar as for spillover, also crossover can occur in two directions. First, an employee's work- or career-related resources and positive experiences can cross over to the home domain and increase the spouses' wellbeing (work-to-nonwork positive crossover). For example, if an individual is in a positive work-related mood due to something positive that happened at work (e.g., positive feedback from the supervisor), once at home, he or she is likely to infect the spouse with positive mood, thereby increasing the spouses' wellbeing. Second, the spouse's resources or positive experiences in the home domain can cross over to the individual and increase the individual's work- or career-related wellbeing (nonwork-to-work positive crossover). For example, if the spouse experienced something positive in the nonwork domain (e.g., positive interactions with children; positive mood created through a leisure activity), he or she is likely to interact with the spouse in a positive manner, which then can increase wellbeing in the work domain, for example, through nonwork-to-work positive spillover. In fact, the spillover-crossover model highlights that marital interactions and work-family spillover can operate in a sequential fashion in the crossover process, that is, positive marital interactions foster nonwork-to-work enrichment, which then increases work- and career-related wellbeing (Bakker et al., 2008; Bakker, Demerouti, & Burke, 2009). Both directions of crossover (i.e., work-to-nonwork; nonwork-to-work) seem relevant for career wellbeing from a whole-life perspective, which we would like to elaborate in more detail in what comes next.

8.12 Empirical Evidence for Positive Work-to-Nonwork Crossover

Past research supports positive work-to-nonwork crossover, illustrating that an employee's work-related resources and positive experiences at work cross over and influence the spouse's wellbeing positively. Specifically, research highlights that one key factor that fosters positive work-to-nonwork crossover is social support at work from supervisors or colleagues (Demerouti, 2012; Ferguson, Carlson, & Kacmar, 2015; Ferguson, Carlson, Zivnuska, & Whitten, 2012; Ho, Chen, Cheung, Liu, & Worthington, 2013; Muurlink, Peetz, & Murray, 2014; Pedersen & Minnotte, 2012; Yang, Zhang, Kwan, & Chen, 2018). For example, Yang et al. (2018) found crossover effects of employee perceptions of servant leadership and job social support on spouse's family satisfaction and quality of family life. These effects were explained through higher employee organization-based self-esteem (i.e., the employee's self-perceived value as a member of the organization). Also the study by Demerouti (2012) demonstrates the importance of perceived support at work for positive crossover on spouse wellbeing but it also points to additional

factors that have similar effects, namely autonomy and feedback (see also Costigan, Cox, & Cauce, 2003). Furthermore, research illustrates that work resources can also increase the spouse's wellbeing related to the work-nonwork interface, such as work-nonwork positive and negative spillover (Ferguson et al., 2012; Ho et al., 2013; Schooreel & Verbruggen, 2016). For example, Ho et al. (2013) showed that husbands' perceived social support at work increased work-family positive spillover reported by their wives. Similarly, Schooreel and Verbruggen (2016) found that employees' use of schedule or workplace flexibility arrangements decreased spouses' work-family negative spillover through spouses' fewer working hours and increased support received by family members and friends (cf. also Steiner & Krings, 2016).

Past research also found evidence for both direct (i.e., through emotional contagion) and indirect (i.e., through marital interactions) positive crossover effects from work to nonwork. First, supporting direct crossover effects, Sanz-Vergel and Rodríguez-Muñoz (2013) found in a diary study across five consecutive work days that employees' work resources (i.e., work enjoyment) crossed over to the spouses' wellbeing, through employees' wellbeing. That is, on days where individuals experienced their work as more enjoying, they reported of higher wellbeing, which then crossed over to the spouse, thereby increasing the spouse's wellbeing, presumably through emotional contagion. Similarly, Demerouti (2012) found that employees' work resources, that is, support, autonomy, and feedback, were positively related to spouses' energy levels, through increased energy levels of the employees.

Second, other studies indicate that positive work-to-nonwork crossover can occur indirectly through marital interactions. For example, Liu, Ngo, and Cheung (2016) found that individuals' positive work-nonwork experiences, (i.e., work-family positive spillover) increased spouses' marital satisfaction; for wives through perceptions of increased marital support and for husbands through perceptions of decreased marital undermining. Similarly, van Steenbergen, Kluwer, and Karney (2014) found that husbands' work-family enrichment increased their wives' marital satisfaction, through the fact that wives perceived more positivity in their husbands' behavior.

A recent literature review on crossover at the work-family interface (Steiner & Krings, 2016) highlights that, with few exceptions, studies investigating work-family positive spillover consistently found that employees' resources or positive experiences at work were related to increased wellbeing of the spouses, indicating that work-to-nonwork positive spillover is a frequent phenomenon. Some of these studies even included both, measures of positive and of negative crossover, and found positive crossover effects beyond negative crossover effects, indicating that positive crossover is a robust phenomenon.

Taken together, this research illustrates that crossover effects from an individual's job or career resources to the spouse's wellbeing are frequent and strong. Combined with the fact that individuals tend to consider key others and their wellbeing when making career decisions or when reflecting about their career wellbeing, we suggest that career researchers could benefit from taking into account

into their models and empirical studies the tight interrelatedness between employees' career wellbeing and their spouses' wellbeing. As such, they could for example be extended to include also crossover effects of an individuals' career resources and wellbeing on the wellbeing of key others, such as family members.

8.13 Empirical Evidence for Positive Nonwork-to-Work Crossover

Considerable less research on work-to-nonwork crossover exists, and especially research on positive crossover from nonwork to work, that is, how the spouse's resources or positive experiences in the nonwork domain affect the employee's career wellbeing is rare or even non-existing (Steiner & Krings, 2016). However, the existing research on negative crossover illustrates that crossover from nonwork to work can occur, thereby illustrating that the spouse's stressors or strains in the nonwork domain can negatively impact the employee's work- or career-related wellbeing. For example, in line with direct crossover from nonwork to work, occurring through emotional contagion, Amstad and Semmer (2011) found that wives' negative family-related emotions (i.e., family-related feelings of resentment) were positively related to husband's work-related negative emotions (i.e., work-related feelings of resentment). Furthermore, supporting indirect nonwork-to-work crossover occurring through marital interactions, Green, Bull Schaefer, MacDermid, and Weiss (2011) found among University faculty members and their spouses that if spouses responded with negative emotional displays when discussing the faculty members' work, this negative spouse behavior in turn was related to less career resilience and more turnover explorations by the faculty member.

Taken together, this preliminary research suggests that key others in the nonwork domain determine, at least partly, an individual's career wellbeing. Thus, from a whole-life perspective, career wellbeing models and empirical research could benefit from considering also crossover effects of key other's wellbeing on employees' career wellbeing, as well as the underlying processes.

8.14 Future Research

Several avenues for future research on career wellbeing from a whole-life perspective can be derived from crossover research. First, past crossover research has mostly focused on work-related resources (e.g., job autonomy) and work-related wellbeing (e.g., job satisfaction), and has less systematically incorporated career-related resources (e.g., career networks; career resilience) and career-related wellbeing (e.g., career satisfaction; career commitment) (for an exception, see Green

et al., 2011). Yet, having a job and a career can be considered as two different things. Thus, more research is needed that more specifically investigate crossover effects of an individual's career related resources on the spouse's wellbeing in the nonwork domain, and conversely, crossover effects of the spouse's nonwork resources on the individual's career wellbeing. Especially, research on the latter, i.e., crossover effects from spouse's nonwork resources on the individual's career wellbeing is nearly inexistent, and thus, more research in this area would be needed. For example, investigating, how the spouse's nonwork resources (e.g., domestic help; positive parent-child interactions) relate to the employee's career wellbeing (e.g., career satisfaction; career commitment), as well as the underlying processes.

Second, more research is needed on existing boundary conditions of crossover effects with respect to career wellbeing. Specifically, how much the spouse's wellbeing is affected by the employee's career resources (work-to-nonwork crossover), or conversely, how much an employee's career wellbeing is affected by key other's nonwork resources (nonwork-to-work crossover), is likely to depend on aspects of the work context (e.g., flexibility of work boundaries), or aspects of the couple relationship (e.g., intimacy). For example, the self-expansion model (Aron & Aron, 1996) according to which individuals increase their competence and efficacy estimations through inclusion of the spouse into their self-concept (e.g., considering the spouse's success also as their own success) suggests that work-nonwork crossover is more likely to occur among spouses that are more motivated to self-expand through their spouses experiences. For example, the boost in wellbeing that a spouse receives after a promotion of the employee, may at least partly depend on how much the spouse includes the employee into the self.

Lastly, crossover research has almost exclusively investigated crossover between spouses (for a literature review including also crossover between colleagues, see Bakker, Westman, & van Hetty Emmerik, 2009). Yet although a spouse is one of the most important key others for many individuals, individuals are likely to consider also the wellbeing of other family members, such as the wellbeing of their children or their parents, when planning and reflecting about their careers and their career wellbeing. For example, from a whole-life perspective, individual career satisfaction, as an important element of career wellbeing, is likely to be at least partly also determined by how children's wellbeing is affected by the career. Moreover, while crossover between spouses often occurs through marital interactions (see Steiner & Krings, 2016), further mechanisms may play a role in work-nonwork crossover between parents and children. For example, parents tend to feel guilt resulting from negative work-to-nonwork spillover (i.e., work-family conflicts, Cho & Allen, 2012). Similarly, feelings of guilt (or pride) may act as mediator in the work-to-nonwork and nonwork-to-work crossover process. For example, children's negative emotional states (e.g., depressive symptoms) or behavioral problems (e.g., externalizing behaviors) may decrease parents' career satisfaction through source attribution, that is, through the fact that they feel guilty because they were prioritizing their careers and were not always as available for their children as they would have wished to.

8.15 Discussion and Practical Implications

The theoretical and empirical evidence discussed in this chapter has various important practical implications. A first practical implication can be derived from work-nonwork positive spillover research indicating that work and nonwork resources are transferable across work and family roles, through work-nonwork positive spillover, and can foster wellbeing in both domains. Specifically, for manager and HR practitioners, this could implicate that they should be aware that their employees' career wellbeing is not only influenced by their immediate career conditions and resources (e.g., training opportunities; financial incentives), but that through the process of nonwork-to-work positive spillover, also nonwork resources (e.g., satisfying hobby; spouse support) can foster career wellbeing. Furthermore, at least larger organisations may consider installing a counseling center providing assistance to employees with questions concerning various issues related to their work or personal life (Steiner & Krings, 2016). In case that such proactive approaches cannot be installed for any reasons, organisations and supervisors should at least not hinder employees to develop resources outside the work domain (e.g., through flexible time schedules and not too long working hours over extended time spans). In addition, a nonwork friendly organisational climate might positively affect the development of resources in the nonwork domain.

Moreover, managers and HR practitioners could support their employees to systematically develop various career resources (i.e., knowledge and competencies; motivations; networks; behaviors; cf. Hirschi, Nagy, Baumeler, Johnston, & Spurk, 2018), which could foster their employees' career wellbeing directly through their positive effects on their career progress, but also more indirectly through work-nonwork spillover and crossover processes. In addition, the employee might also get sensitized that time at work, and occasionally long hours at work (combined with positive experiences) and the associated development of career resources might be beneficial for family or leisure activities, which in the end again fosters career wellbeing.

Furthermore, based on crossover research, managers and HR practitioners could also be aware that supporting their employees in building career resources (e.g., clarifying career goals) can initiate a process of work-nonwork positive crossover, which can be also beneficial for the employees' family members in the home domain. This positive crossover effect may eventually also result in a positive overall image of the organization (Bakker, Shimazu, Demerouti, Shimada, & Kawakami, 2011). Furthermore, because employees' care about the effects of their careers on key others, this positive crossover effect may ultimately again have beneficial effects on the employees' career wellbeing.

Finally, yet importantly, the theoretical and empirical evidence discussed in this chapter can have implications for practitioners from other disciplines, like clinical psychologists. For example, family counseling centers or (couple) therapists should be aware that an individuals' wellbeing does not only originate within the nonwork domain, but is also influenced by experiences at work, and thus, that capitalising

beside nonwork resources (e.g., spouse support) on work- or career-related resources (e.g., supervisor support) is one way to foster positive wellbeing outcomes.

8.16 Conclusion

The focus of this chapter has been on career wellbeing from a whole-life perspective. More precisely, we discussed the relevance of concepts and theoretical models from work-nonwork research (i.e., work-nonwork positive spillover; work-nonwork crossover) for career wellbeing from a whole-life perspective. Moreover, we summarized recent empirical research on these concepts and discussed their implications for career wellbeing from a whole-life perspective. The summary of research on work-nonwork positive spillover suggests that work and nonwork resources are transferable across domains, and thus, beside work and career resources, resources from the nonwork domain could also be considered in theorizing about and conceptualizations of career wellbeing. The summary of research on work-nonwork crossover suggests that career wellbeing theories and conceptualizations could be enlarged to include also the close intertwinedness between an individual's career wellbeing and the wellbeing of key others in the nonwork domain. Based on the empirical evidence discussed in this chapter, we developed avenues for future research as well as suggestions for practitioners (e.g., HR managers, supervisors) on how career wellbeing from a whole-life perspective could be fostered among employees. In conclusion, we are confident that this chapter provides new insights into career wellbeing from a whole-life perspective for researchers as well as practitioners and hope that this chapter is informative for the development of new career wellbeing theories and conceptualizations that reflect the close intertwinedness between pursuing a career and nonwork domains, which is the reality for many people.

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Rebekka S. Steiner Ph.D. is a post-doctoral researcher at the Department of Work and Organizational Psychology at the University of Bern, Switzerland. Her main research interests concern career development at early career stages and career development from a whole-life perspective.

Daniel Spurk Ph.D. is associate professor at the Department of Work and Organizational Psychology at the University of Bern Switzerland. His main research interests concern individual and organizational career management, career success, including opportunities and risks within career development, as well as subjects concerning individual differences at work.

Chapter 9
Career Concerns, Career Satisfaction and Career Wellbeing as Contemporary Human Resources Management Issues: Theoretical Perspective

John Kolawole Aderibigbe and Tendai Chimucheka

Abstract Since the contemporary world of work is departmentalised for efficient and effective functioning, individuals with certain similar competencies and skills are deliberately grouped in units and divisions. Consequently, the terms specialisation and professionalism have emerged, which in turn have given birth to various career-related concepts. Career concerns, career satisfaction and career wellbeing are notable career-related concepts presently attracting the attention of scholars and practitioners, especially in the fields of industrial/organisational psychology and business management. The career concepts of concerns, satisfaction and wellbeing are regarded as important because of their dynamic nature and significant impact on individual employees, employers, corporate organisations, and the national economy. Although career concerns, career satisfaction and career wellbeing are interrelated and generic across the sectorial divisions, variations are often experienced, probably because of individual differences and the nature of the three concepts. The objective of this chapter is to explore the relationship between career concerns, career satisfaction and career wellbeing.

Keywords Career concerns · Career satisfaction · Career wellbeing · Employee · Organisation

9.1 Introduction

Career plays an integral role in the life of most people (Leutner & Chamorro-Premuzic, 2018). In the 21st Century, a person rarely introduces themself to others as an entry level employee, middle or management level, without referring to their profession. Even if an individual is self-employed, they are probably identified by a chosen line of entrepreneurial activities. This status makes them useful and resourceful to self, clients,

J. K. Aderibigbe · T. Chimucheka (✉)
University of Fort Hare, Alice, South Africa
e-mail: tchimucheka@ufh.ac.za

colleagues and doubtlessly to the immediate community where the vocation is being practised. Among the common aspirations of human beings, is the desire to become a 'force to reckon with'. To this effect, a very instrumental means of making oneself recognisable and relevant is by earnestly pursuing a career that accommodates, unravels and promotes one's endowed potentials with a convincing intent of making psychological, social and economic gains (Chamorro-Premuzic, 2017). Based on the abovementioned information, the phenomenon of career is given a scholarly consideration in this chapter. Specifically, the chapter focuses on career concerns, career satisfaction and career wellbeing.

9.2   Chapter Objective

The objective of this chapter is to explore the relationship between career concerns, career satisfaction and career wellbeing.

9.3   Differences Among Career Concerns, Career Satisfaction and Career Wellbeing

Although the phenomena career concerns, career satisfaction and career wellbeing are interrelated or interconnected, they differ in conceptualisation, application and operationalisation, especially in the fields of human resources management and industrial/organisational psychology (Dries & Coetzee, 2010). Career concerns are defined as the usual kinds of worries and anxieties commonly experienced by new entrants into vocational paths (Bal, Arikan, & Çalişkan, 2016). In other words, career concerns are the immediate psychological consequences frequently faced by fresh graduate employees, who by virtue of only the theoretical knowledge obtained at the tertiary institutions, have developed interests in, and chosen to venture into life-long vocations, without possessing the human capital prerequisites for success. For instance, it is a common occurrence for fresh graduate employees to experience some confusion regarding which career path to follow amidst the numerous available options (Smail, 2017).

According to Lim and Teo (1999), the following are some of the shared career worries associated with new entrant employees:

- fear of not getting far in the career
- fear of their potential being unravelled
- fear of not achieving the set career goals
- fear of being trapped in the present job
- fear of knowledge becoming obsolete
- unclear career prospects
- fear of being undervalued by their employer

- inadequate training and development
- inadequate pay relative to the amount of work expected to complete.

Daniels, Stewart, Stupnisky, Perry, and Verso (2011) referred to Lim and Teo's (1999) list of career worries, and coined the term Early Career Anxiety Syndrome. Continuous experience of Early Career Anxiety Syndrome, without prompt managerial interventions, may result in the human resources psychological condition called career stress, which may have a concomitant negative effect on career satisfaction and career wellbeing (Daniels et al., 2011).

Career satisfaction on the other hand, is an essential human resources management concept that has recently attracted the attention of scholars and practitioners (Alva & Lobo, 2016; Essary et al., 2018). It is important to note at this point that career satisfaction is different from job satisfaction in the same way that the term career differs from job (Davis, 2015; Lounsbury, Moffitt, Gibson, Drost, & Stevens, 2007). Career satisfaction is defined as a psychological concept that explains an individual's expression of joy, happiness and contentment with their chosen line of specialisation within the broad scope of a profession being practised (Spurk, Abele, & Volmer, 2014). However, job satisfaction is referred to as a psychological concept that describes the career individual's expression of joy, happiness and contentment with their chosen occupation (Mitonga-Monga, Flotman, & Cilliers, 2018). A person's career is therefore located in a given job, and it is personal while job is generic.

In regard to a medical job, there are different careers, and each has a path that a new entrant can follow, from the entry level to the topmost level (Halcomb, Smyth, & Mclnnes, 2018; Sarna & Strawn, 2017; Tsoi, Teitge, Madan, & Francescutti, 2016). It is easier for a career person to change their job than it is to change the career they practise. Similarly, a career person can change their employer, but may not be comfortable changing the chosen area of expertise. A practical example is the case of 'Professor Jonas' who decided to resign his academic employment with 'the Purviews University', where he was saddled with the duties of teaching, assessment, and research, and accepted the offer of Director of Research in a research institute. This example illustrates that Professor Jonas was able to retain his career as academician by changing his job to focus mainly on research, rather than combining the tripartite duties of teaching, assessment and research as in his previous employment. Similarly, in the banking industry, you could have a diverse set of career persons such as legal officers, auditors, fund transfer officers, marketers, information technologists, stock brokers etc. in the same organisation (Giragama & Sooriyabandara, 2017; Mehta, 2016).

Career wellbeing is a very essential part of the complete concept of wellbeing. Wellbeing is broad in scope. It covers the following important areas of an individual's life: social, community, physical, financial, career and mental wellbeing (Rath & Harter, 2010). The different aspects of wellbeing combined are referred to as psychosocial wellbeing (Evarist, 2018). The focus of this chapter is on the career aspect of wellbeing, because it is arguably the most essential of the six aspects of wellbeing, such that if it is not well addressed in an individual's life, the person will

struggle to become stable in all other aspects mentioned. Further, career wellbeing can be defined as an important aspect of individuals' lives that keeps them regularly engaged in sustainable livelihood activities, which promote their social, financial, physical, community, and mental wellbeing (Cotton & Hart, 2003).

For instance, we all need something to do, and ideally something to look forward to, when we wake up every day. It helps to develop and maintain our cognitive processes, and keeps us mentally sound. In other words, what you spend your time doing each day shapes your identity, whether you are a student, parent, volunteer, retiree, or have a more conventional job (Rath & Harter, 2010).

9.4   Conceptual Description and Definition of Variables

9.4.1   Career

Super and Bachrach (1957) conceptualised career as "the sequence of occupations, jobs, and positions, which a person has been engaged throughout his or her working life. The structured sequence of events in the life of a person as he progresses in a job or as he changes from one job to another in the occupation structure" (p. 131). Moreover, career is considered as a series of positions occupied by a person as a means of preparing to earn or withdraw from the earnings of a livelihood (Super & Bohn, 1970). "Viewed sociologically, career is a series of roles played by a person, in which the nature of each role played, the way in which it is played, and the situation in which it is played has some bearing on the nature of the next role in the series. Viewed psychologically, a career is also a series of roles played by a person, the choice of and success in which are determined in part by the aptitudes, interests, values, needs, prior experiences, and expectations of the person in question" (p. 113).

9.4.2   Career Concerns

Employee career concerns imply the mental evaluation of self and the corporate reaction to and addressing of employees' surfacing career development needs, prospects and ambitions in relation to dynamic situations at the place of work (Potgieter, Coetzee, & Ferreira, 2018). Career concerns as a variable is interchangeably used with the concept of psychosocial career preoccupation. The term psychosocial career preoccupation describes a mental state of individuals' experiencing certain concerns about their career developmental tasks in their mind at a particular time (Coetzee, 2016). Currently, the common concern of some employees is the possibility of progressing through their chosen career ladders, particularly if the prospects of advancing their vocations are not certain or non-existence (Nawaz & Pangil's, 2016).

The concept of career concerns comprises certain issues connected to work and psychological health, wellbeing, scholarly achievement, social, and family systems. From the perspective of counselling psychology, professional counsellors encounter career concerns in their practice, because career is one of the eminent elements in the structure of clients' lives (Hutchison, 2015). It is also described as employee worries concerning their new job disappointment, apprehension concerning the present official duties and pressure of preparation for an upcoming corporate assignment (Yousefi, Abedi, Baghban, Eatemadi, & Abedi, 2011). Although career concerns may shape career success in some cases, this is not the case with all employees (Yousefi et al., 2011). Thus, scholars summarised career concerns as current fear about handling that which an employee views to be essential to their career growth (Yousefi et al., 2011). To adolescents, career and grade matters are basic worries, while the general population's concerns originate from primary factors of career, health, personal and social (Code, 2004).

9.4.3 Career Satisfaction

Career satisfaction has been defined in relation to employee practice and work (Domagała, Peña-Sánchez, & Dubas-Jakóbczyk, 2018). Career satisfaction can be understood as the satisfaction with different dimensions related to one's chosen career. Thus, career satisfaction is a multidimensional concept associated with environmental factors such as working conditions, task variety, workload, and career prospects (Domagała, Peña-Sánchez, & Dubas-Jakóbczyk, 2018).

Furthermore, career satisfaction is an essential concept. It embodies the general way an individual perceives the lifetime of work, which is projected to be around 100,000 h, and includes all the various activities and experiences that comprise a career (Lounsbury, Moffitt, Gibson, Drost, & Stevens, 2007). Thus, career satisfaction is mainly a matter of employees comparing their career prospects with others in a similar career. More precisely, career satisfaction is defined as an individual's satisfaction with both the internal and external features of their career (Hsu & Tsai, 2014). It is a subjective feeling, which individuals experience when appraising career growth and achievement without appropriate and objective measurement. Further, career satisfaction signifies an association with the procedure of work, because broad career satisfaction is a vital element for career success.

In the same vein, Yap, Cukier, Holmes, and Hanna (2010) defined career satisfaction as a subjective measure, which involves an employee's perception of their gratification with the overall set of career goals such as income, progression, development of innovative and relevant skills. Career satisfaction is a perceptual measure as it does not only incorporate a person's self-referent description of career accomplishment, but it also has consequences for human resources managers (Yap, Holmes, Hanna, & Cukier, 2013). Consequences of career dissatisfaction can also take the form of negative psychological reactions like employees' disengagement

and intention to leave, to the extent that dissatisfied employees will be less involved in their work, and perhaps frequently exhibit a high tendency to change employers (Yap, Holmes, Hanna, & Cukier, 2013).

9.4.4 Career Wellbeing

Career wellbeing is described as the level of satisfaction, which employees have with their careers over time (Bester, 2018). Career wellbeing has its root in subjective wellbeing, and it is used to explain employees' subjective affects in connection with their career experiences (Bester, 2018). Rath and Harter (2010) introduced their report on career wellbeing with the following question, "Do you like what you do each day?" Rath and Harter (2010) continued, "This might be the most basic, yet important, wellbeing question we can ask ourselves. Yet only 20% of people give a strong "yes" in response. At a fundamental level, you need something to do, and ideally something to look forward to, when you wake up every day. What you spend your time doing each day shapes your identity, whether you are a student, parent, volunteer, retiree, or have a more conventional job" (p. 15).

Rath and Harter (2010) postulated that individuals typically undervalue the effect of career wellbeing on their general wellbeing, "If you don't have the opportunity to regularly do something you enjoy … the odds of your having high wellbeing in other areas diminishes rapidly. People with high career Wellbeing are more than twice as likely to be thriving in their lives overall" (p. 16). Highlighted below with their corresponding questions, are the five components of wellbeing described by Rath and Harter (2010):

1. Social wellbeing: Do I have strong relationships and love in my life?
2. Physical wellbeing: Do I have the health and energy to do what I want to do each day?
3. Career wellbeing: Do I like what I do each day?
4. Financial wellbeing: Am I effective in managing my economic life?
5. Community wellbeing: Am I engaged with my community, the area I live in?

Career wellbeing is presumed to be a continuous assessment of a person's career experiences over a certain period, and shows the level of fulfilment the person experiences in their career (Kidd, 2008). When employees are displeased with areas of their career wellbeing, they may consequently exhibit proactive and adaptive behaviour to them correct the aspects of displeasure. Career wellbeing is different from work wellbeing, because of the time component involved (Kidd, 2008). In other words, career wellbeing emphasises an individual's wellbeing over time while work wellbeing focuses on an individual's wellbeing at a specific point in time (Bester, 2018).

9.5 Significance of 21st Century Career Concepts—Concerns, Satisfaction and Wellbing

The three career concepts of focus in this chapter (career concerns, career satisfaction and career wellbeing) have recently been given scholarly attention in industrial/organisational psychology, perhaps because the 21st century technological and economic developments in the world of work have created turbulence in the ways in which careers in organisations are exhausted (Arnold, 2011). In the last decade, most issues of investigation in industries and organisations have revolved around career concerns, career satisfaction and career wellbeing (Bester, 2018; Potgieter, Coetzee & Ferreira, 2018; Yap, Holmes, Hanna, & Cukier, 2013).

Career concerns, career satisfaction and career wellbeing have influenced research in industrial/organisational psychology in at least one way, and shaped human resources management practices. Many investigators have considered career wellbeing, career concerns and career satisfaction as determinants of organisational commitment, employee performance, productivity and turnover intention (Bester, 2018; Baek-Kyoo & Sunyoung, 2010; Nawaz & Pangil, 2016). The outcomes of, and recommendations from such scientific investigations have enhanced effectiveness in management and practices of human resources.

9.6 Theoretical Explanation of Career Concerns, Satisfaction and Wellbeing

A comprehensive theoretical explanation of the relationship between career concerns, career satisfaction and career wellbeing is presented in this section, using Abraham Maslow's hierarchy of needs theory (1943, 1954), Holland's (1985, 1997) person-vocation fit theory, and Lent, Brown and Hackett's (2002) social cognitive career theory.

9.6.1 Abraham Maslow's Hierarchy of Needs Theory

Abraham Maslow, the renowned professor of psychology proposed his hierarchy of needs theory in his 1943 article titled "A theory of Human Motivation" (Huitt, 2007). The theory of need was developed to explain how human beings fulfil innate needs as a priority, culminating in self-actualisation.

The hierarchy of human needs, according to Maslow (1943), is in the form of a pyramid with the most important needs at the lowest end, and higher order needs at the top. This arrangement of needs indicates that persons' most elementary needs must be met before they develop the interest to reach advanced level needs. Figure. 9.1 below illustrates this hierarchy of needs in a pyramid format.

Fig. 9.1 Pyramid of
Maslow's hierarchy of needs.
Source McLeod (2018)
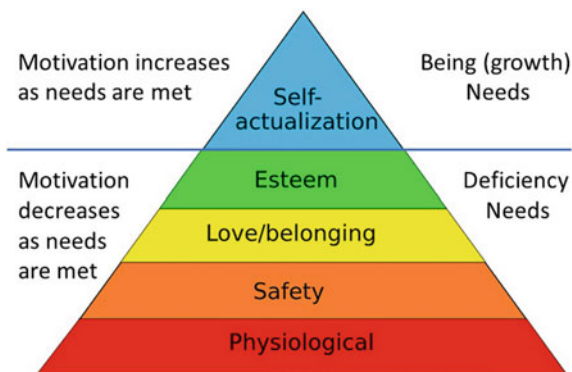
As illustrated in Fig. 9.1, the pyramid has five layers, with the four basic layers
of comprising the d-needs (deficiency needs) according to Maslow, while the
topmost level being the b-needs (being needs) (McLeod, 2018). The d-needs
include esteem, belongingness and love, safety, and physiological needs. The
b-needs on the other hand involve the desire for self-actualisation (McLeod, 2018).
Maslow assumed that if the d-needs are unmet (physiological need excluded), there
might not be any physical signs but the person will feel concerned and anxious.
Hence, Maslow submitted that the fundamental level of needs must be settled
before a person will intensely desire the secondary level needs.

Maslow (1943) believed that individuals are inspired to meet their needs and that
certain needs take priority over others. Humans' most fundamental need is for
physical survival and this is the first factor that determines human behaviour (Alio,
2017). Once the physical survival level of needs is satisfied, the next level up is
what motivates human beings. The progression continues orderly until it reaches
the b-needs (McLeod, 2018).

Examples of physiological needs are water, shelter, air, sleep, food, clothing,
sex, warmth, and reproduction (Maslow, 1987). That of safety needs include
freedom from fear, protection from elements, stability, security, and law. Examples
of love and belongingness needs are the need for interpersonal relationships, family
group, peer group and friendship group, while that of esteem needs include esteem
for oneself (dignity, achievement, mastery, independence), and the desire for rep-
utation or respect from others (e.g. status, prestige) (Maslow, 1987).
Self-actualisation needs, on the other hand, include realising personal potential,
self-fulfilment, seeking personal growth and peak experiences—a desire "to
become everything one is capable of becoming" (Maslow, 1987, p. 64). The above
presented hierarchy of needs theory, its assumptions and principles are applicable to
the explanation of the phenomena of career concerns, career satisfaction and career
wellbeing.

In reference to the assumptions of Maslow's hierarchy of needs theory, a career
person may experience dissatisfaction with their vocation if they encounter certain
unresolved problems that frustrate the efforts of achieving the d-needs. A career

person who finds themself in the 'frustration-stagnation' situation, as explained in the preceding paragraphs, would nurture anxieties and worries over what lies ahead in the future in the chosen career (McLeod, 2018). Since the identified barriers to movement towards fulfilling b-needs remain, and the affected person can no longer grow in the career ladder, the associated experiences of career concerns and career dissatisfaction will therefore occur (McLeod, 2018). Consequently, the individual becomes unhappy about the chosen career.

Should one be in a situation as described above, feelings of despair and hope-lessness about one's profession are inevitable. Career satisfaction and wellbeing are usually experienced by individuals who operate at the self-actualisation level of Maslow's pyramid. The reason is that there are no more aspirations or motivations for vocational growth since the person has attained the peak of their career (Huitt, 2007). The person is fulfilled career wise and then maintains their state of happiness found in the career. Thus, career satisfaction may determine career wellbeing.

9.6.2   Holland's Person-Vocation Fit Theory

The person-vocation fit theory was developed by Holland (1985, 1997) to guide career interest and environment assessment during career counselling and guidance sessions. Holland assumed that career interest is a manifestation of one's person-ality. He therefore categorised career interests into six groups, which are Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Holland suggested that if an individual's level of similarity with the six career personality and interest types is assessed, a three-letter code (e.g. SIA, RIA) may possibly be generated, which can be used to represent and summarise the indi-vidual's vocational interest. According to Holland, the first letter of the code is an individual's most important interest type that would probably play a key part in career choice and satisfaction. The second and third letters are minor interest themes, which would perhaps play a less significant part in the career choice process.

On the other hand, Holland (1985, 1997) further believed that career environ-ments could also be conceptualised into similar groups. While in the process of making a career choice, individuals seek environments that would enable them to apply their competencies and skills, and encourage them to manifest their attitudes and ideals. Any career environment is influenced by the characteristics of the dominant individuals there, and the persons that are different from the dominant kinds will probably feel unfulfilled and dissatisfied. This could be related to career concerns, career satisfaction and career wellbeing.

In application, the concept of "congruence" is used by Holland to refer to the status of person-environment relationships as determinants of career concerns, satisfaction and wellbeing. Thus, a high level of compatibility between an indi-vidual's personality, the interest types and the dominant career environmental types will probably yield career satisfaction and career wellbeing. On the other hand, a

low level of compatibility will probably yield career dissatisfaction and negatively affect career wellbeing (Leung, 2008).

9.6.3   Social Cognitive Career Theory

The social cognitive career theory was propounded by Lent, Brown and Hackett (2002), and anchored in Bandura's theory of self-efficacy (1977, 1997), which assumed an equally impacting association between persons and the environment (Leung, 2008). Social cognitive career theory presents three sectional, yet inter-dependent, procedural models of career growth, which seek to describe the initiation of academic and career interest; the process of making educational and vocational choices; and educational, career performance and stability. The three sectional models have individually emphasised three important variables—personal goals, self-efficacy and outcome expectancies.

Self-efficacy is defined by Lent (2005) as "a dynamic set of beliefs that are linked to particular performance domains and activities" (p. 104). Self-efficacy expectancies impact the development of certain behaviour, and the maintenance of such behaviour in reaction to obstacles and problems. According to Lent, Brown, and Hackett (2002), outcome expectancies are individuals' beliefs concerning the outcomes of exhibiting a particular behaviour. Outcome expectancies comprise beliefs concerning external reward relating to exhibiting the aimed behaviour, self-regulated results, and consequences obtained from performing a task (Leung, 2008).

Generally, it is suggested that a person's outcome expectancies are shaped by learning experiences that form self-efficacy beliefs. While personal goal implies an individual's plan to achieve a certain outcome (Lent, 2005). Through setting of personal goals, people can endure in tasks, and maintain their behaviour longer, even when there is lack of concrete extrinsic rewards.

In Leung's (2008) view, the dynamic interactions between interest, self-efficacy, and outcome expectancies will result in the development of goals and intentions, which serve to maintain behaviour over time, creating the establishment of a steady form of interest in youth. This is applicable to the explanation of career concerns, career satisfaction and career wellbeing. Personal goals, for instance, relate to career prospects, which ideally every career person would set in lieu of commencement of their vocational journey in life. Examples of such goals are "I would like to be a renowned medical doctor", "I would like to be first female professor in my field" or "I want to determine my career ladder". These goals set by individuals are based on the personal judgment of one's ability (self-efficacy) to meet the requirements for attaining the set goals, while the corresponding behaviours toward actualising the goals are sustained by the expected outcomes (outcome expectancies) in the form of rewards for realising the career goals. The reward may therefore be intrinsic (career fulfilment and self-actualisation) or extrinsic (higher socioeconomic status, recognition and increased wealth). However, if the environment presents unsurmountable

barriers to the actualisation of the set career goals, and the career person in question is overwhelmed, the consequential effect could possibly be vocational frustration (career concerns) and dissatisfaction. Hence, the outcome expectation of career wellbeing may be compromised.

9.7 Conclusion and Recommendation

The assumptions of theories presented in the chapter set a rational platform for postulating significant relationships among the three career concepts under review. Similarly, the reviewed literature in the chapter has conceptually demonstrated that there are relationships among career concerns, career satisfaction and career wellbeing. Based on the agreement between the theoretical opinions gathered and the outcomes of literature reviewed, the chapter concludes that there are elements of correlation between career concerns, career satisfaction and career wellbeing. Moreover, it is very important for stakeholders to note that the nature and direction of the assumed relationships between career concerns, career satisfaction and career wellbeing were not empirically investigated in the chapter. This therefore makes the conclusion formed subject to scientific evidence through empirical studies. In view of the above, it is recommended that scholars and practitioners in the fields of human resources management and industrial/organisational psychology should conduct scientific studies in this niche, and elicit findings that will be useful for effective management of human resources.

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Dr. J. K. Aderibigbe is an experienced Industrial/Organisational Psychologist. He has vast teaching and research experience in Human Resource Management. John is currently a Post-doctoral fellow at the University of Fort Hare.

Dr. T. Chimucheka is a Senior Lecturer (Business Management) at the University of Fort Hare. He has research interests in Entrepreneurship, Small Business Management, Human Resources Management and other Business Management areas.

Chapter 10
Enhancing Career Wellbeing: The Role of Workplace Friendship, Career Adaptability and Organisational Commitment

Nadia Ferreira

Abstract This chapter explores the role of self-regulatory career behaviour (workplace friendship, career adaptability and organisational commitment) in the career wellbeing context. Therefore, the objective of this chapter is to make a theoretical contribution by providing an overview of current research on workplace friendship, career adaptability and organisational commitment, and conceptually and empirically clarify its relation to career wellbeing. The current world of work as known for the past century stands on a brink of a technological revolution. The speed of change is accelerating, and will fundamentally adjust the way individuals live, work and relate to each other. It further affects the skills organisations are looking for in their employees as well as the career wellbeing of employees. *Career wellbeing refer to an individual's long-term contentment with their career outcomes, career achievements, career changes and their sustainable employability amidst the complexities of the contemporary work environment.* Industry 4.0 is changing the relationship between employees and machines as well as the relationship between employees and their careers. Based on the theoretical relationships found between these self-regulatory career behaviours and career wellbeing, human resource practitioners and industrial psychologists should utilise interventions and strategies to promote individual self-regulatory career behaviours (workplace friendship, career adaptability and organisational commitment) to enhance career wellbeing of employees.

Keywords Career wellbeing · Industry 4.0 · Workplace friendship · Career adaptability · Organisational commitment

N. Ferreira (✉)
University of South Africa, Pretoria, South Africa
e-mail: ferren@unisa.ac.za

10.1 Introduction

Industry 4.0 is changing the world of work as we know it. The relationship between employees and machines are being altered. Machines are taking over the tasks done by employees and gradually routine activities will be done by machines rather than employees. The tasks completed by employees will be characterized by growing self-sufficiency and empowerment at decreasing costs (Holland & Bardoel, 2016). One of Industry 4.0's consequences are unprecedented job loss and more risky work arrangements. Moreover, machines will influence the social interactions and the quality therefore towards a situation of isolation and exclusions (Turkle, 2011). This in turn will have an impact on career wellbeing of employees, complications to distinguish between work and non-work situations, stress, and burnout (Butts, Becker, & Boswell, 2015) and negatively affect individuals' creativity and critical thinking (Jackson, Dawson, & Wilson, 2001).

Industry 4.0 is further bringing about changes to (the) time and space of work: smart working, agility in the workplace and new virtual inventions. These examples propose a new way of work plan, empowering employees for a better work-life balance, as well as, a more effective way of work design, clearer tasks orientated goals and providing real-time feedback that withstand continuous development and motivation (Sonnetag & Jelden, 2015). Keeping these changes in mind, it will be required that both employees and organisations change. Employees will be required to develop new competencies and skills, which include creativity and adaptability (Colbert, Yee, & George, 2016). Organisations will be forced to redesign their current structures, processes and interventions, taking into consideration the challenges posed by Industry 4.0 (Kane, Palmer, Phillips, Kiron, & Buckley, 2016).

This challenging situation necessitates the human resource management domain to have the required interventions in place. Industry 4.0 offers the opportunity to develop a positive social change and to as well as develop and adopt new digital systems and innovative organisation solutions (Bondarouk & Brewster, 2016). Industrial and organisational psychologists and human resource practitioners can assist managers and employees move towards the 4.0 mind-set, managing digitally, organizing, and leading change. Industry 4.0 represents a new world of work for employees and organisations, possibly opening new career opportunities, further changing the way employees, organisations and society at large see the human resource management (Bondarouk & Brewster, 2016). Industry 4.0 makes challenges employees to develop a clear sense of professional identity and finding meaning in work (Hirschi, 2019). It is expected that the work role will be significantly reduced in importance for some employees, and digitization and automation are progressively distorting the boundaries between work and non-work roles. It will become increasingly important for employees to construct a holistic sense of identity that encompasses work and non-work role (Hirschi, 2019).

10.2   Problem Statement and Objective

Given the importance of career wellbeing and the influence of Industry 4.0, the purpose of this chapter is to explore the role of self-regulatory career behavior (workplace friendship, career adaptability and organisational commitment) in relation to career wellbeing. Secondly, based on the literature review, interventions will be proposed on how these self-regulatory career behaviors can be developed to enhance career wellbeing.

10.3   Rationale of Chapter

The changing, digitized world of work in which employees have been pursuing their careers demand continuous generation and development of skills for the benefit of the discipline and practice of careers. Apart from the changes that Industry 4.0 bring to the table that will directly affect the nature of work and careers, career wellbeing of employees also poses unique challenges to the employees and professional career counsellors.

The insights derived from the findings may be employed by researchers and organisations when planning new career wellbeing interventions as well as future research. Given the paucity of empirical work on career wellbeing initiatives, specifically in the Industry 4.0 context, the findings may provide preliminary insight that add to the body of knowledge concerned with the progress of the field and professional practice in a career wellbeing context.

10.4   Theoretical Framework

Career wellbeing is a multi-dimensional construct covering various facets and experiences, and it has no single definition (Abdi, Peiro, Ayala, & Zappala, 2019). However, the most influential narrative on wellbeing and health in the workplace is the seminal review by Danna and Griffin (1999). In Dann and Griffin's (1999) model, wellbeing is proposed as the broader, surrounding construct that includes firstly, generalised job-related experiences (e.g. job satisfaction) and more facet-specific dimensions (satisfaction with co-workers). Secondly, their model includes general health as a sub-component of wellbeing, such as mental indicators (e.g. anxiety) or physical indicators (e.g. blood pressure) (Abdi et al., 2019).

For the purpose of this chapter career wellbeing will be defined as:

> Career wellbeing refer to an individual's long-term contentment with their career outcomes, career achievements, career changes and their sustainable employability amidst the complexities of the contemporary work environment (Bester, Coetzee, Ferreira, & Potgieter, 2019).

Career wellbeing shows a connection with friendship, adaptability and organizational commitment. Workplace friendship has received growing attention from researchers in the past 10 years. Although researchers' study, define and try to operationalize workplace friendship in different ways, there seem to be an overall theoretical agreement among the researchers that a perceived sense of belonging or connectedness is a basic psychological need, and positive outcomes are brought about when this need is satisfied (Jose, Ryan, & Pryor, 2012). Fulfilment of this basic need nurtures career wellbeing, the support for and satisfaction of the need to feel connected is necessary for an employee's ongoing development and career wellbeing (Connel & Wellborn, 1991; Deci & Ryan, 2000; Ryan & Deci, 2000; Ryan & Powelson, 1991). Workplace friendship and wellbeing were investigated by McGraw, Moore, Fuller, and Bates (2008), the results showed that workplace friendship, across all domains, was inversely related to symptoms of depression, anxiety and stress. McGraw et al. (2008), further found that workplace friendship was a particularly strong predictor of wellbeing. In sum, enhancing workplace friendships and by effectively developing employees' career adaptability and organizational commitment, their career wellbeing will be increased amidst the challenges posed by Industry 4.0.

10.5 Self-regulatory Career Behavior

10.5.1 Workplace Friendship

An individual spends most of his or her life at the workplace and it is natural to develop interpersonal relationships with colleagues. Individuals have a personal desire to develop a close relationship with others, however the question is still asked whether workplace friendship produce more negative than positive consequences (Khaleel, Chelliah, Khalid, Jamil, & Manzoor, 2016). Workplace friendship however is reported as necessary in order to bring a sense of happiness and wellbeing (Nielsen, Jex, & Adams, 2000). Friendship may mean something different to people from various cultures and societies, there are some types of friendships that are prevalent only at a place of work (Akila & Priyadarshini, 2018; Khaleel et al., 2016). Previous research on workplace friendship, have highlighted the social, personal and organizational benefits workplace friendship brings about. According to Ting and Ho (2017), workplace friendship positively affect job- and organizational involvement, which then enhance employee job performance.

Despite all the justifications why it is important to study workplace friendship, the three mains reasons are: (1) to identify associations between workplace friendship and work-related consequences, (2) the contribution made towards organizations' informal structures and (3) the trend of making use of teams and groups within organizations (Nielsen et al., 2000). A study done by Gallup (2017), revealed that employees who have good friends at work show high levels of work

engagement (Schnorpfeil et al., 2002). A theoretically based model was developed and tested by Riordan and Griffeth (1995), which revealed relationships between perceived friendship opportunities and critical work-related outcomes. These identified friendship opportunities were positively related to employees' job satisfaction and job involvement, which in turn enhance their organisational commitment and reduce turnover intentions (Riordan & Griffeth, 1995).

While recognizing the range of definitions, it can be said that workplace friendship can either benefit the formal organisational goals (Berman, West, & Richter, 2002; Nielsen et al., 2000). Workplace friendship is linked to the critical work-related outcomes which include organisational commitment, job involvement, job satisfaction and career wellbeing (Nielsen et al., 2000; Riordan & Griffeth, 1995). Both the employee and the organization are found to benefit from workplace friendships (Winstead, Derlega, & Montgomorey, 1995).

According to Berman et al. (2002) and Nielsen et al. (2000), workplace friendship is regarded as an interpersonal relationship that comprises joint interests and values, mutual commitment of trust between employees at a workplace. Khaleel et al. (2016) emphasizes that workplace friendships grow from employees' essential psychological need to belong and have close relationships with others. The opportunity for and occurrence of positive workplace friendships (i.e. opportunities to communicate and work collectively with other employees within the organisations and the perception of friendships characterized by trust, confidence and a strong mutual desire to connect and interact inside and outside the workplace) are seen as aspects of person-environment correspondence (Capuzzi & Stauffer, 2006; Jiang, 2017; Potgieter, Coetzee, & Ferreira, 2018; Rumens, 2010).

A supportive function of workplace friendship is assisting employees to grow in their careers by means of forming network connections, workplace adjustments and information sharing platforms including the provision of work-related resources that could assist in employee performance (Jiang, 2017; Mao & Hsieh, 2012). Several research studies revealed that employees who perceive that they have good workplace friendships show high levels job embeddedness because of the value they add to these connections (Bartelli, 2006; Golden, 2007; Regts & Mollenmen, 2012). Perceived social support in the workplace has been recommended to enhance person-environment fit and increase positive outcomes in the career development process as well as career wellbeing (Jiang, 2017; Potgieter et al., 2018). In a study conducted by Berman et al. (2002) most senior managers in local government revealed an encouraging angle toward workplace friendships, even relations involving employees and their support staff. The managers felt that workplace friendships can enhance communication and assist employee in doing their work effectively.

Several empirical studies have been conducted on workplace friendship that express the positive outcome of the friendship at the workplace. These findings include aspects such as increased job satisfaction (Winstead, Derlega, Montgomery, & Pilkington, 1995), organizational commitment (Nielsen et al., 2000), information sharing (Kram & Isabella, 1985), reduces turnover intention and job performance (Jiang, 2017). Satisfied employees, who regard their workplace friendships as

important tend to be more engaged in their work (Ducbarme & Martin, 2000; Schaufeli, Bakker, & Salanova, 2006). Employees who do experience friendship at work, are more likely to be committed to their organisation because of the emotional attachment towards the organization (this include: opportunities to work and communicate with colleagues within the organization and the perception of friendships that involves trust and the shared longing to connect and interact inside and outside the organization) (Nielsen et al., 2000).

10.5.2   Career Adaptability

Career adaptability is the ability to deal with change and various demands in the workplace. Career adaptability is important for employees to functions effectively in the workplace as well as their career wellbeing (Collie, Granziera, & Martin, 2018; Martin, Strnadova, Nemec, Hajkova, & Knetonova, 2019). Career development is evaluated by Savickas (2002, 2005) within the framework of the career construction theory. Within the career construction theory, career development integrates employees' personal needs with their social expectations as well as their ability to adapt to the working environment (Savickas, 2005).

Researchers define career adaptability as the skill to "constructively regulate psycho-behavioural functions in response to new, changing, and/or uncertain circumstances, conditions and situations" (Martin et al., 2019). Kirdok and Bolikbasi (2018), describe career adaptability as the skill used to make forecasts about one's future and to develop the capability to deal with possible challenges in the most effective manner. Career adaptability inner construct which employees use to accomplish their expected career tasks. It further promotes employees to manage and adapt their career development tasks, workplace transitions and disturbances. According to Savickas (1997), employees can adapt more easily within their career, if they, as employees can anticipate the challenges and find suitable solutions to overcome these career changes. To date, career adaptability has been widely explored as a specific resource for career choice and development among employees (Hirschi, 2009; Wilkins et al., 2014).

The career wellbeing of employees can be enhanced by means of the development of their career adaptability. Researchers found that career-adaptability can support employees to be prepare for, and having the necessary resources, to cope with work distresses, career development tasks, and changes in their careers throughout their whole life span (Brown & Lent, 2013; Coetzee & Harry, 2015). Zikic and Klehe (2006) suggest that aspects such as planning, explorations and the making of decisions for part of career adaptability. McArdle, Waters, Briscoe, and Hall (2007) and Sorikov (2007) see employees' boundaryless career mindset, career confidence and career decisions as part of career adaptability. Employees should aim to take more interest in their career prospects, strive to achieve better control over their occupational future, demonstration more curiosity about imminent career opportunities and aim to increase their confidence with which they pursue their

goals (Cabras & Mondo, 2018; Ginevra, Annovazzi, Santilli, Maggio, & Camussi, 2018).

Career adaptability consists of four main psychological resources (Savickas & Porfeli, 2012). (1) *Concern*—planning, expectancy and mindfulness for one's future; (2) *Control*—taking full responsibility for constructing one's career through taking decisive, assertive and conscientious actions; (3) *Curiosity*—taking initiative learning about the world of work that leads to information seeking behaviours and curiosity to openness to new experiences, inquisitive exploration, and reflection about the fit between self and the world of work and (4) *Confidence*—serious engagement in designing one's occupational futures and executing plans in order to actualize their choices (Coetzee & Stoltz, 2015; Kirdok & Bolukbasi, 2018; Oncel, 2014; Rottinghaus et al., 2012; Savickas, 1997; Savickas & Porfeli, 2011, 2012). Duffy (2010) identified career adaptability as an important resource for employees in order to complete numerous career tasks and further to adapt to changes in the employment context. These four dimensions (4 Cs) signifies over-all adaptability resources and approaches that individuals use to construct their careers as well as coping with developmental tasks, changes in work settings and work disturbances (Luke, McIlveen, & Perera, 2016; Tak, 2012).

According to Ferreira and Mujajati (2017), the four psychosocial resources (concern, control, curiosity and confidence) are important for employees' careers to remain employable. Understanding and developing an employee's career adaptability profile may directly affect an employee's career wellbeing.

10.5.3 Organisational Commitment

Employees who are loyal to an organisation, show a degree of recognition towards the organisation and participate in organisation events, are regarded as committed employees (Meyer, Stanley, & Parfyonova, 2012). Previous research revealed that organisational commitment is divided into individual affection, alleged costs and risks and social relations in terms of the different facets of commitment (affective, continuance and normative commitment) (Meyer, Morin, Stanley, & Maltin, 2019). Vandenberghe, Panaccio, Bentein, Mignonac, and Roussel (2011) used the three personal profiles of organisational commitment as developed by Allen and Meyer (1990), to analyse work commitment as well as consumer commitment. Organisational commitment is defined by Meyer and Allen (1997), as a psychological connection between the individual and organisation, which makes unlikely for the employee to voluntary leave the current organisation.

The three personal profiles of organisational commitment can be explained as:

Affective commitment refers to the degree of attachment an individual has to an organisation. *Continuance commitment* refers to the costs and risk an individual identify when leaving their existing organisation. *Normative commitment* refers to an individual's moral commitment towards an organisation, where organisational loyalty plays an important role (Allen & Meyer, 1990; Meyer & Allen, 1997).

Organisational commitment further includes the strength of connection an individual has towards an organisation. Committed employees feel much more connected with the organisational goals and experience strong feelings of fit. These feelings are important aspects which have a direct influence on organisational success (Akila & Priyadarshini, 2018). Similarly, research has revealed that individuals' inner work lives, career goals, motivations and desires act as self-regulated motivating forces that influence their attitudes toward their jobs, careers as well as their organisation (Bothma & Roodt, 2012; Coetzee, 2015; Ferreira & Coetzee, 2010; Hirschi, 2012). An employee's work engagement attitude towards their work, job and areas within their career where goals are set, form part of their commitment and involvement in their work (Coetzee, 2015; Mujajati, 2017; Tladinyane, Coetzee, & Masenge, 2013). The higher the level of commitment, the more work satisfaction is experienced by the employee, due to a more positive focus, rather than identifying negative elements of the work environment (Knapp, Smith, & Sprinkle, 2014). By understanding and strengthening the level or organisational commitment of employees, the career wellbeing of individuals will be positively affected.

10.6 Method

10.6.1 Study Design

The main purpose of this chapter was to present a critical review of the role of self-regulatory career behaviour (workplace friendship, career adaptability and organizational commitment) in relation to career wellbeing within Industry 4.0. The critical review of the research literature necessitated a broad systematic review of current research on the theme of career wellbeing and self-regulatory career behaviour in terms of its relevance for insertion in the database.

10.6.2 Study Eligibility Criteria

Documented contemporary research in the field of career wellbeing published from 2015 to 2019 was identified as the boundary of the systematic review. A search was done using an on-line information technology service (search engines such as EBSCOhost/Academic Search Premier, and Google Scholar academic databases). The concepts career wellbeing, self-regulatory career behaviour, career adaptability, workplace friendship and organisational commitment were used as keywords in the search. The full texts of publications were downloaded from the databases to determine which research articles to include or exclude from the systematic review. The inclusion criteria for articles for this chapter were studies exploring employees'

self-regulatory career behaviour (career adaptability and organisational commitment) in relation to wellbeing and Industry 4.0 contexts. This method of review enabled the author to reduce potential biases in the data collections process (Chan, Cheung, & Lee, 2017).

10.6.3 Data Analysis

A qualitative approach was followed in identifying core themes of self-regulatory career behaviour and their link with employees' career wellbeing. In the first stage the author read the studies carefully to gain an overall impression of the link between the self-regulatory career behaviour and career wellbeing, using free line-by-line coding and categorisation. The categorisation process entailed going through the sources of data manually, line by line to identify the dominant themes, and clustering them into groups of self-regulatory career behaviour that relate to career wellbeing. The author used the descriptive themes, as part of the next stage, by interpreting new thematic synthesis that went beyond the original studies.

10.6.4 Strategies Used to Ensure Data Quality and Thematic Synthesis

Qualitative systematic reviews imply a reasonable degree of freedom and creativity in the interpretation of data, and the resultant personal construction of inferred meaning (Barnard & Fourie, 2007; Patton, 2002). Considerations were made in terms of potential publication bias (i.e. the assumption that all research on the topic may not have been published), trustworthiness or credibility, true value and quality, appropriateness, and reflection on the research endeavour in its entirety, as well as best practice. The theme and subtheme sorting, labelling and categorisation process concerned searching for the underlying meaning embedded in the included studies. The emerging themes were re-examined to ensure trustworthiness. The author attempted to avoid bias by not focusing on one study at the expense of another to enhance objectivity and trustworthiness of the systematic review and synthesis of data (Holm & Severonsson, 2013). Value and quality were assured by reviewing each article in terms of scientific and methodological rigour in assessing links between self-regulatory career behaviour and wellbeing of employees. The aim, design, and analysis used in the included studies were assessed in terms of their appropriateness for helping employees enhance their career wellbeing in the contemporary and future employment contexts. All data were retained for possible future scrutiny.

10.7 Findings and Discussion of the Thematic Review

The findings of this chapter are based on the in-depth systematic exploration of the constructs workplace friendship, career adaptability and organisational commitment in terms of career wellbeing. In Fig. 10.1, a theoretical self-regulatory career wellbeing framework is proposed.

From Fig. 10.1 it is shown that workplace friendship plays an important role in terms of an employee's career adaptability and organisational commitment. It further indicated that the relationship between these self-regulatory career behaviours and workplace friendship could have a direct influence on employees' career wellbeing.

The role of workplace friendship in terms of an individual's career adaptability and organisational commitment link is unclear, it is therefore expected that employees' perceptions of workplace friendship will serve as an underlying psychological aspect in explaining the link.
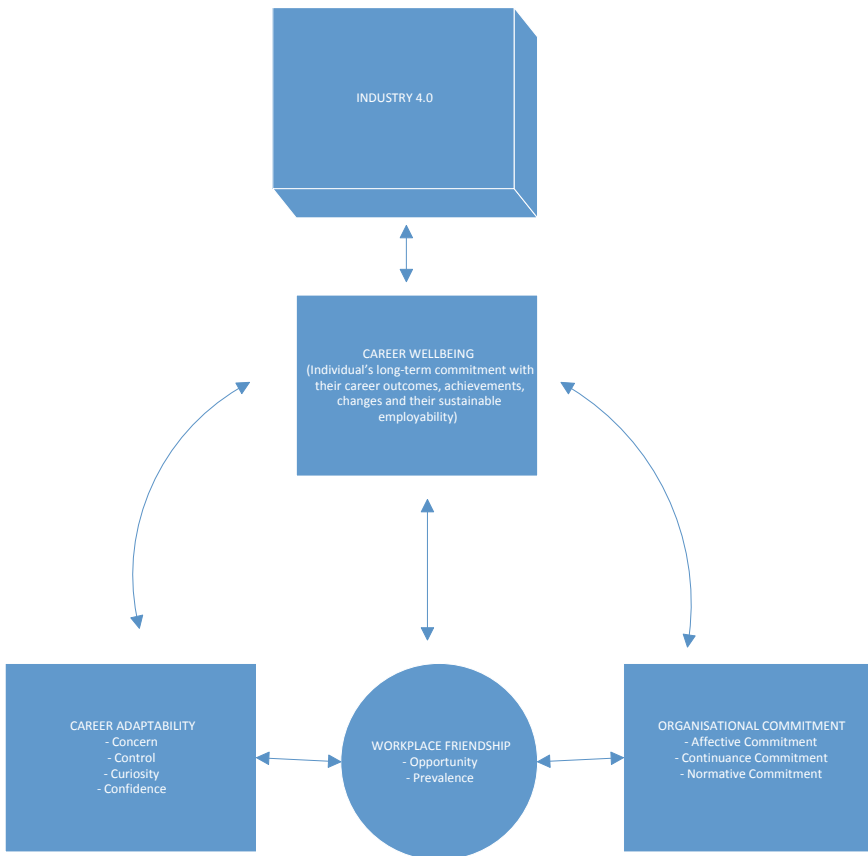
Fig. 10.1 Self-regulatory career wellbeing framework (*Source*: Author's own work)

Hartung and Taber (2008) explained that Savickas's career adaptability theory emphasise the personal meaning of individual's careers and present perspectives about subjective wellbeing, their career goals and interrelationships of behaviours. Employees with high levels of career adaptability towards their career tasks and career changeovers, tend to positively influence their work and career achievements, as well as their general and career wellbeing (Maggiori, Johnston, Krings, Masoudi, & Rossier, 2013). The career adaptability dimensions are self-regulating aspects, which may benefit the work environment and can use used on a daily basis (Savickas, 2005). Considering all the different perspectives regarding career adaptability, it is clear that career adaptability affects the career wellbeing of employees positively (Buyukgoze-Kavas, Duffy, & Douglass, 2015). The more adaptable an employee is, the higher the chances of finding a suitable job and by doing so increase his or her career success and wellbeing (Harthung & Taber, 2008; Hirschi, 2010; Shorikov, 2007). Researchers found that career adaptability predict individual's job satisfaction, which forms part of the cognitive aspects of subjective wellbeing (Hirschi, 2009; Maggiori et al., 2013; Santilli et al., 2014, 2017). Studies done by Brown, Brimrose, Barnes, and Hughes (2012) and Rossier, Zecca, Stauffer, Magiori, and Dauwalder (2012) revealed that career adaptability can influence the career wellbeing of employees. Kirdok and Bolukbasi (2018), believe that by increasing employees career adaptability and hence subjective career wellbeing, could assist employees to equip themselves with the necessary skills to deal with ambiguities and challenges within the workplace. Career adaptability shows a link with career optimism, self-esteem, hope, life satisfaction and wellbeing (Cai et al., 2015; Cabras & Mondo, 2017; Douglass & Duffy, 2015; Hirschi, 2009; Maggoiri et al., 2013; Ohme & Zacher, 2015; Santtilli et al., 2014). In Maggoiri et al. (2013), the study of unemployed adults in Switzerland found that career adaptability predicted career wellbeing and professional wellbeing.

The increasing change in the current work environment, specifically considering the changes brought about by Industry 4.0, several opportunities are offered for career counselling practices in the workplace. More employees are confronted with familiarizing themselves with new industries and new occupations due to the increasing speed at which the current workplace change. Keeping up with the latest trend in the workplace and occupations might offer individuals new employment opportunities and career prospects. Career counselling practices can play an active and increasing role in assisting employees making sense of the changes, further assisting them to obtain, evaluate and apply the new-found career-related information in their career decision making process and career planning paths. Moreover, career counselling practitioners can assist employees develop the necessary coping skills, to cope with the constant change in their current work environment through ongoing education and learning.

Career practitioners can use these workplace changes as a call to act and develop more integrated online- and technological-assisted career interventions into their assessments and to further include researchers as evaluators of the effectiveness of such approaches. Considering the changes in the workplace due to Industry 4.0,

digital career support practices could take form in online self-assessments, the deliverance of online career information and video-based online career counselling. This approach might include an adaptive assessment of an employee's career concerns guided by custom-made, computerised interview questions and assessments followed by personalised recommendations for activities to support self-directed career management and career wellbeing.

By further developing and fostering positive workplace friendships and relationships among employees, may result in the improvement of employees' career wellbeing. A study done by Urbanaviciute, Udayar and Rossier (in press), revealed that employees with well-developed adaptability skills were more likely to show positive outcomes relating to their life satisfactions, stress level and overall employee wellbeing.

By assisting employees to develop their levels of career adaptability, may assist them to be more proactive in addressing workplace challenges and managing challenging situations. Raising awareness of the importance of self-regulatory career behaviour such as career adaptability and organisational commitment, may be another practical implication to be considered within organisations. Some career counselling assessments and interventions being developed, consider the career construction framework as developed by Savickas (2012, 2013). These interventions include decent possibilities for the implementation of individual-level interventions within organisations, which are aimed to fostering career adaptability among employees (Urbanaviciute et al., in press). The development and enhancement of employees' career adaptability may assist them to establish agency in the broader work context, greater than their work environment. Career adaptability development may be beneficial to both employees' career wellbeing and general wellbeing. According to Wilkins, Riach, Tracey, and Yel (2018), career practitioners should focus on the enhancement of employees' readiness to cope with unpredictable changes promoted by changeable work conditions (for example adaptability). Interventions which include the design and application of programmes that promote career adaptability resources (coping, concern, curiosity and confidence) can be used by career practitioners within organisations. The assessment of career adaptability can further be used as a screening tool by career practitioners (Johnson, 2018). Employees showing a presence of career adaptability resources indicates the existence of crucial strengths that individuals can use as they develop throughout their career path. In terms of career adaptability interventions, the importance lies in the design, implementation and evaluation of such interventions, due to the challenges experienced in the current workplace, specifically in the Industry 4.0 context (Johnston, 2018).

Career adaptability is relevant for post-career choice work adjustment and may be an important aspect for industrial and organisational psychologists, human resource practitioners and managers to focus on (Leong & Ott-Holland, 2014). It may be beneficial to practitioners and managers in organisations to nurture career adaptability resources and recognise certain work experiences fostering career adaptability resources and responses (O'Connel, McNeely, & Hall, 2008; Van Vianen, De Pater, & Preenen, 2009).

Further, due to coping and self-regulatory behaviours associated with career adaptability (Savickas, 2005), career adaptability is more so applicable to stress and coping developments of employees at work (Leong & Ott-Holland, 2014), suggesting that an added advantage of fostering adaptability resources may increase the wellbeing of employees, a sought-after outcome in organisational life (Johnston, 2018; Ramos & Lopez, 2018).

Garcia, Restubog, Ocampo, Wang and Tanf (in press), found that career adaptability is cultured by means of social learning processes which include role modelling for example. Based on this assumption that career adaptability can be learned through interpersonal and social processes, Garcia et al. (in press) proved the transmission of career adaptability across generations of family members.

10.8 Practical Implications for Career Wellbeing

The goal with this chapter was also to assist practitioners and managers seeking to develop meaningful career wellbeing interventions by not only unpacking the concepts career adaptability, workplace friendship and organisational commitment, but also providing information into possible career wellbeing strategies. The following are key strategies for organisations to consider when designing career wellbeing interventions.

- Developing career wellbeing interventions taking into consideration the sub-facets of career adaptability (concern, control, curiosity and confidence), workplace friendship (friendship opportunity and friendship prevalence) and organisational commitment (affective, normative and continuance commitment).
- Revise the role of manager and industrial psychologist's as career counsellor. It is needed to understand the self-regulatory career behaviour and the different skills forming part of it. By fully understanding what career adaptability, workplace friendship and organisational commitment entail will ensure that the manager and career counsellor guide employees successfully in their career choices to enhance the career wellbeing of employees.
- Self-reflection can be engaged on by employees when receiving feedback on their self-regulatory career behaviour (career adaptability, workplace friendship and organisational commitment) at an interpersonal level.
- Interventions to facilitate the development of career adaptability, workplace friendship and organisational commitment of employees, should be engaged in by human resource practitioners, managers and career counsellors to enhance their career wellbeing.

On *a practical level*, if managers, human resource practitioners and industrial psychologists could better understand the self-regulatory career behaviours and the facets thereof in considering employees' career wellbeing. A better understanding

could have a positive impact on the career wellbeing employees. The positive outcomes of possible future research could include defining and raising awareness of career wellbeing and how career wellbeing might be influenced by employees' career adaptability, workplace friendship and organisational commitment levels. Furthermore, the research results contributed to the body of knowledge relating to the self-regulatory career behaviour that influence employees' career wellbeing in the Industry 4.0.

10.9   Limitations and Directions for Future Research

The literature review was limited to research published only between 2014 and 2019 which could imply that not all research on career adaptability, workplace friendship and organisational commitment is necessarily taken into account in the thematic review. It should be noted by researchers and practitioners that the number of published studies on the themes relevant to this chapter is increasing on a continuous basis. Research on specifically career wellbeing is evolving with in mind the implications and requirements from Industry 4.0. The qualitative search strategy of the literature could be either too broad or too narrow, and the possibility of excluding relevant information might be there. There is a need for future research on specifically career wellbeing and the enhancement thereof, specifically in a South African context. Further studies would be valuable for career development and guidance purposes because it would assist line managers and industrial psychologists to provide guidance to employees when making career choices, based on their ability to interpret their self-regulatory career behaviour into careers that would fulfil their personal needs and so enhance their career wellbeing.

10.10   Conclusion

Notwithstanding the limitations of the quantitative study on self-regulatory career behaviour (career adaptability, workplace friendship and organisational commitment) in the context of career wellbeing, this chapter makes a novel contribution to the study by highlighting attributes that influence employees career wellbeing. Wellbeing and specifically career wellbeing have become a prominent focus of many organisations because of the changing nature of the workplace due to the digital era. This chapter contributes new insights that might stimulate future research on the attributes influencing employees' career wellbeing in the context of Industry 4.0.

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Nadia Ferreira is an Associate Professor in Human Resource Management at the Department of Human Resource Management at UNISA. She is a registered human resource practitioner with the South African Board for People Practices (SABPP). Nadia Ferreira completed her M.Com degree in Human Resource Management and Industrial Psychology in 2008 at the University of Pretoria. She completed her D.Com Industrial Psychology degree at UNISA in 2012. She is also an author and co-author of several published articles in local and international journals. In addition, she presented several papers at national and international conferences. Nadia Ferreira is a section editor for the South African Journal of Industrial and Organisational Psychology.

Chapter 11
Facilitating Career Wellbeing: Exploring a Career Satisfaction and Employability Profile of Knowledge Workers

Louise Engelbrecht

Abstract Industry 4.0, which is characterised by digitisation, technology and the Internet of Things (IoT) is upon us. Machines are enabled to make decisions and communicate with humans, which fundamentally changes the way we live, work and relate to one another. Career satisfaction and employability are key constructs that can enhance career wellbeing in the increasingly volatile, uncertain, complex and ambiguous (VUCA) world of work. By applying the social cognitive career theory, the person–environment fit theory and the conservation of resources theory as a theoretical lens, the relationship dynamics between career cognitions, career resources and career outcomes were explored as an objective of this study. Advanced statistical analyses such as canonical correlation analyses were utilised to explore a career satisfaction and employability profile for knowledge workers in the South African context. Suggestions for practice and psychological interventions to enhance the career wellbeing of knowledge workers are proposed.

Keywords Career satisfaction · Employability · Career resources · Career cognitions

11.1   Introduction

The ultimate aim of every human being is life satisfaction (Hagmaier, Abele, & Goebel, 2018); consequently; the ultimate aim of having a career is career satisfaction. For individuals to enjoy a satisfying career, they need to be able to remain employable. The world of work is challenged by the automation of work and digitisation in the fourth industrial revolution (Schwab, 2016), which is considered to have an enormous impact on the career experiences of individuals (Hirschi, 2018) and will change the nature of business, work and society (Ford, 2015). In the

L. Engelbrecht (✉)
University of South Africa, Pretoria, South Africa
e-mail: engell@unisa.ac.za

current volatile, uncertain, complex and ambiguous (VUCA) world of work, even knowledge workers find it hard to remain employable (Gedro, 2017; Sutherland, Naidu, Seabela, Crosson, & Nyembe, 2015; Turriago-Hoyos, Thoene, & Arjoon, 2016). In the unstable world of work, where long-term employment is no longer guaranteed, individuals are sometimes urged to take any employment they can get, and not what they really want (Maree, 2017). It becomes even more difficult to achieve career satisfaction, especially when it is a challenge to remain employable. The consequences of low employability and low career satisfaction have a detrimental influence on the career wellbeing and the overall wellbeing of individuals (Abele-Brehm, 2014). Low levels of career wellbeing lead to low levels of overall health and life satisfaction of individuals that ultimately influence the wellbeing of individuals, organisations and societies. The key challenge related to the career wellbeing of knowledge workers in the fourth industrial revolution is thus to remain employable in a VUCA world of work and to strive to ultimately achieve career satisfaction (Engelbrecht, 2019).

11.2   Chapter Objective

The objectives of this chapter is to present a discussion of career satisfaction and the employability profile of knowledge workers and to provide guidance for practice and psychological interventions on how to facilitate career wellbeing by increasing the career satisfaction and employability of knowledge workers in an increasingly VUCA world of work.

11.2.1   Theoretical Background

Knowledge workers are individuals who 'think for a living' and are considered the most critical component in Industry 4.0 to enhance the capacity of a country to develop into a knowledge-based economy (Blankley & Booyens, 2010; De Beer, 2015; Du Toit, 2014; Tchamyou, 2016). In organisational career psychology research, employability and career satisfaction are becoming increasingly important constructs (Fugate, Kinicki, & Ashforth, 2004), which emphasises the changing nature of careers in the world of work. Knowledge workers are required to develop career meta-competencies required to design a meaningful career for life in an increasingly VUCA world of work (Schreuder & Coetzee, 2016; Sutherland et al., 2015).

The social cognitive career theory (Lent & Brown, 2006, 2008, 2013), the person–environment fit theory (Holland, 1997) and the conservation of resources theory (Hobfoll, 1998) will be further explained as the theoretical lens through which career cognitions and psychosocial career resources and career satisfaction and employability were explored.

The social cognitive career theory (Lent & Brown, 2006, 2008, 2013) is an approach that can be applied to understand educational and occupational behaviour better, and it explains how individuals experience career satisfaction or career wellbeing and how individuals achieve varied career success and stability levels. The social cognitive career satisfaction model (Lent & Brown, 2006, 2008, 2013) consists of several variables: career satisfaction, self-efficacy, personality and affective traits, work conditions and outcomes, goals and goal-directed activity, and goal-relevant environmental supports, resources and obstacles. The social cognitive career satisfaction model (Lent & Brown, 2006, 2008, 2013) theorises that individuals are more prone to experience career satisfaction and be satisfied at work to the extent that they are allowed to be involved in activities that they consider important and valuable; see themselves advancing in personally relevant goals; obtain high levels of self-efficacy in performing required tasks and responsibilities in achieving their career goals; and have access to resources in the environment for enhancing their self-efficacy and facilitating their goal pursuance (Lent & Brown, 2006, 2008, 2013).

The person–environment fit model (Holland, 1997) emphasises the importance of assessing and exploring the personal and occupational work environment and the corresponding congruence or fit between the person and his or her career environment. The congruence between an individual's personality and career environment affects individuals' work attitudes and behaviours, and higher levels of congruence lead to higher levels of career satisfaction, success and persistence (Holland, 1997). A high level of personality-type clarity related to career identify is directly linked to an increased ability to be adaptable and to facilitate changes in the relevant work environment.

The conservation of resources (COR) theory starts with the presumption that individuals strive to acquire, retain, promote and conserve those resources they centrally value (Hobfoll, 1998). This means that individuals utilise fundamental resources for self-regulation, interaction in social relations, and the way individuals organise, behave and fit into the larger organisational culture and context itself. The COR theory posits further that what is centrally valued, is universal, and includes wellbeing, health, family, peace, self-preservation and a positive sense of self, even if the core elements of sense of self differ culturally (Hobfoll, 1998).

Studies of stress and trauma support the principles of the COR theory (Hobfoll, 1998; Holmgreen, Tirone, Gerhart, & Hobfoll, 2017).

Principle 1: The first principle of the COR theory (Hobfoll, 1998) is that resource loss is disproportionately more prominent than resource gain and will thus have a larger impact on individuals than the gain of resources (primacy of resource loss).

Principle 2: The second principle of the COR theory (Hobfoll, 1998) is that individuals invest resources to safeguard them against resource loss, to recover from losses and to gain resources (resource investment). A related consequence of this (corollary 1) is that those individuals with more invested resources are less susceptible to resource loss and more competent in managing resource gain (Holmgreen et al., 2017). Reciprocally, those individuals with limited resources are

more susceptible to resource loss and less competent in managing resource gain. Corollaries 2 and 3 are consequences of resource loss and gain cycles or spirals. Corollary 2 indicates that individuals with limited resources are not only susceptible to resource loss, but that initial loss will result in further losses. Corollary 3 indicates that individuals with sufficient resources possess more capacities to gain resources and that the initial gain will result in further gain spirals. Corollary 4 indicates that individuals with limited resources are prone to adopt a defensive approach to protect their resources (Hobfoll, 1998; Holmgreen et al., 2017).

By applying the social cognitive career theory (Lent & Brown, 2006, 2008, 2013), the person–environment fit theory (Holland, 1997) and the COR theory (Hobfoll, 1998), it is evident that career cognitions (career adaptability and psychosocial career preoccupations) and psychosocial career resources (employability attributes), as well as the external environment are important mechanisms that influence the career paths and career outcomes (career satisfaction and employability) of individuals. Knowledge workers are especially more vulnerable in Industry 4.0 and should be focused on investing in career resources to prevent stressful loss cycles of resources. The more resourceful knowledge workers are, the better they are able to enhance the resource gain spirals and to cope with resource loss cycles. Thus, with strongly crystallised career cognitions and career resources, knowledge workers are enabled to achieve career satisfaction and sustained employability in a VUCA world of work.

11.2.2 Problem Statement

Knowledge workers are challenged by the changing nature of the world of work, which is characterised by the Internet of Things (IoT), digitisation and automation of work, and employees may expect to encounter the risk of losing their jobs more frequently (Maggiori, Johnston, Krings, Massoudi, & Rossier, 2013). At the same time, society expects individuals to work to provide for their own wellbeing and pursuit of happiness (Vondracek, Ford, & Porfeli, 2014); therefore, individuals are confronted with making challenging career choices, and need to adapt constantly to remain employable in order to enjoy a satisfying career.

Although it is hard to estimate to what extent Industry 4.0 will lead to mass unemployment and structural changes, it is clear that the fourth industrial revolution will influence the way society lives, works and relates to one another (Schwab, 2016). Yet, academic literature related to career psychology and career research has been quite silent on this trend (Hirschi, 2018). Furthermore, there seems to be a lack of research on whether individuals' psychosocial career cognitions and resources (psychosocial career preoccupations, career adaptability and employability attributes), as a composite set of independent variables, significantly and positively predict their career satisfaction and self-perceived employability as a composite set of dependent variables.

11.3 Research Design

A quantitative, cross-sectional explorative research approach was followed to obtain data from a sample (N = 404) of knowledge workers by making use of several psychometric instruments that were standardised, valid and reliable. Permission to conduct the research was granted by the relevant professional boards. The researcher obtained ethical clearance from the relevant higher education institution and adhered to ethical considerations.

11.3.1 Participants

The knowledge workers were professionally qualified individuals registered on various professional boards representing various economic sectors, such as the services sector (36%), financial sector (30%), mining sector (16%), education sector (10%), and engineering sector (8%) in South Africa. The participants in the sample were predominantly white (69%) male (53%) and female (46%) permanently employed professionals, aged between 31 and 45 years with post-graduate level qualifications.

11.3.2 Instruments

The following measuring instruments were utilised to measure the core constructs and to explore a career satisfaction and employability profile of knowledge workers:

- the career satisfaction scale (CSS) (Greenhaus, Parasuraman, & Wormley 1990);
- a self-perceived employability questionnaire (graduate employability measure [GEM]) (Rothwell & Arnold, 2007);
- the psychosocial career preoccupations scale (PCPS) (Coetzee, 2015);
- the career adapt-abilities scale (CAAS) (Savickas & Porfeli, 2012); and
- the employability attributes scale (EAS) (Bezuidenhout & Coetzee, 2010).

The CSS (Greenhaus et al., 1990) was utilised to measure overall career satisfaction in terms of meeting different career-related goals relevant to individuals' overall career, income, advancement, and new skills. The CSS (Greenhaus et al., 1990) is a self-report inventory consisting of only five items. Research by Greenhaus et al. (1990) provided evidence of the internal consistency reliability of the CSS. The Cronbach's Alpha coefficient obtained for the CSS in the present study was .89.

The GEM (Rothwell & Arnold, 2007) was used to evaluate individuals' own perceptions of their skills and abilities, and the way individuals perceive their

current and future prospects of employment. The GEM (Rothwell & Arnold, 2007) is a self-report inventory consisting of eleven items. Research by Rothwell and Arnold (2007) provided evidence of the internal consistency reliability of the GEM. The Cronbach's Alpha coefficient obtained for the GEM in the present study was .84.

The PCPS (Coetzee, 2015), a self-report inventory consisted of 24 items was employed to determine an individual's career preoccupations and concerns related to specific developmental tasks across three dimensions: *career establishment* (advancing in one's career and establishing opportunities for self-expression and personal growth and development); *career adaptation* (adapting to changing career conditions); and *work–life adjustment* (creating a balance between one's work and one's personal life) preoccupations. Research by Coetzee (2015, 2017) provided evidence of the internal consistency reliability and construct validity of the PCPS. The Cronbach's Alpha coefficients obtained for the PCPS (and subscales) in the present study ranged between .78 and .93.

The CAAS (Savickas & Porfeli, 2012), a self-report inventory consisted of 24 items was utilised to measure an individual's career adaptability, an important career cognition to manage work traumas, occupational transitions and developmental tasks. The CAAS (Savickas & Porfeli, 2012) comprises four dimensions: *concern* (extent to which individuals' think and plan their careers); *control* (extent to which individuals take responsibility for managing and building their own careers); *curiosity* (extent to which individuals explore the world of work to obtain as much information as possible related to specific careers and occupations); and *confidence* (extent to which individuals believe in their ability to make good career decisions). Research by Savickas and Porfeli (2012) provided evidence of the internal consistency reliability and construct validity of the CAAS. The Cronbach's Alpha coefficients obtained for the CAAS (and subscales) in the present study ranged between .75 and .86.

The EAS (Bezuidenhout & Coetzee, 2010), a self-report inventory consisted of 56 items was applied to determine individuals' level of confidence in their psychosocial employability attributes on the following eight levels: career self-management, career resilience, proactivity, entrepreneurial orientation, sociability, self-efficacy, emotional literacy and cultural competence. *Career self-management* refers to individuals' ability to manage their own careers proactively by knowing themselves (being aware of their own career identity, values, abilities and career aspirations) and the external environment (world of work) in order to develop a workable career development plan, reflect on career decisions, enhance competencies and seek new employment opportunities (Bezuidenhout, 2011). *Career resilience* refers to individuals' ability to adapt, being flexible and having self-confidence and being competent regardless of adverse career circumstances (Bezuidenhout, 2011). *Proactivity* is an important attribute that involves self-initiated actions to change oneself or one's career circumstances (Bezuidenhout, 2011). *Entrepreneurial orientation* refers to a preference for autonomy and taking up opportunities that exist in the career environment that stimulate innovation and creativity, accompanied by the need for achievement and

taking risks, and the ability to tolerate ambiguity (Bezuidenhout, 2011). *Sociability* refers to being approachable to establish and maintain social contacts and utilise formal and informal networks to the advantage of one's career (Bezuidenhout, 2011). *Self-efficacy* refers to individuals' perception of the extent of the difficulty of career-related tasks that they believe they are going to attempt as well as their perception of how well they will be able to execute the required actions in order to deal with those tasks (Bezuidenhout, 2011). *Emotional literacy* refers to the extent to which individuals' perceiving themselves as being able recognising, understanding and managing one's own emotions and in other individuals (Bezuidenhout, 2011). *Cultural competence* refers to personal effectiveness in understanding and effectively working with people across different groups (Bezuidenhout, 2011). Research by Bezuidenhout and Coetzee (2010) provided evidence of the internal consistency reliability and construct validity of the EAS. The Cronbach's Alpha coefficients obtained for the EAS (and subscales) in the present study ranged between .75 and .90.

11.3.3 Data Analysis

The data were analysed through canonical correlation analysis, an advanced multivariate technique that limits the probability of committing Type I errors (Tabachnick & Fidell, 2013). Canonical correlation analysis is particularly useful when the dimensions representing the combinations of variables are unknown. This exploratory technique represents the highest level of the general linear model (Sherry & Henson, 2005) and was performed between a set of psychosocial career cognitions and career resources (career adaptability, psychosocial career preoccupations and employability attributes as independent variables) and a set of career outcomes (career satisfaction and employability as dependent variables) utilising SAS (2013) CONCORR.

11.4 Results/Findings

Canonical correlation analysis was performed between a set of psychosocial career resources and a set of career outcomes. The canonical correlations analysis was interpreted based on the guidelines provided by Sherry and Henson (2005) as well as Tabachnick and Fidell (2013). It was firstly important to evaluate the full canonical model to determine whether the canonical model is significant and captures the relationship between the predictor and criterion variable sets sufficiently to justify interpretation (Sherry & Henson, 2005; Tabachnick & Fidell, 2013).

Table 11.1 Canonical correlation analysis: overall model fit statistics relating to the psychological attributes and career satisfaction and employability

Canonical function	Canonical correlation r_c	Adjusted canonical correlation	Squared canonical correlation (r_c^2)	Eigenvalue	F statistics	Probability (p)
1	.63	.60	.40	.67	5.84	<.0001***
2	.46	.40	.21	.26	3.52	<.0001***
Multivariate statistics and F approximations						
Statistics	Value		Approximate F statistics		Probability (p)	
Wilks's lambda	.47		5.84		<.0001***	

***p $\leq$ 0.001

Table 11.1 reports that the full canonical model was statistically significant across the two functions, with a Wilks's lambda (λ) of .472, $F = 5.84$, $p \leq .0001$. It was thus evident that there probably was a relationship between the variable sets. As statistical significance highly depends on the sample size, small unimportant effects can sometimes be significant. It is therefore important to interpret the effect size as well in order to determine the practical significance of the study outcomes. The Wilks's λ inverse effect size or the amount of variance not shared between the variable sets was utilised to determine the practical significance (Tabachnick & Fidell, 2013). The R_c^2 metric of effect size of $1 - \lambda$ ($1 - .472$) was .53 (large practical effect), which indicates that the full model explained a substantial proportion (about 53%) of the variance shared between the two sets of variables. Thus, the full model was both statistically significant and had a large effect size.

Secondly, it was important to evaluate each canonical function. The canonical correlation of the first function was .63 (40% overlapping variance); the second was .46 (21% overlapping variance). Both functions accounted for significant relationships between the two sets of variables and explained a reasonable amount of variance between the variable sets.

Thirdly, it was necessary to establish which variables are contributing to the relationship between the variables across the two functions, as the identification of contributing variables was critical for theory development (Tabachnick & Fidell, 2013). Table 11.2 presents the two pairs of the canonical variates, which indicate the standardised canonical variate coefficients, the correlations between the variables, and the canonical variates, within-set variance accounted for by the canonical variates (proportion of variance), redundancies and canonical correlations.

To decide on the cut-off for interpreting canonical loadings is sometimes a matter of taste as Sherry and Henson (2005) recommend interpreting correlations above .45 while Tabachnick and Fidell (2013) suggest interpreting correlations of .30 (9% of variance). Since the loading matrices contain correlations, and because squared correlations measure overlapping variance, variables with correlations of .44 and above with at least 8% of variance were interpreted as part of the variate. For function 1, the relevant variables were primarily career self-management

Table 11.2 Results of the standardised canonical correlation analysis for the first and second canonical function

Variable	Function 1			Function 2		
	Coefficient	Correlation	R_c^2	Coefficient	Correlation	R_c^2
Psychosocial canonical variate (independent variables)						
Career establishment preoccupations	−.08	−.33	.04	.52	.41	.08
Career adaptation preoccupations	−.50	**−.50**	.10	.22	.43	.14
Work–life adjustment preoccupations	−.02	−.22	.02	−.54	.21	.03
Concern	.04	.13	.01	.33	**.51**	.06
Control	.25	**.52**	.11	−.20	.24	.12
Curiosity	−.04	.31	.04	.04	**.51**	.09
Confidence	−.04	**.44**	.08	.16	.34	.10
Career self−management	.47	**.61**	.15	.30	.33	.17
Cultural competence	−.16	.24	.02	.39	**.49**	.07
Career resilience	.23	**.57**	.13	.26	.35	.16
Sociability	.26	**.50**	.10	−.05	.41	.12
Entrepreneurial orientation	−.34	.38	.06	−.15	.43	.09
Proactivity	−.02	**.57**	.13	−.41	.21	.15
Emotional literacy	.06	.36	.05	−.14	**.51**	.06
Proportion of variance		.13			.13	
Redundancy		.05			.03	
Career outcomes canonical variate (composite set of latent dependent variables)						
Career satisfaction	.77	.87	.31	−.67	−.49	.36
Self-perceived employability	.50	.65	.17	.89	.76	.29
Proportion of variance		.59			.41	
Redundancy		.24			.08	
Canonical correlation		.63			.46	

Note Loadings > .44 are in boldface

(R_c = .61, 15% of variance), career resilience (R_c = .57, 13% of variance), proactivity (R_c = .57, 13% of variance), control (R_c = .52, 11% of variance), career adaptation preoccupations (R_c = −.50, 10% of variance), sociability (R_c = .50, 10% of variance), and confidence (R_c = .44, 8% of variance). For function 2, the only relevant variable was curiosity (R_c = .51, 9% of variance), which correlates negatively with career satisfaction, but correlates positively with employability.

Figure 11.1 illustrates the variables with the highest level of usefulness in the model indicating the relationships among variables, canonical variates and the first pair of canonical variates (function 1). Overall, career self-management, career resilience, and proactivity (employability attributes) followed by career control (career adaptability), career adaptation preoccupations (psychosocial career
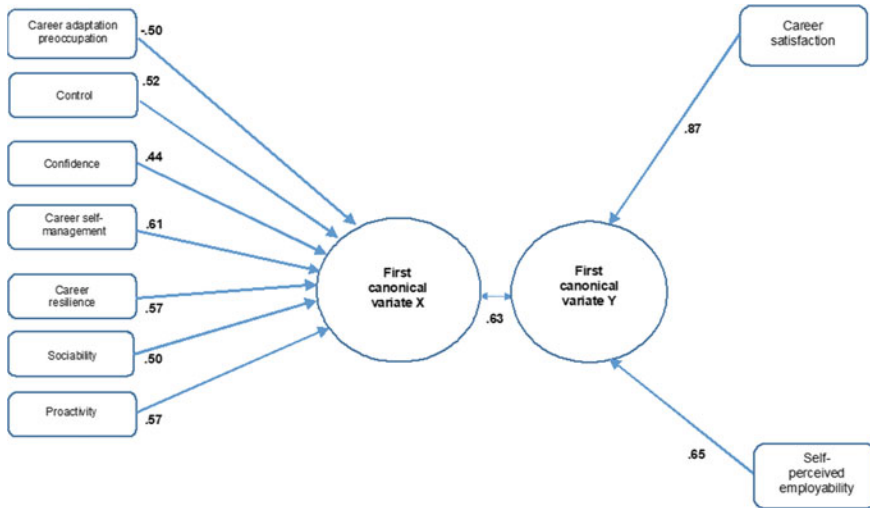
Fig. 11.1 Relationships among variables, canonical variates and the first pair of canonical variates (Own source)

preoccupations), sociability (employability attributes) and career confidence (career adaptability) contributed the most in explaining the psychosocial canonical variate, and contributed the most in predicting the career outcomes variables (career satisfaction and self-perceived employability).

The next section will present a further discussion of the meaning of these associations for the career satisfaction and employability of knowledge workers in the fourth industrial revolution.

11.5 Discussion

This chapter provided a discussion regarding the association between knowledge workers' career cognitions and career resources as a composite set of independent variables and specific career outcomes, such as career satisfaction and employability, in order to facilitate career wellbeing in the fourth industrial revolution. The results demonstrated that psychosocial career resources such as career self-management, career resilience, and proactivity contributed the most in explaining career satisfaction and self-perceived employability. Career self-management is an important aspect of career development (Pool & Sewell, 2007) and career wellbeing (Savickas, 2013), and comprises the following attributes: willingness to set career goals, reflection on career goals, identification of the competencies required to achieve career goals, and the implementation of

appropriate actions to achieve career goals (Botha, 2014). Career resilience and proactive behaviour are elements of effective career self-management (Bezuidenhout, 2011; Van der Heijde, 2014) which contributes to positive career outcomes (Lent & Brown, 2013; Maree, 2017). Career resilience refers to a person's ability to bounce back and to demonstrate a high degree of adaptability, flexibility, self-confidence and competence regardless of adverse career circumstances (Bezuidenhout, 2011). Career resilience is considered a developable ability through the repeated exposure to challenging career situations and being able to adapt successfully to these adversities (Rossier, Ginevra, Bollmann, & Nota, 2017). To be proactive means to ascertain active role orientations and future-oriented and self-initiated actions in order to change and improve oneself and one's career situation (Bezuidenhout, 2011). A proactive personality is positively related to active adaptability and employability (Mihail, 2008; Van der Heijde & Van der Heijden, 2006).

The results further demonstrated that career cognitions (career adaptability: control and confidence) contributed to explaining career satisfaction and self-perceived employability. Career adaptability facilitates changes in oneself and one's career environment to achieve career satisfaction and remain employable (Hartung & Cadaret, 2017). Career adaptability resources are important enabling mechanisms for coping and managing unexpected change and ambiguity proactively, tackling challenges rather than contemplating barriers, and utilising reflection and self-awareness in assessing personal progress and overall career effectiveness (Rossier et al., 2017). Career adaptability is imperative for the development of career resilience (Hartung & Cadaret, 2017). Knowledge workers need to take control of their career, they need to feel responsible for managing and building their own careers, and should have confidence in their ability to make and implement good career decisions (Savickas & Porfeli, 2012).

As knowledge workers are also social beings, sociability is an important psychosocial career resource that involves exhibiting networking behaviours and openness to building social contacts and networks in the advancement of one's career. Successful networking has been related to increased job opportunities, career advancement and satisfaction (Bezuidenhout, 2011).

Career self-management, resilience, proactive behaviour, control, and sociability are self-regulating strategies (Coetzee & Schreuder, 2018), and elements of proactive career self-management behaviour (Bezuidenhout, 2011; Van der Heijde, 2014). Coetzee and Schreuder (2018) provided evidence of positive associations between individuals' psychosocial employability attributes and career adaptability representing characteristics linked with proactive career self-management behaviour. Overall, the results emphasised that psychosocial career resources (employability attributes) and career cognitions (career adaptability) are elements of proactive career self-management behaviour that manifested as empirical predictors of career satisfaction and self-perceived employability.

In order to enhance the ability of knowledge workers to manage their own career paths successfully (Koekemoer, 2014; Sutherland et al., 2015), they should be guided through the development of positive career cognitions (career adaptability

and psychosocial career preoccupations), while exploring and enhancing career resources (employability attributes) to ultimately increase their employability and career satisfaction.

11.6   Implications for Theory and Practice

Industrial psychologists play an important role in assisting individuals with developmental processes and pathways that might lead to desired career outcomes, such as career satisfaction and sustained employability (Vondracek et al., 2014), which are important to facilitate career wellbeing.

Knowledge workers should be encouraged to participate proactively in training and development opportunities as part of their career self-management while ensuring that formal career discussions provide clarity on future upward and/or lateral career paths within the organisation (Coetzee, Oosthuizen, & Stoltz, 2016). Knowledge workers need to be enabled to decide, manage, organise and control their own careers. They need to take responsibility for their own career development by developing proactive adaptive behaviour patterns and career resilience, which are an important prerequisite for sustainable employment and career satisfaction (Rossier et al, 2017). Knowledge workers need to seek challenges that lead to a fulfilling career by getting involved in challenging work that provides learning opportunities (Van Staden & Du Toit, 2012). Knowledge workers need to explore lifelong learning capacities (goal-directed behaviour and continuous learning orientation) (Coetzee, 2016) related to career adaptability capacities, and utilise networking opportunities in order to create awareness and detailed information for sustainable employment.

Knowledge workers need to take responsibility for their own career development through career self-management, and they further need to be able to bounce back regardless of challenging career circumstances. Knowledge workers need to be proactive and future-orientated, be engaged in self-initiated activities to improve themselves and their career situation. Furthermore, knowledge workers need to control and be cognisance of important psychosocial career adaptation preoccupations, which predispose adaptive proactive behaviour. Finally, knowledge workers need to engage in social interactions and networking behaviour and be confident in their own abilities to attain sustainable employment and enjoy a satisfying career, which should facilitate career wellbeing.

11.7   Limitations and Suggestions for Future Research

The cross-sectional nature of the research design limited the causal inferences; therefore, it is recommended that longitudinal studies be conducted to examine how career satisfaction and self-perceived employability change over time, and to

explore further how career cognitions and career resources contribute to career satisfaction and self-perceived employability over time. The sample of knowledge workers was limited to the South African context, and cannot be generalised to other countries. Replication studies in other countries are recommended.

The research was conducted through the theoretical lens of the social cognitive career theory (Lent & Brown, 2006, 2008, 2013), the person–environment fit theory (Holland, 1997) and the COR theory (Hobfoll, 1998). More research can be conducted through the theoretical lenses of other contemporary career theories, such as the career construction theory (Savickas, 2013), self-determination theory (Deci & Ryan, 2000), and psychology of working theory (Duffy, Blustein, Diemer, & Autin, 2016).

11.8   Conclusion

This chapter made an important contribution to the theory of career outcomes by extending an understanding of how knowledge workers' career cognitions and psychosocial career resources could enhance career satisfaction and employability. The chapter further provided empirical evidence on the role of career cognitions and psychosocial career resources in the career satisfaction and employability of knowledge workers in the fourth industrial revolution.

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Louise Engelbrecht is a Lecturer teaching Human Resource Development at the Department of Human Resource Management at the University of South Africa. She is a registered psychometrist and industrial psychologist at the Health Professions Council of South Africa (HPCSA) and also a registered human resource practitioner at the South African board for people practices (SABPP). Louise Engelbrecht completed her M.Com degree in Industrial Psychology in 2012 at the University of Pretoria. She is currently a Ph.D student in Industrial Psychology at UNISA.

Part III
Career Wellbeing of People with Special Needs

Overview and Insights

This part, *Career Wellbeing of People with Special Needs*, comprises six chapters that illustrate the personal dynamics of the future-fit career wellbeing in the contemporary work context. The dynamics of self-regulatory (personal) conditions influencing career wellbeing such as work stress, work–family enrichment, genetic conditions, autism disorder and employability are highlighted.

Overview

Chapter 12 by Ingrid Potgieter, 'Workplace Friendship and Career Wellbeing: The Influencing Role of Mood, Health and Biographical Variables', provides a good introduction on the differing career wellbeing needs of individuals, specifically within the digital age. This chapter explored the relationship between workplace friendships (which is limited due to the technology used within the digital workspace) and career wellbeing. This chapter also explored the influence of an individuals' mood, health, age, gender and race on workplace friendships. It was found that health and mood significantly impacted workplace friendships. The author of this chapter contributed to career wellbeing research and practice by emphasising the importance of social support and workplace friendships in Industry 4.0 as well as introducing the possibility that individual differences play a role in career wellbeing. Some suggestions are included to enhance individuals' health and mood and resultantly form positive workplace friendships.

Eileen Koekemoer and Chantal Olckers, 'Woman's Wellbeing at Work: Their Experiences of Work-Family Enrichment and Subjective Career Success', in Chap. 13 build on the previous chapter by positing that woman has a unique need to obtain career wellbeing within Industry 4.0. Many women are mothers and active in the workplace. The complexity of these two roles makes it difficult to maintain a successful career and satisfying personal life, essential for career wellbeing. This chapter describes work–family enrichment and subjective career success within the

context of Industry 4.0. It was found that women who experience their work–family interface as enriching may develop feelings of subjective career success. This study advances the understanding that women do not only experience their work environments as challenging or negative (as suggested in work–family conflict literature) but may also experience the positive aspects related to their work, leading to positive work outcomes.

In Chap. 14, 'Framing Career Wellbeing Amongst Expatriate Workers: A Narrative Analysis', Willie Chinyamurindi explored the career development and career wellbeing of expatriate workers and identified links between psychological variables covering individual and organisational aspects related to expatriate workers. This chapter provided implications for theory, including a theoretical framework emanating around the career wellbeing of expatriates within Industry 4.0. This research study was a useful window in revealing not only the career wellbeing issues affecting expatriate workers but also the individual resourcing behaviours that accompany such behaviours. By paying attention to the issues raised in this study this can be useful (and continuing basis) for conversations and interventions that not only help expatriate workers to perform their jobs but assist their families as well. This balance is an important priority not only for the individual but also for organisational gain.

Chapter 15 by Elias Mpofu, Timothy Tansey, Ngonidzashe Mpofu, Wei-Mo Tu and Qiwei Li, 'Employment Practices with People with Autism Spectrum Disorder in the Digital Age', provides new insights on theoretical framing of employment support interventions for people with autism spectrum disorder, including the interface between behavioural-gradient, structural-infrastructure and psychosocial factors in vocational development with individuals with autism spectrum disorder. Increased understanding of smart technologies for workplace supports by employment agencies may enhance the employment participation by people with autism spectrum disorder. In consideration of the high turnover rates among employed individuals with autism spectrum disorder, it is essential to utilise digital technologies as workplace accommodations to support and improve their job performance. Practical implications of this chapter include taking into account level of functioning with autism spectrum disorder, structural-infrastructural supports and the use of digital technologies in career counselling of people with neurodiversity.

In Chap. 16, 'Work Adjustment and Career Wellbeing of People with Neuromuscular Disabilities', Ngonidzashe Mpofu, Susan Miller Smedema and James Athansou also agree that work adjustment in the digital age has implications for career social inclusion, involvement, job development and retention for people with special needs such as neuromuscular disability. This chapter contributes to future-fit career wellbeing theory by providing a theoretical background on the topic and identifies psychosocial implications of Industry 4.0 workplaces for people with neuromuscular conditions in terms of work adjustment and career wellbeing or job satisfaction. Future directions for research on people with special needs are included in this chapter.

Finally, Chap. 17, 'An Ethic of Care: A Hedeggerian Perspective On Career Wellbeing' by Margie Elley-Brown provides a theoretical understanding that the

ethic of care is advanced by the use of Heidegger's philosophy of care. This chapter indicated how career wellbeing in individuals and organisations can be improved by including an attentive ethical care perspective. The author indicates that a care perspective can be seen to offer an important step towards understanding the 'human' aspect of management, recognising that organisations are primarily social systems populated by existentially involved people. This chapter contributes to future-fit career wellbeing theory by providing guidance and suggestions for further research on care and career wellbeing. Such knowledge might not establish exact principles of 'how to' care but it may engender habits of mind and thought that can move us in some small way and remind us of what we do at work, and with whom and why that is significant and meaningful as this is in its very essence the most important aspect of career wellbeing.

Key Insights Contributing to Future-Fit Career Wellbeing Theory, Research and Practice

This part of the book positions career wellbeing in the realm of individual differences and people with special needs. The chapters focus on the theories of positive psychology, social exchange theory, career construction theory, the Minnesota theory of work adjustment, behavioural theory and the employment development theory. The authors of these chapters highlighted that personal factors play a role in the career wellbeing of individuals within the digital era. They provided compelling evidence of differences in the career wellbeing of women versus men. A common research theme in these chapters also argued that organisations should make reasonable work adjustments for people with special needs to enable them to achieve career wellbeing. The conclusion was drawn in all chapters that the utilisation of technology does pose some barriers and limitations; however, effective utilisation of technology could contribute towards enhancing the wellbeing of all people (those with and those without special needs).

The authors of the chapters in this section recommended that organisations should be aware of the special and differing needs of their diverse workforce and be mindful of these when implementing wellness programmes for future-fit career wellbeing. Measures to accommodate technology and to create social supportive systems were recommended to assist in the enhancement of career wellbeing. Another interesting and important recommendation made was that organisations should implement attentive care programmes as this will move the organisation towards the 'human' aspect of career wellbeing.

This part of the book contributed valuable knowledge and recommendations for research and practice. It was emphasised that interventions to improve health issues as well as creating an atmosphere for positive moods will significantly and positively influence career wellbeing. The chapters provided evidence that people with special needs can also experience healthy career wellbeing with the help of specific and personal interventions. Organisations should assist in providing psychosocial support and attentive care for people with special needs.

Chapter 12
Workplace Friendship and Career Wellbeing: The Influencing Role of Mood, Health and Biographical Variables

Ingrid Potgieter

Abstract Industry 4.0 and the use of technology and digitization have significantly impacted career wellbeing. Career wellbeing typically refers to an employees' satisfaction with their careers, performance and employability attributes. People with a high career wellbeing are more inclined to be happy and thrive in life overall, and therefore experience higher employee wellbeing and career satisfaction. Employees' career wellbeing also significantly contributes towards the organisations bottom line and productivity. Advancing research and knowledge in the psychosocial variables that influence the career wellbeing of employees has become imperative. The primary objective of this chapter was to theoretically explore the association and importance of workplace friendships for career wellbeing, specifically within the context of Industry 4.0. The secondary objective of this chapter theoretically and empirically explored the influence of health, mood, age, gender and race on workplace friendship. Only health and mood was found to significantly influence workplace friendships. Based on these findings, HR practitioners could utilise this information in assisting employees to build workplace friendships in order to enhance career wellbeing.

Keywords Industry 4.0 · Career wellbeing · Workplace friendship · Mood · Health

12.1   Introduction

12.1.1   *Industry 4.0 and Career Wellbeing*

The world of work has experienced radical changes during the past couple of years. Several researchers are referring to the new world of work as Industry 4.0.

I. Potgieter (✉)
University of South Africa, Pretoria, South Africa
e-mail: visseil@unisa.ac.za

Technology and the use of technology has become inevitable in everyday life and in industries. According to Austmine (2013), industries and the way of doing business are completely being transformed by technology. Almost all business practices are being digitized (Colbert, Yee, & George, 2016). Digitization is referred to as disruptive innovation that creates new business and social opportunities, while at the same time challenges traditional ways of doing business.

Digital technologies are intermingled into all parts of our lives and influence the social, economic and wellbeing dimensions of all individuals, at work and at home (Loveder, 2017). Pereira and Romero (2017) confirmed that Industry 4.0 will affect and change the way we work in all of its dimensions. These changes require that both organisations and employees change. It is a matter of keep up or get out.

In order to "keep up" for the future, employees are required to become autonomous, manage their own careers, have a life-long learning orientation, be creative and rely more on entrepreneurial skills (Beitz, 2015). They are furthermore required to develop new competencies, ranging from technological capabilities and data analysis expertise right through to emotional and social skills (Colbert et al., 2016). With the fast pace of changes, employees also need to show rapid innovation abilities, and ability to upskill themselves on a regular basis (Siekmann & Korbel, 2016). On the other hand, for organisations to "keep up", organisational structures and processes need to be redesigned (Kane, Palmer, Phillips, Kiron, & Buckley, 2016). Although it is important to stay fit for the future, the primary concern for many industries is staying in business and maintaining and enhancing their competitive advantage.

Industry 4.0 brought along changes between employees and machines. What employees use to do is increasingly being done by machines (Holland & Bardoel, 2016). The increased use of machines are influencing the quantity as well as quality of social interactions and therefore the opportunity to make friends at work (Turkle, 2011).

These challenges has a tremendous impact on the human resource management domain. Human Resource Professionals are challenged to provide stimuli to develop a positive social change and implement new digital systems and innovative organisational solutions (Butts, Becker, & Boswell, 2015). HRM professionals are required to help organisations and employees to shift to the 4.0 mind-set (therefore changing to digitally manage, organise and lead) (Bondarouk & Brewster, 2016; Strohmeier & Parry, 2014).

Several researchers expressed their concern that these radical changes and requirements of industry 4.0 will negatively affect the career wellbeing of employees (Coetzee & Gunz, 2012; Guest, 2017). Similarly, Savickas (2012) noted that industry 4.0 provokes feelings of insecurity, stress, uncertainty and anxiety amongst employees. These feelings have raised a concern for organisations over the wellbeing of their employees (Coetzee & de Villiers, 2010). Anxiety and stress-related feelings negatively influence employee productivity, compromising the competitive edge of the organisation.

Burke and Ng (2006) noted that the use of technology increased the flexibility of work schedules for employees, which in turn influences employee wellbeing. On

the positive side, the introduction of flexibility permits for the automation of routine tasks, increasing opportunities to work from home as well as greater access to information in the workplace (Guest, 2017). Guest (2017) also found that the use of technology increase workloads and demands, increasing the levels of stress of employees. It is evident that industry 4.0 positively and negatively influence career wellbeing. Organisations therefore need to assist in positively enhancing career wellbeing despite the challenges of industry 4.0.

12.2   Chapter Objective

The objective of this chapter relates to the belief that the presence of satisfying workplace friendship positively enhance career wellbeing. Theoretical evidence was found that health, mood, age, gender and race significantly influence workplace friendship; however, these associations were not tested within a workplace context.

Nielson, Jex, and Adams (2000) noted that it may be worthwhile to examine what factors facilitate workplace friendships in the first place. The objective of this chapter was therefore to empirically explore whether health, mood, age, gender and race significantly influence workplace friendship within a South African industry 4.0 work context.

12.2.1   *Conceptualising Career Wellbeing*

For many researchers, the studies on wellbeing originate from motivation theories (De Simone, 2014). Motivation theories introduced the primary ideas for the study of wellbeing as they try to understand the reasons why people behave in a certain way, as well as reasons that cause a specific behaviour. Previously, employees were merely seen as a "task executor", however, today human resources are at the centre of the organisations' focus as they significantly influence organisational performance and productivity. As a result, organisations need to understand the needs of employees, what makes them feel good and what will enhance their work performance. Over time, the essential motivation studies of Maslow, Alderfer, McClelland, Hertzberg, Vroom, Adams and Locke created a foundation that could be helpful in understanding career wellbeing and its functioning (De Simone, 2014).

Researchers have measured the concept of wellbeing for decades. Several researchers refer to the concept of wellbeing as comprising of various work and non-work satisfactionsenjoyed by individuals as well as general health (Cooper & Marshall, 1978; Danna & Griffin, 1999; Smith, Kaminstein, & Makadok, 1995; Stoia, 2015). It seems like wellbeing is a broad concept, taking into consideration the "whole person". Apart from physical or psychological indicators related to health, wellbeing includes context-free measures of life experiences (such as

happiness and life satisfaction) (Stoia, 2015). Career wellbeing includes job-related experiences, such as job satisfaction and commitment as well as more facet specific dimensions. Diener (2000) included physical, material, social, emotional, personal development, growth and progress in his definition of career wellbeing. The literature review has shown that wellbeing consists of three core dimensions, including psychological, physical and social wellbeing (Diener & Seligiman, 2002).

Rath and Harter (2010) categorised wellbeing into five distinct elements, which includes (1) social wellbeing (having solid relationships and love in one's life), (2) financial wellbeing (effective management of finances to reduce stress and increase security and stability), (3) physical wellbeing (having good health and sufficient energy to get things done on a daily basis), (4) community wellbeing (the sense of engagement and involvement with the people in the area you live in), and (5) career wellbeing (how one occupies his or her time and liking what you do every day).

It is evident that wellbeing in the workplace is a multidimensional concept. Career wellbeing include dimensions of job satisfaction, job involvement, affective organisational commitment, work engagement, positive and negative emotions and moods at work, intrinsic motivation, thriving and vigor (Fisher, 2010; Grant, Christianson, & Price, 2007; Page & Vella-Brodrick, 2009).

Individuals spend almost half of their lives managing their careers. The satisfaction employees have with their careers (known as career wellbeing) was found to be a significant predictor of overall wellbeing or satisfaction of general life (Kidd, 2008; Martinez-Marti & Ruch, 2017; Rath & Harter, 2010). Malinauskas, Dumciene and Lapeniene (2014) confirmed that work activities are intricately linked to health and wellbeing.

12.2.2   Importance of Wellbeing

The importance of wellbeing has been under investigation for decades. According to Danna and Griffin (1999), poor health and wellbeing negatively influence the workplace. More recently, Kowalski and Loretto (2017) emphasised that poor employee wellbeing leads to lower productivity and vice versa. Poor employee wellbeing relates to poor career wellbeing, which in turn leads to increased absenteeism, decreased productivity as well as lower levels of satisfaction and health (Danna & Griffin, 1999; Nica, Manole, & Briscariu, 2016).

Pahkin (2015) noted that low career wellbeing (such as job strain, stress and burnout) is a direct result of higher demands on employees. Industry 4.0 has thus contributed to higher levels of stress for employees within the workplace. According to Grobler, Joubert and Van Niekerk (2014), a stressful working environment negatively influence employee wellbeing and can lead to mental ill-health (such as depression, anxiety and tension) as well as physical ill-health (such as gastric disorders and cardiovascular problems). Liu, Siu and Shi (2010) that stress

in the workplace result in frustration, depression, anxiety and many other physical problems.

Several research has been conducted on the causes of workplace stress. Danna and Griffin (1999) found that work pressure was the most contributing factor to stress. A more recent study conducted by Profmed in 2017 amongst South Africans found that work was the biggest cause of stress. The respondents of this study claimed that workplace stress had both a physical and emotional impact on them (Profmed, 2017). It is therefore evident that the career wellbeing is not a new challenge for organisations, however, the introduction of industry 4.0 has drastically increased the stress levels of employees and therefore significantly influenced the importance of career wellbeing.

De Simone (2014) identified two interrelated sets of consequences of career wellbeing. One set of consequences (having the largest direct impact for employees) include physical, psychological and behavioural consequences. The other set of consequences (having a larger impact on the organisation) include health insurance costs, productivity and absenteeism. Rath and Harter (2010) found a direct link between career wellbeing and overall wellbeing. Many individuals don't realise how interlinked their career wellbeing is with their overall evaluation of their life and daily experiences. Gallup consulting (in Rath & Harter, 2010) suggest that career wellbeing might be the most important element of one's overall wellbeing because they enjoy what they do on a daily basis. According to Rath and Harter (2010), individuals with a high career wellbeing get more done and can work substantially longer hours without excessive stress and burnout (which in turn increase organisational productivity). In direct contrast, Harter and Arora (2009) found that employees with a low career wellbeing began to disengage with their work after just 20 h of work in a given week. It was also found that engaged employees are healthier than disengaged employees (even after controlling for age and prior health status). Furthermore, employees with low career wellbeing negatively impact the organisations' bottom line in the form of significantly higher healthcare costs and sick days (Harter & Arora, 2009).

Agrawal and Harter (2009) found that disengaged employees are more likely to suffer from depression, have a higher risk of heart diseases and experience higher stress levels. The use of technology increased the amount of hours employees work per day. Sparks, Faragher and Cooper (2001) noted that employees who work long hours are more inclined to unhealthy lifestyle habits (for example smoking, poor diet and limited exercise), which could lead to health problems. Work stress due to long hours can impact on psychological health, physical health and work wellbeing (Sparks et al., 2001).

From the literature review it is quite clear that industry 4.0 has significantly contributed to increased stress levels which in turn has a major impact on career wellbeing. The wellbeing of a workforce in turn has a direct impact on the organisation's bottom line. It is therefore essential to enhance the career wellbeing of employees. Jose, Ryan, and Pryor (2012) found a significant correlation between career wellbeing and workplace friendship. Little focus has been given to the study

of workplace friendships as friendship was seen as part of the private sphere and not important for organisational research (Grey & Sturdy, 2007).

To date, research has ignored the influence of industry 4.0 on workplace friendships. Due to the increased communication channels available to employees and the increased amount of employees working from remote locations, an investigation is essential to understand the influence of an electronically connected organisation on workplace friendships (Carlson, 2008; Rabby & Walther, 2003; Sias, Pedersen, Gallaghar, & Kopaneva, 2012).

Face to face interactions allow employees to get to know each other on a more personal note, thereby creating more opportunities to form a connection. A close friendship is nearly impossible for employees who telecommute on a full-time or part time basis. Increased time spend offsite means less time in the physical proximity of co-workers. In addition, the changing nature and demands of work makes it nearly impossible to find time for leisure activities and friendship (Pedersen & Lewis, 2012). This phenomenon creates a concern for organisations, as workplace friendship was found to have a direct impact on career wellbeing (Liao & Weng, 2018).

12.2.3 Theoretical Support for Linking Workplace Friendship and Career Wellbeing

Individuals spend most of their waking time at work than on any other activity. Inevitably, no aspect of an individual's life is unaffected by work. The type of work performed determines an individuals' socioeconomic status, personal identity, where they go and live as well as their social network (Vondrecek, Ford, & Porfeli, 2004). Chances are therefore high that individuals will select their friends from among the people they get to know through those settings.

According to Spencer and Pahl (2006), friendship is essential for wellbeing and social integration. De Simone (2014) concur that friendships at work enhance career wellbeing. Spreitzer, Sutcliffe, Dutton, Sonenshein, and Grant (2005) explains that quality friendships with co-workers creates a climate of trust and respect, which is essential to career wellbeing. These authors furthermore notes that employees are more engaged and display higher career wellbeing when they receive social support from colleagues (be it from the whole organisation, from a work team, from a work leader or from a work friend).

Several authors emphasized that workplace friendship is an integral part of career wellbeing (Grobler et al., 2014; Lee, Dean, & Jung, 2008). In support of this, Coetzee and De Villiers (2010) found that poor workplace friendships or a lack of workplace friendship is a major source of stress in the workplace and can negatively affect career wellbeing. In summary, it is evident that workplace friendship have a direct influence on career wellbeing.

12.2.4 Conceptualizing Workplace Friendship

Fehr (1999, p. 20) define friendship as a "voluntary, personal relationship typically providing intimacy and assistance". Friendship can take many different forms and levels of intimacy (Spencer & Pahl, 2006). Pedersen and Lewis (2012) described friendship as the sharing of mutual experiences and interests regarding a specific context (for example a workplace or a grief group) or activity (for example volunteer or sports group). The definitions of workplace friendship are however different from general types of friendship as it typically focus on friendships that occur in the workplace (Song, 2005). According to Berman, West, Maurice, and Richter (2002), workplace friendship is a nonexclusive and voluntary relation in the workplace with a co-worker, which includes commitment, mutual trust, common liking as well as shared values and interests. Pederson and Lewis (2012) agree that workplace friendship indicates informal ties between employees who support each other in various ways. Goldsmith (2007) note that such support might be through instrumental support (sharing of information and practical assistance), or emotional support (caring and being empathetic). Workplace friendship is thus fare more than just mutual acquaintances.

Nielsen et al. (2000) define workplace friendship as a two dimensional construct, including friendship opportunities and friendship prevalence. Friendship opportunities are the number of chances an employee has to get to know, communicate and work collectively with other employees within the organisation. Friendship prevalence is a feeling that an employee has strong friendships that are characterised by trust, confidence and a strong desire to interact.

Morrison (2004) found that many workplace friendships evolve from existing formal workplace relationships. Workplace friendship differ from workplace relationships. As opposed to workplace relationships, workplace friendship is voluntary (employees thus choose who they want to befriend) (Sias & Cahill, 1998; Sias, Smith, & Avdeyeva, 2003). Rawlins (1992) agrees that workplace friendship development is a continuing and privately negotiated process that depends on the free will of the persons involved. In addition, in contrast to workplace relationships, workplace friendship has a personal focus where individuals come to know and interact with each other as whole persons beyond their direct organisational roles (Sias, 2006).

Later research confirmed that workplace friendship frequently evolve from existing formal workplace relationships (Morrison, 2009), but very little is known on what influence this transformation from relationship to friendship.

12.2.5 Importance of Enhancing Workplace Friendship

For decades, workplace friendship has already been recognised as a vital part of the informal structures of an organisation (Krackhardt & Stern, 1988). The growing

tendency to use teams in organisations has brought attention to the people who forms part of the team and how they get along with one another. It is generally believed that employees who get along with each other will work better together (Duck, 1983). Organisations should thus put forth efforts to select people who might be compatible and create opportunities for them to form workplace friendships. More research on friendship in the workplace could therefore be useful to help create more effective work teams (Nielsen et al., 2000).

Morrison (2009) indicates that employees do not initiate and maintain friendships at work simply as a means to assist them in their work activities or organisational objectives, but as workplace friendships provide intrinsic rewards.

On an organisational level, workplace friendship increase institutional participation, motivates employees, maintains organisational goals, increase productivity, increase retention rates, and provide increased communication forums for information sharing (Grobler et al., 2014; Karbo, 2006; Nielsen et al., 2000; Ross, 1997). On an individual level, workplace friendship motivates employees, improves career wellbeing, enables the spread of trust and respect, reduce feelings of insecurity and uncertainty, helps employees move beyond gender and race stereotypes and assist in breaking the "glass ceiling" for a diverse group of people (Berman, West, Maurice, & Richter, 2002; Crabtree, 2004; Ellingwood, 2001; Hamilton, 2007; Marelich, 1996; Riordan & Griffeth, 1995).

Other research found that workplace friendship improve employees' experiences at work and positively affect the financial bottom line of the organisation through factors such as job satisfaction, reduced turnover intentions and enhanced organisational commitment (Morrison, 2005). Nielson et al. (2000) reported that workplace friendship positively influence work-related attitudes of employees and their behaviour, resultantly, enhancing organisational outcomes. Nielson et al. (2000) further found that friendship opportunities with the workplace are positively and significantly related to an employees' job involvement and job satisfaction (which in turn positively relates to organisational commitment and negatively to turnover intentions).

Gallup (in Rath & Harter, 2010) conducted an interesting study among 15 million workers and asked the workers if they have a "best friend at work". Those employees who did report that they have a friend were seven times more likely to be engaged in their work. Rath and Harter (2010) found that workplace friendships enhance employee retention, work quality and customer engagement.

Employees with healthy workplace friendships are better equipped to manage their own needs and emotions through cognitive processes (Lee et al., 2008). These employees are less likely to suffer from depression, anxiety and low self-esteem and more likely to enter into social situations and participate with other people (Lee et al., 2008), and consequently work within a team more effectively. Grobler et al. (2014) added that employees with a healthy workplace friendship seek support from their work friends and resultantly experience demanding and uncertain situations less stressful. According to Yildirim, Karaca, Cangur, Acikgoz, and Akkus (2017),

social support from friends in the workplace is an important factor in enhancing and maintaining employee wellbeing. Supportive relationships in the workplace improve career satisfaction and therefore positively influence career wellbeing (Karatepe & Olugbade, 2017).

Although there might be many reasons for studying the importance of workplace friendship, most research highlighted the following primary reasons: (1) the significant connotation between workplace friendship and work-related outcomes, (2) the influence of workplace friendship to the information structures of the organisation, (3) the growing tendency to use groups and teams within organisations, and (4) the overwhelming evidence of the link between workplace friendship and career wellbeing.

12.2.6   Factors Influencing Workplace Friendship

Not everybody shares the same sentiment with regard to workplace friendships. Different individuals and work roles attract and retain people with similar needs and values. For example, employees with vastly autonomous tasks (which requires very little social interaction) will be less affected by workplace friendships (or lack of friendships) in their workplace as opposed to those who work closely with others during their course of their day. In the same way, employees with different needs might be differently affected by social opportunities at work. Limited research was done in an organisational setting to determine what influence workplace friendships. However, there is overwhelming evidence of the importance of workplace friendships on organisational outcomes and career wellbeing.

Given the importance of workplace friendship, some research studies attempted to understand the factors that affect workplace friendship development. Contextual factors originate from the contexts in which friendships exist, both internal and external to the organisation (Sias et al., 2003). External contextual factors include socialisation outside the workplace as well as significant life events (such as an illness or a divorce). Internal contextual factors include components within the workplace (such as physical proximity, shared projects or tasks and shared work-related problems). Individual factors derive from the individual partners themselves and includes traits such as personality and perceived similarity. Research consistently shows that individuals are inclined to seek relations with people with similar traits and with people whose personality traits they like and admire (Sias & Cahill, 1998; Sias et al., 2003).

It is evident from the literature that industry 4.0 influence career wellbeing and several research confirmed the importance of workplace friendship for career wellbeing. However, limited research was done on what factors within an organisational setting influence workplace friendship.

12.3 Theoretical Support for Linking Mood, Health and Biographical Variables to Workplace Friendship

12.3.1 Workplace Friendship and Mood

Golden et al. (2009) found a significant link between friendships and mood. Several studies were conducted investigating the influence of group moods on organisational outcomes (Sabin & Gasper, 2002). Craig and Kelly (2000) found that positive group moods could improve group cohesion. Sanna, Parks, and Chang (2003) found that negative moods within groups could lead to increased disagreements and tension, making it very difficult to reach group goals. Rath and Harter (2010) found that employees with high career wellbeing would typically have positive moods. No research was found on the influence of employee moods on workplace friendship, specifically within the South African industry 4.0 workplace context.

12.3.2 Workplace Friendship and Health

According to Rath and Harter (2010), even if a worker struggling with physical health and wellbeing shows up for work, such an employee will have little energy to engage in social interactions and health might therefore negatively influence workplace friendships. Golden et al. (2009) also commented on the link between physical health and social support. No research was however found on the influence of employee health on workplace friendship, specifically within the South African industry 4.0 workplace context.

12.3.3 Workplace Friendship and Age

Along with the increased use of communication technology, organisations also changed in two other fundamental ways that may have an impact on workplace friendships. Firstly, employees can work from an off-site location due to telecommuting, and, secondly, the workforce are made up from individuals from all generations (millennials, generation X and Y, baby boomers and the "greatest generation" (Buckley, Beu, Novicevic, & Sigerstad, 2001; Carlson, 2008; D'Aprix, 2010; Morris & Venkatesh, 2000). As a result, employees are forced to work and interact with coworkers from different generational cohorts. Again, research failed to investigate the implications of these trends on workplace friendship.

12.3.4   Workplace Friendship and Gender

Several studies were conducted on the difference between workplace friendship for men and woman. Morrison (2009) found that friendship prevalence and opportunities had a stronger correlation with job satisfaction for men. Woman (as opposed to men) were more likely to acknowledge the benefits of workplace friendships in terms of social and emotional support during stressful times. Men described the benefits that friends provide at work as helping to "get the job done". Markiewicz, Devine, and Kausilas (2000) found that woman's friendships are more communal and involve more self-disclosure, supportiveness and complexity. Men's friendship were found to be instrumental, is organized around shared activities or interests and is action orientated rather than person-orientated. These studies were however not done in an organisational context. Research on friendships outside the workplace found that friendships that involves at least one female are more satisfying for most people (Morrison, 2005).

Morrison (2009) supports the idea that friendships in the workplace operate somewhat differently for men and woman, both in terms of the benefits obtained from friendships and in terms of organisational experiences and outcomes. However, a large gap remains in the literature regarding comparative studies of men and woman friendships in the workplace, especially in the South African diverse workforce.

12.3.5   Workplace Friendship and Race

Mendelson and Purdy (2003) conducted a study on friendship and race in elementary school children. They found no significant difference between friendships and different race groups. Levin and Van Laar (2003) however found contrasting results with regard to the relationship between friendship and race in their study conducted amongst university students. No study was found between workplace friendship and race within an organisational context.

12.4   Problem Statement

From the literature, it is evident that a theoretical link exist between career wellbeing and workplace friendship. Clear links have been established between workplace friendship and health, mood, age, gender and to some extent race. None of these links were however investigated within a workplace context. A large gap within the research therefore exist. An assumption will be made that these variables will also influence friendship within the workplace (Fig. 12.1).

From the literature, the following theoretical framework can be conducted:
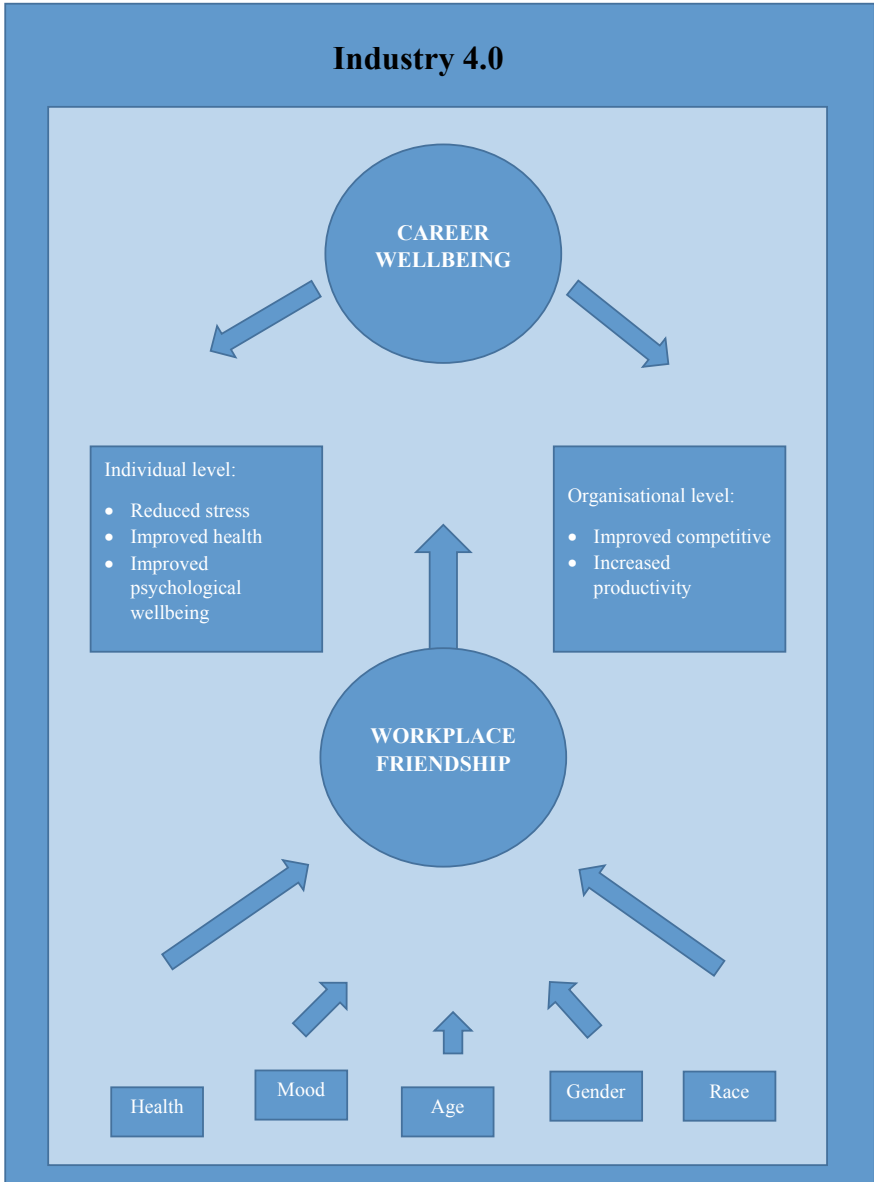
Fig. 12.1 Theoretical career wellbeing framework (own work)

12.5   Method

12.5.1   Participants

A random sample of six hundred and six (N = 606) professionals and working adults within South Africa participated in this study. Participants in the sample were predominantly White (56%) male (53%) between the ages of 26 and 40 years old (53%).

12.5.2   Measuring Instruments

The respondents completed a questionnaire guide, which included a biographical section, health, mood and workplace friendship scale (Nielsen et al., 2000)

The workplace friendship scale consists of 12 items, divided into 2 subscales (friendship opportunity and friendship prevalence). It is scored on a 7-point likert scale (1 = definitely disagree; 7 = strongly agree). Several studies confirmed the reliability of this measuring instrument (Bader, Hashim, & Zaharim, 2013). In the present study, scores from the overall workplace friendship scale obtained a reliability coefficient of .92. The internal consistency reliability coefficients of scores for the friendship opportunity scale obtained .89 and friendship prevalence scale obtained .88.

12.5.3   Procedure and Data Analysis

Ethical clearance and permission to conduct the research was obtained and the participants were invited to participate in the study via the Linked system. They were assured of privacy, anonymity and confidentiality of the data collected from them. Pearson's product moment correlation coefficients (r) were used to calculate the direction and strength between variables (Steyn, 2002).

12.6   Results

12.6.1   Correlation Analysis

As can be seen from Table 12.1, only some significant inter-correlations between workplace friendship and a set of persona attributes (health, mood, age, gender and race) were found. Table 12.1 shows that only mood ($r = .26$, small practical effect, $p \leq .001$) and health ($r = .17$, small practical effect, $p \leq .001$) had a significant

Table 12.1 Bivariate Correlations between health, mood, age, gender, race and workplace friendship

	Workplace friendship	
	Opportunity	Prevalence
Age	−.04	−.06
Gender	−.05	−.01
Race	.01	.02
Mood	.26***	.21***
Health	.17***	.12***

Notes N = 606; *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$. r $\leq$ .30 (small practical effect size), r $\geq$ .30 $\leq$ .49 (medium practical effect size), r $\geq$ .50 (large practical effect size)

relationship with workplace friendship opportunity. Similarly, only mood (*r* = .21, small practical effect, $p \leq .001$) and health (*r* = .12, small practical effect, $p \leq .001$) had a significant relationship with workplace friendship opportunity.

It therefore seems, that although age, gender and race significantly impacted on friendship in the social sphere, these biographical variables did not significantly influence workplace friendship in the working context.

Based on this empirical results, the following career wellbeing framework with industry 4.0 can be proposed (Fig. 12.2).

12.7 Implications for Career Wellbeing and Future Research

It is evident from the literature that career wellbeing has become an essential part of any organisation as well as for each individual employee. Organisations should embrace the opportunity to enhance the career wellbeing of employees as this will contribute towards greater returns for the organisation. As Pedersen and Lewis (2012) pointed out, successful organisations not only invest in the career wellbeing for the sake of an individual, but by enhancing career wellbeing can be used as a competitive advantage to recruit and retain valuable employees. Organisations know that by attracting top talent, they can convince prospective employees of the benefits associated with working for the organisation (such as satisfying relationships and friendships, financial security, improved physical health and community involvement).

It is not enough for organisations to merely acknowledge the importance of career wellbeing. Organisations should implement strategies in order to assist employees to enhance their career wellbeing. As this chapter focused on the role of workplace friendships in enhancing career wellbeing, implications and recommendations will be provided to assist organisations and employees to form and maintain meaningful workplace friendships.
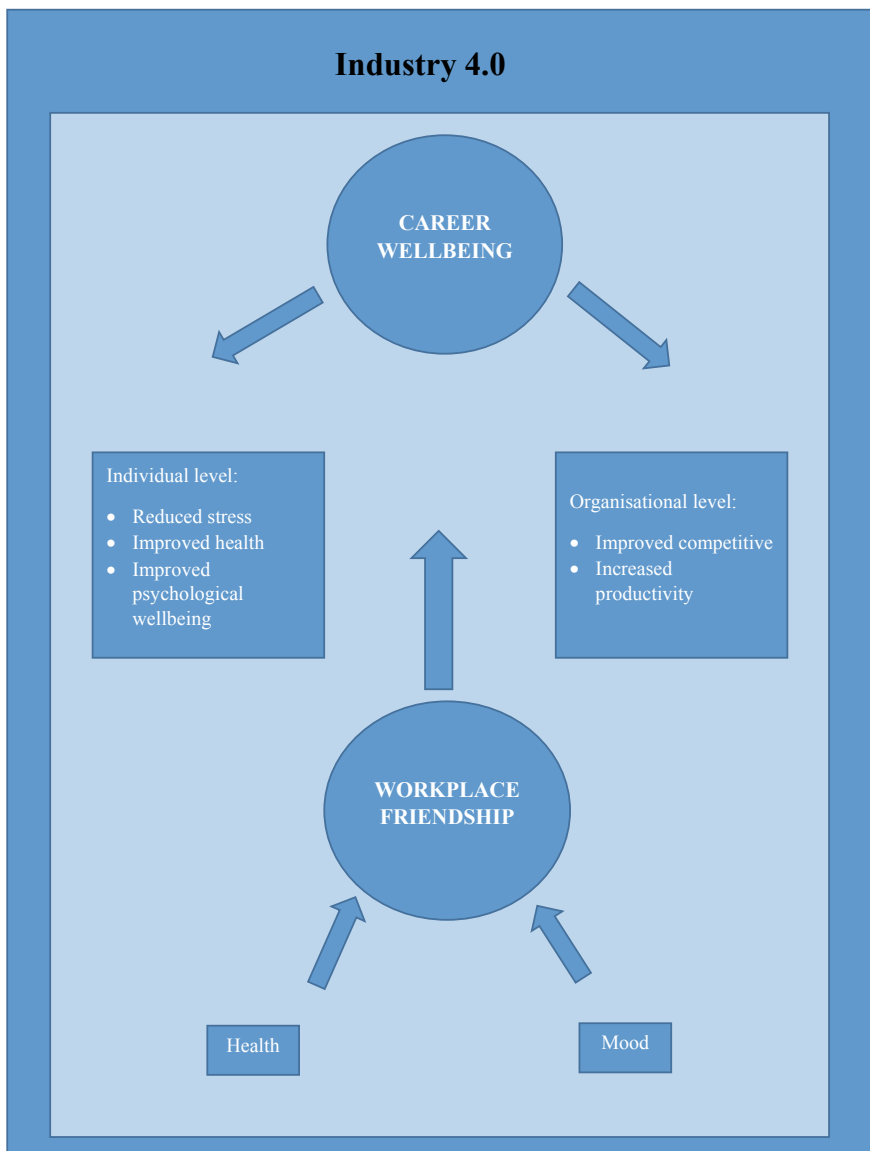
Fig. 12.2 Empirical career wellbeing framework (own work)

Making friends at work is something employees will do if they *want* to make friends. Rath and Harter (2010) were sceptical that organisations can really help employees to lead better social lives and form meaningful workplace friendships. Although this is true, organisations can create environments in which employee are more likely to make connections to co-workers and therefore form workplace

friendships. Organisations can furthermore help employees to recognize the need for quality social time during the workday and beyond.

Friendship opportunities can be created by making use of open plan offices. Research suggested that open plan offices gave employees the opportunity to be more involved in their colleagues' personal lives due to more frequent and close face-to-face interactions (Morrison & Macky, 2017). Industry 4.0 however decreased the opportunities for employees to have face-to-face interactions. Dainton (2007) found that workplace friendships can still be accomplished through consistent and regular interaction between employees, even if it is through telephones, emails or social networks. Ellison, Steinfield, and Lampe (2007) found that facebook was a useful tool in assisting individuals to maintain social relationships. Ledbetter (2010) however found that face-to-face interactions were more influential in forming and maintaining social connections between people as opposed to online communication channels.

Organisations should therefore strive to provide opportunities for face-to-face interaction whenever possible. In organisations where employees mostly work remotely, organisations should design organisational processes, and create opportunities so that employees meet and work face-to-face on a regular basis. This could be accomplished by scheduling regular on-site meetings or meetings at a satellite location, telework centre, professional conference or even arranging a social breakaway for employees. By creating such face-to-face interaction, opportunities to develop workplace friendships will be created. Organisations should furthermore encourage employees to work together on shared projects and tasks.

Sias et al. (2012) recommended that organisations should ensure that employees have easy access to teleconferencing to communicate with their fellow employees. Teleconferencing helps compensate for the social presence lost when employees are not able to communicate face-to-face. Supporting employees to teleconference can help employees to initiate and maintain workplace friendships when physical proximity and face-to-face interaction are difficult or impossible to access.

Redesigning projects to permit employees to work in teams enables them to share information and experiences which will likely provide a foundation for workplace friendships. Rousseau (1995) also reported that organisations should promote a climate of trust, openness and friendship amongst employees to make it easier for employees to connect to one another. Some managers and supervisors follow strict traditional norms of impersonal relations and have poor social and communication skills. Organisations therefore need to train managers and supervisors how to establish trust and openness within their different units.

Because the findings implied that mood and health affects workplace friendships, more than other personal attributes, human resource management professionals should focus on interventions to improve employees' mood and physical health.

Charoensukmongkol, Daniel, and Chatelain-Jardon (2013) suggested an emotional intelligent employee will be more likely to experience positive moods at work. Employees who are thus able to manage their own emotions as well as the emotions of their fellow employees will have good moods. Organisations should thus assist employees to enhance their emotional intelligence.

Perryer, Celestine, Scott-Ladd, and Leighton (2016) suggested that playing games within the workplace positively affect employee motivation and moods. They found that computer games make a significant contribution in satisfying the psychological needs of employees and therefore influence their mood at work. It is however essential to align the computer games with the long-term strategic objectives of the organisation, consider the different learning styles of the diverse employee group and allow mastery of these games at an individual's own pace.

Gamification within the workplace is a relatively new concept. Organisations can start to implement small and "fun" computer games within the workplace to introduce their employees to this concept and to increase employee motivation and moods. By introducing fun (work related) games, employees might also have more opportunities to build workplace friendships.

Organisations should assist employees (as well as their spouses and partners) to lead healthier lives. Organisations should create cultures and workplaces where employees have healthier choices. This can be in the form of a cafeteria or common dining area with low fat foods and on-site exercise activities. Such interventions could also enhance workplace friendships as employees might choose to eat and exercise together, therefore have more frequent face-to-face interactions. Furthermore, organisations can assist employees to be more healthy by providing incentives for healthier behaviours and provide physical education initiatives. Organisations should assist employees to take responsibility for their physical health.

12.8   Conclusion

This chapter established a clear link between career wellbeing and workplace friendship within the industry 4.0 context. Workplace friendship not only contributes towards career wellbeing, but also increase employee productivity and organisational effectiveness. As more organisations implement flexible working arrangements (because of the digitization of organisations), it is important to acknowledge that organisations should focus on assisting employees and providing them with opportunities to form workplace friendships.

The literature suggested that employees' age, gender, race, physical health and moods influence the need to form friendships. However, evidence was not found of these influencing factors within the workplace. The empirical study on this chapter found that only mood and health significantly influenced workplace friendships. Age, gender and race did not significantly relate to workplace friendships.

It is therefore recommended that organisations assist employees to have positive moods at the workplace as well as lead healthy lifestyles. By being positive and healthy, employees might be more inclined to form workplace friendships and therefore experience greater career wellbeing.

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Ingrid Potgieter is an Associate Professor in Human Resource Management at the Department of Human Resource Management at UNISA. She is a registered industrial psychologist at the Health Professions Council of South Africa (HPCSA) since 2009 and also a registered human resource practitioner and the South African board for people practices (SABPP). Ingrid Potgieter completed her M.com degree in Human Resource Management and Industrial Psychology in 2009 at the University of Pretoria. She completed her D.com Industrial Psychology degree at Unisa in 2012. She is also an author and co-author of several published articles in local and international journals. She presented several papers at national and international conferences. Ingrid Potgieter is a section editor for the South African Journal of Industrial Psychology.

Chapter 13
Women's Wellbeing at Work: Their Experience of Work-Family Enrichment and Subjective Career Success

Eileen Koekemoer and Chantal Olckers

Abstract An increasing number of women are entering the workforce. Many of them are mothers and are therefore expected to combine motherhood with occupation. However, because of the complexity of these two roles, it is difficult to maintain a successful career and a satisfying personal life, and this difficulty can influence women's commitment and intention to stay with organisations. Nonetheless, when women perceive this experience as enriching, it can enhance their career wellbeing and positively influence their perceptions of their subjective career success. This chapter describes work-family enrichment (WFE) and subjective career success (SCS), as well as an empirical study that the authors conducted. Given the importance of WFE and SCS for the overall wellbeing of employed women, this chapter's objective is to explore the possible indirect effect of SCS on the relationship between WFE and two retaining factors (i.e. commitment and turnover intention). The empirical study was based on the quantitative survey data obtained from 240 employed females, and mediation analyses were conducted using Mplus software.

Keywords Commitment · Structural equation modelling · Subjective career success · Turnover intention · Work-family enrichment

13.1 Introduction

While the number of women employed in organisations has grown rapidly, career wellbeing literature on men remains prominent, with male-defined constructions of work and career success continuing to dominate organisational research and practice (O'Neil, Hopkins, & Bilimoria, 2008). Despite evidence that women's involvement in the workforce can improve organisational performance, productivity, global competence and domestic economy (Broderick, 2012; Konrad &

E. Koekemoer (✉) · C. Olckers
University of Pretoria, Pretoria, South Africa
e-mail: Eileen.koekemoer@up.ac.za

Kramer, 2006), research findings on women's career wellbeing and the factors that influence their career success remain somewhat unclear. Studying the career wellbeing of women is of significant importance as the increasing complexities of combining and maintaining a successful career and a satisfying personal life could influence women's commitment and intention to stay in organisations (Armstrong, Riemenschneider, Allen, & Reid, 2007). However, women are more likely to be willing to continue working in organisations that actively promote their careers and support work-family balance (Ely, Stone, & Ammerman, 2014).

Research indicates that individuals' work experiences and future career expectations influence the quality of their work life to a large extent (Armstrong et al., 2007). Employed women are known to experience various challenges in their work environment, such as employer bias (Case & Richley, 2013), stereotyping (Guo & Liang, 2012), lack of family-friendly policies, and discriminatory organisational policies and practices (Thurasamy, Lo, Yang Amri, & Noor, 2011). Furthermore, Armstrong et al. (2007) identified some key factors influencing women's advancement opportunities (i.e. career wellbeing) and voluntary turnover, for example, *managing family responsibilities, work stress, work schedule flexibility* and *job qualities*. Their study revealed that women perceived the interaction between work and family as directly and indirectly impacting on both their advancement opportunities and voluntary turnover.

Although there is concern among researchers that women's involvement in multiple roles is detrimental to their physical and mental wellbeing, with the increased research interest in positive psychology, there are a number of studies reporting how employed women, in general, experience higher wellbeing (Rao, Apte, & Subbakrishna, 2003). Akram, Malik, Nadeem, and Atta (2014) argue that it is in the interest of organisations to manage the work-family relationships of employees, as these can enrich employees' family life and work performance.

Unlike previous studies that focused on women's career wellbeing from the perspective of the scarcity hypothesis (which includes aspects such as work-family conflict, burnout, and low performance at work) (Cortese, Colombo, & Ghislieri, 2010), this chapter aims to make a contribution by providing evidence in support of the enhancement hypothesis. This hypothesis proposes that multiple role investments bring status and privileges, increase self-esteem, and compensate for role strain (Marks, 1977). Viewed from this perspective, we suggest that if women experience their work-family interaction as enriching, it can enhance their career wellbeing and specifically their perceptions of subjective career success (SCS). Recently, Singh, Zhang, Wan, and Fouad (2018) pointed out that efforts towards retaining women need to take into account not only their attachment towards their field of work, but that working for a supportive organisation that enables them to simultaneously fulfil their work and family responsibilities is becoming crucial. This might even be enhanced by the fourth industrial evolution. According to Klaus Schwab, Chairman of the World Economic Forum, the fourth industrial revolution is "characterized by a much more ubiquitous and mobile internet, by smaller and more powerful sensors that have become cheaper, and by artificial intelligence and machine learning' (Prisecaru, 2016, p. 58).

Thus, given the importance of work-family enrichment (WFE) and SCS for the overall wellbeing of employed women, this chapter sets out to explore the possible indirect effect of SCS on the relationship between WFE and two retaining factors (i.e. commitment and turnover intention).

13.2 Chapter Objective

Given the importance of work-family enrichment (WFE) and subjective career success (SCS) for the overall wellbeing of employed women, this chapter's objective is to explore the possible indirect effect of SCS on the relationship between WFE and two retaining factors (i.e. commitment and turnover intention).

13.3 Theoretical Framework and Hypotheses

13.3.1 Work-Family Enrichment and Subjective Career Success

Traditionally, the interaction between work and family has been conceptualised as conflicting because simultaneous participation in several roles have been found to cause high stress levels (Greenhaus & Beutell, 1985). However, recent work-family literature views the engagement in multiple roles as a positive process, known as WFE. Certainly, one of the most cited definitions of WFE is that of Greenhaus and Powell (2006), which explains this phenomenon as the process whereby the resources gained in one role (e.g. work) positively influence the performance in another role (e.g. family) or vice versa. In this sense, WFE recognises the positive interdependence between work and family roles where resources are not fixed but may be reinvested in multiple domains (Greenhaus & Allen, 2011). While there are various definitions or concepts in the literature that explain this positive interaction between work and family (e.g. work-family positive spillover [Edwards & Rothbard, 2000]; work-family facilitation [Grzywacz & Butler, 2005]), this chapter adopts the concept of WFE.

The concept of career success has been well defined in the literature over the past few decades. Conventional explanations relate to how an employee is progressing in the hierarchy of an organisation, therefore individuals receiving higher wages are generally regarded as being successful in their careers (Judge, Cable, Boudreau, & Bretz, 1995). However, recent conceptualisations move towards distinguishing between objective and subjective career success. *Objective career success* is judged by external people based on a visible criterion such as job level, income, status, salary and occupation, whereas *subjective career success* implies individuals' subjective judgement/evaluation, which may include intrinsic elements such as job

satisfaction, work-life balance, self-enhancement, and work orientation (Heslin, 2005; Ng, Eby, Sorensen, & Feldman, 2005). In general, contemporary career scholars agree that career success is the "positive psychological or work-related outcomes or achievements one has accumulated as a result of one's work experiences" (Seibert & Kraimer, 2001, p. 2).

Recently, career scholars have recognised the need to expand their focus to accommodate the growing interest in the increasingly important connection between work-family interface and career success (Beigi, Wang, & Arthur, 2017). Work-family researchers also acknowledge this connection by stating that work-family interaction grants employees the opportunity to express themselves, which enables them to develop successful careers (Greenhaus & Kossek, 2014). The argument is that the resources employees receive at work (e.g. flexible work arrangements, autonomy) enable them to perform tasks more effectively, accurately and productively (Hanson, Hammer, & Colton, 2006), which leads to their experiencing their work-family interface as enriching (McNall, Masuda, & Nicklin, 2010). Consequently, because of WFE or work-family balance they are able not only to do their jobs more effectively but also to flourish in and be more satisfied with their careers (Amin, Arshad, & Ghani, 2017; Hirschi, Herrmann, Nagy, & Spurk, 2016). Moreover, resources could promote employees' motivation and energy, which could further foster a sense of satisfaction about their job and career, ultimately promoting SCS. This is also true for women as some studies have already indicated how the experience of work-family balance or WFE can lead to positive career experiences/advancement or job satisfaction (Jabeen, Friesen, & Ghoudi, 2017; Saleem & Asir Ajmal, 2018). Based on the above review, the authors formulated the following hypothesis for the current study:

H_1: Work-family enrichment is positively and directly associated with subjective career success.

13.3.2 Work-Family Enrichment, Commitment and Turnover Intention

When considering the outcomes of WFE, a positive relationship with organisational commitment is well documented (McNall, Nicklin, & Masuda, 2010; Odle-Dusseau, Britt, & Greene-Shortridge, 2012). This positive relationship suggests that employees who perceive their work as enhancing their personal lives (thus by implication they experience WFE), form a quality relationship with their organisation by developing a sense of belonging to and connection with their organisation and becoming affectively committed to their organisation (Akram et al., 2014). Marais, De Klerk, Nel, and De Beer (2014) reported positive relationships among women, for WFE and commitment. For example, in a recent study

of Bae and Yang (2017), women reported experiencing higher levels of commitment, because of having access to family-friendly policies that could promote WFE.

When considering how managing one's work and family life, influences employees' intentions to stay within organisations, empirical studies relating to work-family conflict is prominent (Amstad, Meier, Fasel, Elfering, & Semmer, 2011; Porter & Ayman, 2010; Singh et al., 2018). However, studies relating WFE and turnover intention are much fewer and have produced conflicting results. Some researchers found that WFE has a preventative role (Balmforth & Gardner, 2006), whereas others found that WFE is negatively related to turnover intention and actual turnover (McNall, Nicklin et al., 2010; Wayne, Randel, & Stevens, 2006). McNall, Nicklin et al. (2010) found that the availability of flexible work arrangements seems to help employees experience greater WFE, which, in turn, is associated with lower turnover intentions. However, in the meta-analyses of McNall, Nicklin et al. (2010), they found no support for the enrichment-turnover intention relationship. According to the authors this can be attributed to the limited number of studies in this regard, but it can also be explained by the notion that enrichment facilitates feelings and attitudes but not necessarily behaviour. Regarding such studies among women, Armstrong et al. (2007) found that women in the IT sector perceive the interaction between work and family as directly and indirectly impacting on their turnover intentions. Based on the findings mentioned, the authors of the current study formulated the following two hypotheses concerning WFE.

H_{2a}: Work-family enrichment is positively and directly associated with commitment.
H_{2b}: Work-family enrichment is negatively and directly associated with turnover intention.

13.3.3   Subjective Career Success, Commitment and Turnover Intention

Career success has been linked with work outcomes such as greater psychological wellbeing, heightened self-esteem, increased performance and organisational success (Simo, Enache, Leyes, & Alarcon, 2010). More specifically, it has been linked with affective commitment where employees who experience SCS feel more emotionally attached to their organisations. Simo et al. (2010) explained that individuals with high SCS tend to establish affective relationships with their co-workers and are therefore more involved in and show greater identification with their organisation, ultimately increasing their feelings of affective commitment towards the organisation. A recent study among Indian female workers found a positive relationship between organisational commitment and career satisfaction (Agrawal & Srivastava, 2018). Similarly, Dinc and Kocyigit (2017) found affective

commitment of female teachers to positively relate to job satisfaction. Although the literature frequently uses job satisfaction, career satisfaction and career success interchangeably, they are conceptually different and not equivalent (Heslin, 2005). Yet, the argument is that job satisfaction forms a large part of SCS (Judge et al., 1995) and that these two notions are often conceptualised similarly as SCS may lead to feelings of job satisfaction. Further, Weng and McElroy (2012) found that career growth accounts for significant variations in affective occupational commitment. This suggests that the happenings in an organisation affect the degree to which individuals identify with their chosen line of work and how they feel about their occupation. This line of argument resonates with the more contemporary conceptualisations of SCS.

Since employees have become less bound to specific organisations, their subjective career evaluations have become an important predictor of their turnover intentions (Guan et al., 2014; Weng & McElroy, 2012). Ding and Lin (2006) found that job satisfaction and career satisfaction have a significant effect on employees' turnover intentions. According to Sullivan and Arthur (2006), women are more inclined to perceive their careers as successful if they experience job satisfaction. This is in line with Chinyamurindi (2012) who suggested that women portray career development as a complex and not a hierarchical process, as traditional career theories would have it. It is therefore important to identify ways to enhance SCS to help enhance job attitudes, which are related to job performance and voluntary turnover (Dyke & Duxbury, 2010; Judge, Thoresen, Bono, & Patton, 2001). Based on the literature on SCS, the authors formulated the following two hypotheses:

H_{3a}: Subjective career success is positively and directly associated with commitment.
H_{3b}: Subjective career success is negatively and directly associated with turnover intention.

13.3.4 Theoretical Framework and Indirect Effect of Subjective Career Success

In view of the finding that employees are able to integrate their work and family roles, and may experience WFE as a result, Amin (2012) postulated that enhanced positive emotions at work can generate positive feelings about career success. In explaining and understanding the interplay between the concepts relevant to this study, the authors refer to the social exchange theory (SET). One of its main premises is that employees reciprocate by developing and displaying positive attitudes and behaviours if they perceive that their organisations provide them with benefits (Cropanzano & Mitchell, 2005). If we link this SET premise with the finding in the literature that a supportive work-family culture may lead to increased

WFE (in other words, if we combine the SET and WEF theories) we, can posit that employees' work and family lives are enriched (thus resulting in WFE) when organisations provide employees with benefits, for example, adequate resources. Thus, as stated above, employees will reciprocate in kind if they perceive that their organisations value and treat them equitably. This is in line with Simo et al.'s (2010) postulation that individuals perceive organisations as vehicles for their professional careers, and that their experience of career success may have desirable outcomes for organisations in the form of employees' affective commitment and lower level of turnover intent. Moreover, resources that organisations provide could promote employees' motivation and energy, further fostering a sense of satisfaction towards their job and career, which ultimately promotes SCS.

Aryee, Srinivas, and Tan (2005) explained that employees who experience WFE experience a sense of control over their family and work lives, contributing to increased self-esteem and therefore job satisfaction. According to the SET, employees who perceive their organisations as providing desirable benefits may feel encouraged to reciprocate by becoming more engaged and committed or feeling satisfied with their organisations and career. McNall, Masuda, and Nicklin (2017) confirmed that employees who see evidence of care from their organisations (e.g. it has flexible work arrangements) are more likely to reciprocate in the form of more positive attitudes and behaviours such as higher job satisfaction and lower turnover intention. According to Singh et al. (2018), employees working in a supportive environment that not only values their contributions but also recognises and supports their efforts in managing their various life roles, may be able to strengthen their psychological attachment to their job.

Taken together, acts of reciprocity (involving affective commitment and lower turnover intention) enhance the social relationship between the employer and employee and create a pleasing working environment. In all, these may stem from feelings of SCS. Therefore, the authors formulated the following hypotheses:

H_{4a}: Subjective career success   indirectly effects the relationship between work-family enrichment and commitment.
H_{4b}: Subjective career success   indirectly effects the relationship between work-family enrichment and turnover intention.

13.3.5   Purpose of the Empirical Study

Against the backdrop of the preceding discussions and given the importance of WFE and SCS for the overall wellbeing of employed women, this chapter sets out to describe the possible indirect effect of SCS on the relationship between WFE and two retaining factors (i.e. commitment and turnover intention).

13.4 Methodology

13.4.1 Research Design

Using a quantitative cross-sectional research design, the authors collected data to investigate the differences and relationships between the variables within the target population.

13.4.2 Participants

The study employed a convenience sampling strategy to draw 240 female respondents to participate in this research. Table 13.1 summarises the demographic information of the respondents.

   The sample of females were predominantly between the ages of 30 and 39 years (39.58%) and 21 and 29 years (25.42%), the majority were white (82.08%), Afrikaans-speaking (60.83%), married (63.75%), and mothers (63.75%). Most of the women worked in the mining industry (27.92%), had post-graduate qualifications (44.17%) and more than 10 years' working experience (59.58%). Most of them had been working in a male-dominant industry for more than 10 years (49.58%), had been employed in their current organisation for between five and 10 years (28.75%), and had been working in their current positions (mainly in middle management) (40.83%) for between five and 10 years (26.67%).

13.4.3 Research Procedure

The authors collected data from an anonymous web-based survey administered to participants. An introductory e-mail to participants explained the purpose of the study and assured them of anonymity and confidentiality. Completing the questionnaires were voluntary and the respondents had the advantage of completing the questionnaire in a time convenient to them. Participants were made aware of their right to refuse participation as well as their right to withdraw from the study at any time. Participants were provided with the contact information of the researcher in the case they have any queries regarding the study. Ethical approval was obtained from the Research Ethics Committee of the University of Pretoria.

13.4.4 Measures

We measured *WFE* with the MACE instrument (De Klerk, Nel, Hill, & Koekemoer, 2013). The instrument is bi-directional but we used only the 18 items measuring

Table 13.1 Demographic and biographic information of participants

Variable	Category	Frequency (*f*)	Percentage (%)
Age in years	21–29	62	25.83
	30–39	95	39.58
	40–49	48	20.00
	50+	27	14.58
Ethnicity	African	31	12.92
	Coloured	3	1.25
	Indian	9	3.75
	White	197	82.08
Home language	English	70	29.17
	Afrikaans	146	60.83
	African language	24	10.00
Marital status	Single	25	10.42
	In a relationship	52	21.67
	Married	153	63.75
	Divorced	8	3.33
	Widowed	2	0.83
Number of children	0	87	36.25
	1	59	24.58
	2	75	31.25
	3	15	6.25
	4+	4	1.67
Highest qualification	Grade 12	34	14.17
	Diploma	40	–
	Degree	59	24.58
	Post-graduate degree	106	44.17
Industry	Engineering	34	14.16
	Construction	17	7.08
	IT	14	5.83
	Mining	67	27.92
	Agriculture	13	5.42
	Science	17	7.08
	Manufacturing	15	6.25
	Finance	15	6.25
	Other industries (i.e. legal, security services, political)	48	20.16
Number of years with company	Less than 1	19	7.92
	1–2	39	16.25
	3–4	47	19.58
	5–6	33	13.75

Table 13.1 (continued)

Variable	Category	Frequency (*f*)	Percentage (%)
	7–8	18	7.50
	9–10	15	6.25
	More than 10	69	28.75
Number of years working in male-dominant industry	Less than 1	5	2.08
	1–2	18	7.50
	3–4	31	12.92
	5–6	21	8.75
	7–8	20	8.33
	9–10	26	10.83
	More than 10	119	49.58
Job level	Entry level	17	7.08
	Intermediate	54	22.50
	Middle management	98	40.83
	Upper management	48	20.00
	Executive	23	9.58
Number of years in position	Less than 1	27	11.25
	1–2	51	21.25
	3–4	57	23.75
	5–10	64	26.67
	10+	41	17.08
Number of years work experience	<1–2	15	6.25
	3–4	29	12.08
	5–10	52	21.67
	10+	143	59.58
	Missing data	1	0.42
	<1–2	15	6.25

work-to-family enrichment in four dimensions: *work-family perspectives* (relating to skills gained), *work-family affect* (relating to feelings gained), *work-family time management* and *work-family social capital (*relating to the support participants receive from colleagues). An example item is: "My family life is improved by my work showing me different viewpoints" (perspective dimension). A Likert-type rating scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used. Marais et al. (2014) reported a Cronbach's alpha coefficient of 0.91 for the work-to-family enrichment section of the MACE.

We measured *SCS* using the instrument which stemmed from the Cross-Cultural Collaboration on Contemporary Careers (5CC) project (Briscoe et al., 2014; Mayrhofer et al., 2016). Although it comprises seven dimensions, we used only five dimensions specifically related to subjective career success. These five dimensions

are measured by 17 items and include perceptions about *learning and development* ("Doing work that gives one the opportunity to learn"), *work-life balance* ("Achieving balance between work and non-work activities"), *positive relationships* ("Experiencing positive relationships with peers and colleagues"), *positive impact* ("Contributing to the development of others") and *entrepreneurship* ("Running my own business"). A 5-point Likert-type rating scale was used. This instrument is based on the 5CC project with the aim to develop a more comprehensive view of perceived career success across the globe. As this is an ongoing project, empirical studies applying this instrument is limited (Smale et al., 2019).

We measured *affective commitment* using the commitment scale of Meyer and Allen (2004), specifically the five items of the affective commitment scale, and measured them on a 7-point Likert-type scale. An example item is: "I really feel as if the organisation's problems are my own." A study conducted in South Africa by Magano, Thomas, and De Bruyn (2011) reported a high alpha coefficient of 0.80 for the affective commitment scale.

Using the Sjöberg and Sverke (2000) scale, we measured *turnover intent* (comprising three items) on a 5-point Likert-type rating scale. An example item is: "I am actively looking for other jobs." Sjöberg and Sverke (2000) reported a Cronbach's alpha value of 0.83. A Cronbach's alpha value of 0.98 was reported in a study conducted in a South African context (De Villiers & Stander, 2011).

13.4.5 Statistical Analysis

We conducted the statistical analysis using SPSS 25 and MPlus version 8. Using structural equation modelling with the mean and variance adjusted weighted least square estimator, which is suitable for categorical data analysis, we assessed model fit for both the competing measurement models and the structural model (Rhemtulla, Brosseau-Liard, & Savalei, 2012). To determine the factor structure and factor loadings of the observed constructs in the measurement models we employed confirmatory factor analysis. We evaluated model fit by examining the following fit indices against the cut-off criteria (shown in parentheses): Comparative fit index (CFI = $\geq$ .90); Tucker-Lewis index (TLI = $\geq$ .90); root mean square error of approximation (RMSEA = $\leq$ .08) (Wang & Wang, 2012).

In computing the internal consistencies of the scales, we calculated both lower-bound (Cronbach's alpha) and upper-bound (composite reliability) reliabilities (Olckers & Van Zyl, 2016; Wang & Wang, 2012). Values above 0.70 for both Cronbach's alpha and composite reliability were considered acceptable (Raykov, 2009; Struwig & Stead, 2001).

In addition, we determined the relationships between the latent constructs by means of Pearson correlations. Statistical significance of the relationships was set at 95% (p $\leq$ .05), whereas the practical significance of correlation coefficients was set at 0.30 (medium effect) and 0.50 (large effect) (Ferguson, 2009).

To investigate hypotheses H1, H2 and H3, we used structural regressions to determine the direction and statistical significance of the beta coefficients.

We assessed the indirect effects of subjective career success using the bias-corrected bootstrapping (BCB) method (Preacher, Zyphur, & Zhang, 2010) to obtain estimates and confidence intervals (CIs), and we set BCB to 10,000 resampling draws. A significant indirect effect is present if the bias-corrected 95% CI estimates do not go through zero (Rucker, Preacher, Tormala, & Petty, 2011).

13.5 Results

In determining the relationship between work-family enrichment, subjective career success, turnover intent and affective commitment, we followed a four-phased approach. First, we tested several competing measurement models to determine the best-fit model. Second, we computed the descriptive statistics, correlations and internal consistencies of the measures. Third, we estimated the structural model. Finally, we evaluated the indirect effect of SCS on the relationship between WFE and commitment as well as on the relationship between WFE and turnover intention.

13.5.1 Comparing Measurement Models

To determine which measurement model fitted the data the best, we compared several theoretical models. The observed variables served as indicators for the first-order latent variables. Modification indices indicated that if one item from the affective commitment scale and two items from the SCS scale (one item from leading and development and one from positive relationships) could be removed, model fit would improve. Therefore, we removed these three items from all four competing measurement models. However, we did not correlate or parcel any items to improve fit, and we left all error terms uncorrelated.

Using confirmatory factor analysis, we tested four measurement models.

- **Model 1** comprised four latent variables: WFE, SCS, affective commitment and turnover intent. A four-factor model for WFE was fitted to the data: work-family perspectives (measured by six items), work-family affect (measured by three items), work-family time management (measured by six items) and work-family socio-capital (measured by three items). A five-factor model for SCS was tested (i.e. learning and development, work-life balance, positive impact, entrepreneurial success and positive relationships), each factor comprising three items. Affective commitment consisted of four items and turnover intent of three items.
- **Model 2:** A four-factor model for WFE was fitted to the data: work-family perspectives (measured by six items), work-family affect (measured by three

items), work-family time management (measured by six items) and work-family socio-capital (measured by three items). A one-factor model for SCS was tested where all 15 items loaded directly on the latent construct. Affective commitment consisted of four items and turnover intent of three items.

- **Model 3**: A one-factor model for WFE was tested where all 18 items loaded directly on WFE. A five-factor model for SCS was tested: learning and development (measured by three items), work-life balance (measured by three items), positive impact (measured by three items), entrepreneurial success (measured by three items) and positive relationships (measured by three items). Affective commitment consisted of four items and turnover intent of three items.
- **Model 4**: A one-factor model for WFE was tested where all 18 items loaded directly on WFE. Further, a one-factor model for SCS was tested where all 15 items loaded directly on the latent construct. Affective commitment consisted of five items and turnover intent of three items.

Table 13.2 displays the fit statistics for the four competing measurement models. Since we used the WLSMV estimator, we tested for the chi-square difference using the DIFFTEST function in MPlus. Table 13.3 displays the various model comparisons.

The model comparison results displayed in Table 13.3 indicate significant chi-square differences between Model 1 and models 2, 3 and 4, suggesting that Model 1 fitted the data the best. The study took other fit indices, such as the TLI and CFI, into consideration also. Model 1, comprising a four-factor model for WFE (work-family perspectives, work-family affect, work-family time management and work-family socio-capital), a five-factor model for SCS (learning and development, work-life balance, positive impact, entrepreneurial success and positive relationships) and a one-factor model for both turnover intent and commitment, seemed to fit the data the best on all the proposed fit indices $\chi^2_{(725, N=240)} = 2029.98$; CFI$=.91$; TLI $= .90$; RMSEA$= .08$). All item loadings were significantly higher than Wang and Wang's (2012) .50 cut-off score and loaded significantly ($p < .001$) on the corresponding factors. Model 1 was therefore used as the structural model for further analyses.

Table 13.2 Fit statistics of competing measurement models

Model	χ^2	df	CFI	TLI	RMSEA
1	2029.98	725	.91	.90	.08
2	2271.40	692	.88	.87	.09
3	2514.57	729	.87	.86	.10
4	2740.82	696	.84	.83	.11

Note χ^2 = chi-square; df = degrees of freedom; TLI = Tucker-Lewis index; CFI = comparative fit index; RMSEA = root mean square error of approximation *$p < .01$

Table 13.3 Model comparisons

Model	$\Delta\chi^2$	$\Delta\ df$	p
Model 1 vs. Model 2	239.79	5	0.00
Model 1 vs. Model 3	309.78	4	0.00
Model 1 vs. Model 4	507.82	9	0.00

Note $\Delta\chi^2$ = change in chi-square; $\Delta\ df$ = change in degrees of freedom; *p < .01

13.5.2 Descriptive Statistics, Correlations and Internal Consistencies

Table 13.4 shows the descriptive statistics (means and standard deviations), scale internal consistencies and Pearson correlation coefficients of WFE, SCS, turnover intent and commitment. The mean score results of all the scales show that participants' answers tended to be on the positive side ("agree") of the scales. Further, acceptable internal consistency levels were found at both lower-(Cronbach's alpha > .70) and upper-bound limits (composite reliability > .70). WFE correlated statistically significantly positively with SCS ($r = .41$; p < .01) and commitment ($r = .44$; p < .01), and statistically significantly negatively with turnover intent ($r = -.48$; p < .01), all with a medium practical effect. Similarly, SCS correlated statistically significantly with commitment ($r = .45$; p < .01) with a medium effect, and statistically significantly negatively with turnover intent ($r = -.49$; p < .01) with a borderline large practical effect. These results provided support for hypotheses 1, 2 and 3.

13.5.3 Developing the Structural Model

We estimated the structural path model based on the best-fitting, most parsimonious measurement model, Model 1 (see Table 13.2). We found no difference between the chi square of the best-fitting measurement model and the structural model, suggesting acceptable model specification. The structural model, shown in Fig. 13.1, yielded the following fit statistics: $\chi^2_{(725, N=240)} = 2029.98$; CFI=.91; TLI = .90; RMSEA= .08). Table 13.5 shows the results of the regressions.

WFE statistically significantly predicted 46% of the variance in SCS ($\beta = .68$; SE = .06; $p < .01$), supporting *Hypothesis 1*. Further, the path between WFE and commitment ($\beta = .98$; SE = .10; $p < .01$) and the path between WFE and turnover intent ($\beta = .33$; SE = .11; $p < .01$) were statistically significant, providing evidence for the support of *Hypothesis 2a* and *Hypothesis 2b*. SCS statistically significantly predicted 35% of the variance in turnover intent ($\beta = .32$; SE = .12; $p < .01$), supporting *Hypothesis 3b*. Although SCS predicted 80% of the variance in commitment, the path was not significant ($\beta = -.30$; SE = .10; p > .01). As such, *Hypothesis 3a* was not supported.

Table 13.4 Descriptive statistics, reliability coefficients and correlations ($N = 240$)

Variable	$\bar{x}$	σ	ρ	α	1	2	3	4	5	6	7	8	9	10	11	12
1. **WFE**	3.73	.67	.90	.86	–	–	–	–	–	–	–	–	–	–	–	–
2. Work-family perspectives	3.72	.80	.96	.93	.84++	–	–	–	–	–	–	–	–	–	–	–
3. Work-family affect	3.61	.88	.84	.78	.87++	.60++	–	–	–	–	–	–	–	–	–	–
4. Work-family time management	3.83	.73	.91	.87	.84++	.65++	.66++*	–	–	–	–	–	–	–	–	–
5. Work-family socio-capital	3.74	.78	.84	.75	.80++	.56++	.61++	.52++	–	–	–	–	–	–	–	–
6. **SCS**	3.67	.73	.88	.82	**.41+**	.39+	.30+	.37+	.34+	–	–	–	–	–	–	–
7. Learning and development	4.03	.81	.94	.79	.35+	.37+	.25	.28	.27	.79++	–	–	–	–	–	–
8. Positive relationships	3.91	.86	.90	.78	.33+	.25	.24	.26	.32+	.81++	.69++	–	–	–	–	–
9. Work-life balance	3.39	1.13	.83	.91	.38+	.32+	.27	.40+	.28	.78++	.51++	.58++	–	–	–	–
10. Positive impact	3.87	.79	.90	.78	.23	.27	.17	.18	.16	.77++	.62++	.64++	.43+	–	–	–
11. Entrepreneurial success	3.17	1.14	.85	.86	.28	.26	.21	.24	.21	.71++	.38+	.37+	.40+	.43+	–	–
12. **Commitment**	3.36	1.06	.81	.82	**.44+**	.37+	.40+	.33+	.37+	**.45+**	.42+	.42+	.37+	.24+	.27+	–
13. **Turnover intent**	2.84	1.16	.74	.82	**–.48+**	–.39+	–.46+	–.35+	–.38+	**–.49+**	–.41+	–.42+	–.40+	–.30+	–.33+	–.88++

$\bar{x}$ = mean; σ =standard deviation; ρ =composite reliability; α = Cronbach's alpha, +Correlation is practically significant $r > .30$ (medium effect) ++Correlation is practically significant $r > .50$ (large effect). All correlations are statistically significant ($p < .01$)
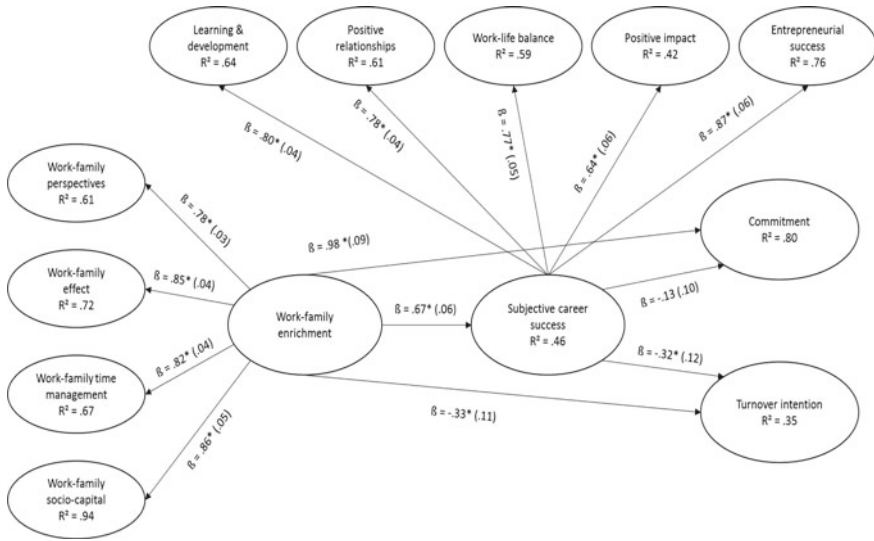
Fig. 13.1 Structural model (*Source* Author's own work)

Table 13.5 Regression results for the structural model

Structural path	β	SE	p	Result
WFE → SCS	.68	.06	.00	Significant
WFE → Commitment	.98	.10	.00	Significant
WFE → Turnover intent	.33	.11	.00	Significant
SCS → Commitment	−.13	.10	.20	Not significant
SCS → Turnover intent	.32	.12	.00	Significant

Note β = beta coefficient; SE = standard error, $p < .05$

13.5.4 Assessing the Indirect Effect of SCS

Bootstrapping results (presented in Table 13.6) revealed a significant indirect effect between WFE, SCS and turnover intent (.22; 95% CI: .06, .38) that did not go through zero. Thus, these results suggest that SCS indirectly affected the relationship between these variables; therefore *Hypothesis 4b* was supported. The indirect effect between WFE, SCS and commitment (−.09; 95% CI: −.25, .03) was, however, not significant ($p > 0.05$). As the CIs between WFE and commitment via SCS did include zero, we concluded that SCS did not have an indirect effect on the relationship between these variables. Therefore, *Hypothesis 4a* was not supported.

Table 13.6 Indirect effects of SCS

Variable	Estimate	SE	95% BC CI
Indirect effect (turnover intent)	.22	.08	[.06; .38]
Indirect effect (commitment)	−.09	.07	[−.25; .03]

Note SE = standard error; BC CI = bias-corrected confidence interval

13.6   Discussion

The purpose of this study was to investigate the concepts of WFE, SCS, turnover intention and commitment among women ($N = 240$). Our first objective was to determine whether WFE could predict women's SCS, and secondly, to investigate whether both WFE and SCS could predict the commitment and turnover intention of the women in our sample. Regarding the latter, we aimed to investigate whether SCS had an indirect effect on the relationship between WFE and turnover intention as well as between WFE and commitment. Overall, the results showed significant support for the assumption that women are likely to continue working in their current organisation if they experience that the organisation promotes their career and supports their work-family balance. However, contradictory to our hypothesis, the results indicated that although these women seem to want to remain in their current organisation (low levels of turnover intention), they will not necessarily do so because they feel attached to the organisation as a result of feelings of SCS. These results are explained later in the chapter.

First, we determined the relationships between WFE, SCS, turnover intention and commitment, and found a direct, significant relationship between WFE and SCS, with WFE predicting 46% of the variance in SCS. This suggests that women who experience their work-family interface as positive may develop feelings of SCS. Although the relationship between WFE and SCS has been established among diverse samples of employees, literature focusing on women in this regard is lacking. Predominantly, literature on employed women focused on the challenges they face in their work environment, and relevant studies used the scarcity hypothesis (Cortese et al., 2010). As a result, little information is available on how women may experience their work environments as positively contributing to their career success. For that reason, the findings of the current study significantly contribute to understanding the positive dynamics at play regarding women in their work environments.

Furthermore, the study established direct, significant relationships between WFE and turnover intention as well as between WFE and commitment in respect of the women in the sample. Concerning turnover intention and work-family interface, the majority of the literature shows significant relationships with work-family conflict (Amstad et al., 2011). Inversely, the current study found that women who perceive positive spillovers between work and family (WFE) are more committed to organisations and more inclined to stay.

Although the findings indicated significant relationships between SCS and turnover intention and commitment, results showed that SCS did not have a significant impact on the commitment of the women in the sample. Previous findings, however, indicated that employees who experience SCS are more likely to stay in their organisation and experience organisational commitment (Simo et al., 2010). It seems that the women in the current study (the majority of whom had been employed for more than 10 years, are between 21 and 39 years of age and have children) tended to remain in their current organisations although they did not seem to identify with their organisations at a significant level. Women tend to remain with their organisations due to financial implications especially if they do have children (Campbell, Campbell, & Kennard, 1994). Furthermore, Campbell et al. stated that a decrease in occupational commitment might be related to a specific life-cycle stage which might be evident in our study. Although working mothers perceived their family as their number one priority, they also consider their career as a highly significant priority in their lives due to the intellectual stimulation it provides. While their career is seen as a high priority, it does not necessarily mean that they advanced their career to the highest level—they might lower their career expectations of being promoted because of their family responsibilities (Grady & McCarthy, 2008). Instead, these women tend to choose a level of career that gives their life real meaning and that enable them to balance their work and family roles. Similar studies among women are limited; therefore the findings of the current study add to gender literature in this regard.

The final objective of this study was to examine whether SCS indirectly affected the relationship between WFE and commitment as well as between WFE and turnover intention. The current study confirmed that SCS indirectly affected the relationship between WFE and turnover intention but not the relationship between WFE and commitment. This suggests that, in respect of the women in the sample, WFE experiences not only contribute to the women's feelings of subjective success but may also serve as a reason for staying in the organisation. This finding confirms the theory on reciprocity between employer and employee. However, in respect of this sample of women, although WFE may lead to feelings of subjective career success, these feelings do not necessarily lead to increased feelings of commitment. Not finding support for the indirect effect of SCS between WFE and commitment is contradictory to the SET's assumption that employees will reciprocate by demonstrating positive outcomes (such as commitment). It should, however, be noted that in the literature, several studies attempted to explain the relationship between turnover intent and commitment. It might be that these variables simultaneously influenced each other in ways that differed from what was expected (a high correlation of $r = 0.88$ with a large practical effect was found between commitment and turnover intention in this study), and, given that both these were proposed as outcomes in the current study, different contradictory results were found. More research in this regard is needed. Further, since the majority of the women in the sample indicated that they had been working in the same organisation for longer than 10 years, one might argue that they are already experiencing career success and have experienced less turnover intentions, or are very loyal to the organisation, as can be deduced from their tenure in the organisations.

13.7 Implications for Theory and Practice

Unlike previous literature focusing on negative experiences and negative work-related outcomes, this chapter underscores the importance of positive experiences at work and how these experiences can lead to positive outcomes for employed women. The literature is clear on the rising turnover intention among women; however, this chapter proposes how employers can mitigate this by fostering positive work-place experiences. Based on the findings, the study suggests that the focus should first be on increasing women's WFE in order to retain them in organisations. Organisations should pay particular attention to aspects that make women experience their work-family interactions as enriching, aspects such as flexible work arrangements and work-family friendly policies. The 4th Industrial revolution or so-called *Internet of Things* might even make it easier for working women to foster their careers due to not only flexi-option work programs but to the fact that they can work from home. The productivity and effectiveness of these women might even be enhanced since they can send and receive data from other devices or individuals and transport costs as well as travel time can be saved (Prisecaru, 2016).

A supportive work-family culture can encourage feelings of WFE. Furthermore, as Simo et al. (2010) suggested, organisations should make an effort to increase women's subjective satisfaction with their professional career and should focus on factors that nurture this satisfaction (referred to in the current study as WFE). Other aspects that organisations can consider increasing subjective career success include offering positions with greater responsibility, delegating functions, giving recognition for work well done, enriching work positions, proposing training directed at increasing and continuously improving competence and professional skills, as well as developing personal efficiency.

13.8 Limitations and Recommendations for Future Research

The study had a number of limitations related to the data collection and analyses processes. First, the use of self-report measures might have resulted in socially desirable bias. Further, the cross-sectional nature of the study had an impact on exploring causal relationships between the various constructs; conducting a longitudinal study might determine the causal effect between the constructs. The relatively small sample size of 240 females might have had a potential impact on the strength of the relationships between the constructs as well. Further, the majority of the sample comprised white, Afrikaans-speaking women who were mothers, with the result that the generalisability of the findings is probably limited. Future research should take cognisance of these limitations.

13.9 Conclusion

This study investigated the relationship between work-family enrichment, subjective career success, turnover intent and commitment of women. According to the findings, women who experience their work-family interface as enriching, may develop feelings of subjective career success. In some instances, this may further contribute to their reciprocating by displaying positive attitudes and behaviours, for example, lower intent to leave. This study advances the understanding that women do not only experience their work environments as challenging or negative (as suggested in work-family conflict literature) but may also experience the positive aspects related to their work, leading to positive work outcomes.

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Eileen Koekemoer is an associate Professor in the Human Resource Management Department in the Faculty of Economic and Management Sciences at the University of Pretoria in South Africa. She is a registered Industrial Psychologist with the Health Professions Council of South Africa (HPCSA). Her areas of research include work-life interaction, career success and the wellbeing of employees. She is involved in various research projects investigating the interaction between employees' work and family life and how it influences their career success and/or wellbeing. She is the mother of three daughters and constantly juggles her own work-life balance between her children and her career as academic and researcher.

Chantal Olckers (Ph.D) is employed at the University of Pretoria as an Associate Professor in the Department of Human Resource Management. She is a registered psychologist (Category: Industrial) with the Health Professions Council of South Africa. She has completed a Doctorate degree in the field of Human Resource Management, specialising in psychological ownership. Chantal is a respected researcher, with contributions to several peer-reviewed journals, chapters in international peer-reviewed books, and has presented several research papers at both national and international conferences. Chantal is involved with the South African Journal of Human Resource Management as well as the South African Journal of Industrial Psychology as a Section Editor. She has extensive experience within the tertiary educational environment (as a lecturer and researcher), as well as within the private sector (as a consultant). Chantal has a passion for positive psychology and specifically psychological ownership.

Chapter 14
Framing Career Wellbeing Amongst Expatriate Workers: A Narrative Analysis

Willie Tafadzwa Chinyamurindi

Abstract Globally and in developing countries (like South Africa) there is an increase in expatriate workers. Empirical research concerning the career development processes of expatriate workers (mostly quantitative) has assisted in identifying links between psychological variables covering individual and organizational aspects related to expatriate workers. Notable gaps still exist within the literature around understanding the career development processes and career wellbeing of expatriate workers. This chapter illustrates the value of a qualitative inquiry using a sample of about 30 expatriate employees in information technology positions within the South African work context. The data was collected over a two-year period. Three main contributions emerged from the narrative analysis. First, the study shows the role of satisfiers and how these affect expatriate career wellbeing. Second, the study shows the role of inhibitors and the ensuing complexity they make on the expatriate's identity. Finally, in view of these satisfiers and inhibitors, a give and take negotiation process emerged based on the data analysis, called negotiation, re-negotiation, and no-compromise. Implications for theory, including a theoretical framework emanating around the career wellbeing of expatriates are presented based on the findings of this research.

Keywords Career wellbeing · Expatriate workers · Narrative analysis

14.1 Introduction

South Africa is currently undergoing a skills shortage. Within this, there is an acknowledgment of the need to be continually attracting and retaining expatriate workers especially those with specialized skills (Bussin & Brigman, 2019). Knowledge workers are argued to be those workers whose jobs entail the use of knowledge as a factor of production (European Commission, 2012). Further, and

W. T. Chinyamurindi (✉)
University of Fort Hare, Alice, South Africa
e-mail: chinyaz@gmail.com

through the use of such knowledge, organizations through their workers thus have a useful asset (Ferreira, Coetzee, & Masenge, 2013). Knowledge workers have been acknowledged to be important especially within the management literature (Drucker, 1959, 1999). In the present age, knowledge workers are argued to be an important work cohort especially due to advances with Information Communication Technology (ICT) (Dery, Sebastian, & van der Meulen, 2017; Kingma, 2016). In essence, such knowledge workers not only improve organizational capabilities but also national competitiveness (Teece, 2018).

The emergence and growth in the number of knowledge workers is also happening at a time when talent is moving easily across national borders. This has resulted in the notion of careers being viewed as boundaryless (Suutari, Brewster, Mäkelä, Dickmann, & Tornikoski, 2018) making expatriation common (Clark & Altman, 2016) as a vehicle in achieving organizational goals (Lehn, 2016). Knowledge workers have been observed to be individuals with a greater degree of technical skill, adaptability, and flexibility (Ceric & Crawford, 2016). This places emphasis on understanding the positive effect that knowledge workers exhibit relating to their careers and lived experiences, a state viewed as career wellbeing (Kidd, 2008).

The gaps in the literature are apparent. Calls exist within the literature to give an understanding not just to the struggles faced by expatriates but also issues around their adjustment due to the new context (Codell, Hill, Woltz, & Paul, 2011; Abkhezr & McMahon, 2017). Further, how the notion of a career identity develops within such a context can assist in coming up with interventions that speak to the identified challenges (Codell et al., 2011). Linked to this, a stream of work appears to be emerging seeking to understand how various aspects of work are affected by the context in which individuals work in (to include the role and value of technology to all of this) (Dale & Latham, 2015; Leonardi, 2013). This is actuated by calls for studying the discourse of knowledge management (Wang & Yang, 2016) with emphasis placed on understanding work and its relation to the application of knowledge (Leopold & Harris, 2009). This research positions individuals described as knowledge workers as important actors due to their expertise in a specialized discipline (Castro, 2015; Valdez-Juárez, Garcia-Pérez, & Maldonado-Guzmán, 2016).

Career wellbeing is noted as an important psychological construct that links with outcomes of work (Chen & Haller, 2015). In general, wellbeing refers to the condition of an individual within the context of life (Ryff, 2018). This may also consist of dimensions such as cognitive, social, physical and emotional wellbeing extending beyond the classification of health (Ryff, 2013). A model suggested within the literature by Ryff (1989) adds career wellbeing to consist of (a) self-acceptance—the state of having a positive attitude towards oneself; (b) positive feeling and attitudes towards other; (c) self-determination—a level of control over one's state of affairs; (d) environmental mastery—creating or choosing an environment which suits an individual's choices and finally, (e) seeking to achieve a sense of purpose in life through career pursuits. In essence, at the core, career wellbeing is really about personal growth (Kidd, 2008) and related to

organizational constructs such as job satisfaction (Locke, 1976). In essence, career wellbeing can consist of both organizational and employee wellbeing (Di Fabio and Kenny, 2019). The former giving reference to wider factors that are environmental in nature and how they influence organizational operation and the latter referring to those issues specific to the individual employee and their functioning.

Career wellbeing is chosen as a construct for this study based on three reasons. First, career wellbeing is an all-encompassing construct consisting of focus on an individual's cognitive, spiritual, physical and social experience within the confines of work (Clark, 2010; Kidd, 2008). This places advantage in the concept of career wellbeing. Second, career wellbeing is considered a holistic psychological state in nature given its focus and emphasis not only on positive emotions but also achievements and the meaning ascribed to this (Kidd, 2008; Rothmann, 2014; Schotanus-Dijkstra et al., 2016). Finally, more empirical work, especially within the South African context, is being encouraged into understanding further the concept of career wellbeing (Bester, 2018).

14.2 Chapter Objective

The objective of this chapter was to investigate and understand the factors and experiences that influence the career wellbeing of a sample of expatriates (especially those employed in ICT sections of various organizations) in South Africa. Notably, there is a growth in the number of foreign nationals coming to South Africa (Chiumia, 2016). Empirical focus within a South African context has mostly been centered on understanding the experiences of immigrant entrepreneurs (e.g. Fatoki, 2014; Rambe & Mpiti, 2017; Muchineripi, Chinyamurindi, & Chimucheka, 2019). The overall research question guiding this study was, 'what are the factors and experiences that influence the career wellbeing of a sample of expatriates in South Africa?

The rest of this paper follows a structure. First, the theoretical and empirical literature is presented. Second, the research design and methodology is given attention thereafter, the results of the empirical analysis follow. Finally, a discussion of the findings, recommendations for future research, the contribution and conclusion of the study follows.

14.3 Theoretical Consideration

In seeking to understand what factors and experiences influencing the career wellbeing of knowledge workers two theoretical lenses are considered: (a) the Job Demands-Resources (JD-R) theory (Bakker & Demerouti, 2007) and (b) the career construction theory (Savickas, 2005). These receive attention next.

The JD-R model suggests that the motivation of employees comes from job demands and job resources (Bakker & Demerouti, 2007). Carlson, Carlson, Zivnuska, Harris, and Harris (2017) highlight that the impact of job demands will be different from the impact of job resources on an individual level because the JD-R model proposes the idea that irrespective of the type of job, the risk factors (e.g. job stress) are associated with work pressure and can be categorized as job demands (Bakker & Demerouti, 2007). Carlson et al. (2017) stated that job demands as described by the JD-R model are aspects of the job that come with a psychological and/or physical cost and job resources are described as aspects of work that improve some aspects of finishing the job like having a flexible work schedule. Ryff (2013) further adds that this should incorporate dimensions such as the cognitive, social, physical and emotional wellbeing extending beyond the classification of health.

The career construction theory is used as a second lens of understanding the constructs under-study. The career construction theory not only assists in understanding an individual response to external environmental factors but also the adaptation that happens in response to individual role transitions (Savickas, 2005). This is something noted as praiseworthy by Di Fabio and Maree (2013) of the career construction theory given the shortcomings with traditional career theories of negating all this. Within the career construction theory, value is placed as mentioned on career adaptability giving currency to an individual's readiness and resources for coping with these varied career transitions (Mcllveen & Midgley, 2015; Savickas, 2005; Xie, Xia, Xin, & Zhou, 2016). Some form of individual readiness and engagement become key behaviors (Perera & Mcllveen, 2014) by employees to deal (or manage) continuous change at work (Curso & Rehfuss, 2011; Maree, 2015; Savickas, 2005).

14.4   Factors and Experiences Influencing the Career Wellbeing of Employees

A range of factors and experiences follow next that are identified as challenges to the career wellbeing of employees.

14.4.1   The Role of Environmental Factors of Career Wellbeing

Attention can be given to the role that the extraneous environment has on career wellbeing. There is an acknowledgment of a global shortage of talent management internationally (Schuler, Jackson, & Tarique, 2011) and in South Africa (Bussin & Brigman, 2019). In view of this shortage, the necessity exists for an inquiry into

new forms of work (Puranam, Alexy, & Reitzig, 2014; Van de Ven, Ganco, & Hinings, 2013) inclusive of a workplace that is volatile, uncertain, complex and ambiguous (Bennett & Lemoine, 2014). Work environments are not immune to the complexity that usually result from the environment in which they operate (Ekienabor, 2016). This subsequently creates not just emotional strain but affects the cognitive and physical facets of the individual (Beheshtifar & Nazarian, 2013).

Other factors in the environment may be of a social nature affecting the career wellbeing of expatriates. These may include discrimination (for example on gender and race) (Abur, 2014; Shortland, 2018). Ultimately this results in a lack of job satisfaction and an increase in experiences of frustration (Bader, Störmer, Bader, & Schuster, 2018). Shortland (2018) found that social factors emanating from the environment could also result in individual loneliness and constraints related to work and home life. In view of all this, Takeuchi (2010) gives cadence to interventions that not only appeal to the individual but also assists the families of these individuals in adjusting to these environmental changes.

14.4.2 The Role of Organizational Dynamics on Career Wellbeing

The extant literature also appears to affirm the role of organizational dynamics on individual career wellbeing. Variables such as job satisfaction (Laschinger, 2012) have been noted to impact on the career wellbeing of employees. The pressing workload has also been noted to assert challenges and strain on the individual (Lauring & Selmer, 2015; Jonasson, Lauring, & Guttormsen, 2018). This compounded by research showing that a positive relationship exists between the type of organizational support and expatriate intention to stay within an organization (Cao, Hirshi, & Deller, 2014).

Despite these wide-ranging organizational dynamics that influence an individual's career wellbeing, calls exist for continued research into exploring effective and effectual strategies (organisationally) assisting the development of expatriates (Rodriguez & Scurry, 2014).

14.4.3 The Role of Technology on Career Wellbeing

Technology is an important factor within the work environment and linked to individual and organizational outcomes (Limbu, Jayachandran, & Babin, 2014). These outcomes may be positive or negative for both the employee and the organization (Diaz, Chiaburu, Zimmerman, & Boswell, 2012). Arguments are made for continued empirical focus into understanding the influence of technology in relation to individual and organizational efforts/outcomes (Chinyamurindi & Mey, 2017).

The backdrop of all this being that the future of work cannot be separated from the value played and created by technology (Colbert, Yee, & George, 2016; Habraken & Bondarouk, 2017; Coyle, 2017).

Fedoroff (2012) notes the role of various ICT tools in not only assisting firms to be competitive but also their human capital. The usage of such new tools and ways of working often result in new forms of business models that are not only innovative (Chesbrough, 2010) but also meeting the needs of the customer (Lewin, Silva, & Carine, 2009). An example to cite with all this is the "gig" economy referring to a way of work centered on platforms that seek to connect workers and their clients in a unified and codified way (Harris, 2017). This has seen the "gig" economy become a popular way of work across the world (Sharpe, 2015). Such new forms of work processes can either affect the individual and their career positively or negatively. An irony thus exists here. On one side could be quests for allowing individual autonomy concerning when and how to work (Kirven, 2018). Conversely, the concern could be around threats imposed by technology and the insecurity that accompanies this (Friedman, 2014). Further, new forms of work may result in issues such as occupational stress (Glazer & Liu, 2017).

Some (Laschinger, Grau, Finegan, & Wilk, 2011) frame an organization-wide role and responsibility to include management and employees in assisting to make the work environment professional. The point to start from here could be to encourage positive work practices albeit environmental contexts that are hostile (Kesari, 2012). This can be done through more emphasis on training and development, an issue also argued in the literature.

14.5 Research Design and Methodology

In seeking to answer the research question, the research adopted an interpretivist philosophy using also the qualitative approach. It was envisaged that this philosophy and approach allowed for a way to explore a deeper and nuanced understanding of the phenomena under-study (Pheko, 2014). Further, the use of narratives and stories allowed for a way of understanding as these have been argued to allow understanding how people not only act but also enact choice (Smith, 2016).

14.6 Research Strategy

In-depth interviews with probing were conducted to allow individual participants to put their lived experiences in a narrative context for the attainment of the richest source of information (Smith, 2016). Interviewing helped in eliciting 'meaning-making' stories and reflections from those lived experiences and in understanding the rationale behind participants' responses (Chinyamurindi, 2016,

2017; Saldana, 2009). Narrative inquiry was utilized in this research, this is explained next.

14.6.1 Narrative Inquiry

Within organizational studies there is increasing use of narratives as a research method in exploring various aspects of organizational life. A stream of work has used narrative as a tool in studying how identity evolves over time including the sense made out of that experience in organizations (e.g. Wright, Nyberg, & Grant, 2012; Ybema, 2010). Others (e.g. Browning & Boudes, 2005; Currie, Finn, & Martin, 2010) used narratives to illustrate the interaction between macro and micro level practices on role transition and work-related emotions.

Czarniawska (2004) defined a narrative as an account of events and actions in chronological order. On the other hand, a grouping of these chronological compositions from narratives becomes stories or the individual life story (Riessman, 1993). Thus, narratives appear to serve the purpose of establishing meaning and order in the individual experience. Narratives also reflect people's accounts of their life events (Epston & White, 1992). This is to say there is a beginning, middle and an end (Bujold, 2004) to these events. The use of a narrative inquiry is seen as allowing for a "practical, comprehensive and holistic approach" (Del Corso & Rehfuss, 2011: 338) to understanding individual lives. Focus here is not just on traditional lines of qualitative inquiry but on doing narratives. This appears to make good sense, especially in light of the new careers literature agenda where the focus is more on understanding subjective career development experiences (Chudzikowski, 2012).

This research takes an approach of understanding career wellbeing from the vantage point of the individual rather than the organization. First, there is no organization present; the participants in this study are not making sense of organizational life but making sense of their whole lives through narratives. Second, though some insight can be gained from these pieces of organizational research, there are other things to consider outside organizations. An argument is made (Currie et al., 2010: 954) that individual construction and sense-making is "grounded in everyday interactions" and that some of these interactions may be outside the organizational setting and specific to the individual. This provides a platform for understanding how individuals make "sense of events" affecting their lived experience (Gephart, 1991: 37) and a source of individual knowledge (Czarniawska, 2004). This research thus argues for understanding career development not as a shared narrative in organizations but as something that is expressed through an individuals' construction of the meaning of the lived experience and interaction (Bruner, 1986; Rhodes, 2000).

14.7   Research Method

14.7.1   Sampling and Participants

A total of 30 knowledge workers took part in the research where data was collected over a two year period. A non-probability sampling method with a convenience sampling technique was employed in selecting participants (Cohen et al., 2011). The following inclusion and exclusion criteria were used to select participants: (1) a participant had to be working as an expatriate (2) a participant had to be a knowledge worker and finally (3) participant had to have working for at least three years as a knowledge worker. The criteria were further used by the key informants in the recruiting process. This ensured consistency in the information gathered from the participants' experiences. The participants' demographic characteristics are illustrated in Table 14.1.

Table 14.1   Demographic characteristics of participants

Participant	Gender	Marital status	Nationality	Position
1	Male	Married	Zimbabwe	Software Developer
2	Male	Single	Zimbabwe	Information Manager/Project Leader
3	Male	Married	India	Information Manager/Project Leader
4	Male	Married	Nigeria	Systems Analyst
5	Female	Married	Zambia	Information Manager/Project Leader
6	Female	Single	Zimbabwe	Software Developer
7	Female	Married	Zimbabwe	Systems Engineer
8	Male	Married	Ghana	Systems Engineer
9	Male	Married	Kenya	Hardware Expert
10	Male	Married	Nigeria	Software Developer
11	Female	Married	Rwanda	Systems Analyst
12	Male	Married	Zimbabwe	Software Developer
13	Male	Single	Zimbabwe	Information Manager/Project Leader
14	Male	Married	Tanzania	Software Developer
15	Male	Married	Ethiopia	Systems Analyst
16	Male	Married	Nigeria	Programmer
17	Male	Married	Uganda	Systems Analyst
18	Female	Married	Uganda	Software Developer
19	Female	Married	Botswana	Software Developer
20	Male	Married	Uganda	Information Manager/Project Leader

(continued)

Table 14.1 (continued)

Participant	Gender	Marital status	Nationality	Position
21	Female	Married	Kenya	Software Developer
22	Female	Single	Zimbabwe	Programmer
23	Female	Married	Nigeria	Software Developer
24	Male	Married	Kenya	Information Manager/Project Leader
25	Female	Single	Nigeria	Systems Analyst
26	Male	Married	Pakistan	Software Developer
27	Female	Married	Kenya	Programmer
28	Female	Single	Uganda	Systems Analyst
29	Male	Single	Namibia	Programmer
30	Male	Married	India	Systems Analyst

14.8   Data Collection Methods

A semi-structured interview schedule was generated to guide the interview process. Based on the inclusion and exclusion criteria, all potential participants were screened to determine if they fit within the parameters of the study. This is something recommended in the literature (Miles, Huberman, & Saldana, 2014). All interviews were conducted on the sidelines of the ICT summit held in the Eastern Cape Province cities of Port Elizabeth and East London. The interviews were conducted between February 2017 and November 2018 and lasted an average of 65 min.

14.9   Recording of the Data

14.9.1   Data Analysis

After the interview had been conducted, data were transcribed and imported into QSR NVivo version 11, a data management and analysis tool (Woods, Paulus, Atkins, & Macklin, 2016). To plot each story markers as advised by the literature were used. These were markers of stories namely orientation, abstract, what happened, evaluation and coda (Labov, 1972; Labov & Waletzky, 1967). This structure as used previously (e.g. LaPointe, 2010; Löyttyniemi, 2001) also helped reveal significant parts of the text that may warrant further investigation. This method also allowed not just for the identification of key events but also the plot behind the individual story (Fisher, 1987), including complexities in individual life as a way of sense-making (Maree & Beck, 2004). This way of plotting the story helped not only prepare the data for narrative analysis but organize large volumes of data.

A narrative analysis using the three levels of meaning-making was utilized. This type of analysis including the process of analysis has been used in previous organizational behavior research (Chinyamurindi, 2016, 2017; Harry et al., 2017; Richards, 2015). The process of analysis entailed:

- Level 1—each interview was read and the audio recordings listened to multiple times to understand and connect participants' lived experiences in migration and dirty work (Smith, 2016; Toolis & Hammack, 2015). Stories and structure were identified from the data.
- Level 2—helped to classify responses into meaningful categories where the factors, their meanings, and quotes based on their consistencies across the stories narrated by the individual participants were identified (Chinyamurindi, 2016; Saldana, 2009).
- Level 3—helped to analyze the content of the narrative accounts gathered as well as the factors that served as themes (Richards, 2015; Saldana, 2009).

14.10   Strategies to Ensure Data Quality and Reporting

Strict guidelines were followed to ensure data quality and reporting. Firstly, an interview guide was designed and reviewed by experts and was piloted in the validation process. Secondly, data collection lasted for a 24-month period, which allowed enough time for accurate transcription and researcher reflections. Data collection stopped only when the researcher was convinced that data saturation was reached, whereby no new information was extracted from the analysis. The researcher then checked and verified the factors that emerged to reduce subjectivity and optimize the validity of the analysis as well as the internal reliability of the research (Miles et al., 2014).

14.11   Results

Three main contributions emerged from the narrative analysis. First, the study shows the role of satisfiers and how these affect a knowledge worker's career wellbeing. Second, the study shows the role of inhibitors and the ensuing complexity they make on the knowledge worker's identity. Finally, a processual activity consisting of negotiation and non-compromise emerges in view of these satisfiers and inhibitors. These findings are discussed next.

14.12   Finding One: Satisfiers

Satisfiers were those issues that assisted in the career wellbeing of the knowledge workers. These satisfiers were mostly confined and related to the context of work as experienced by expatriates. These satisfiers included: (a) *financial benefits*; and (b) *opportunities for career growth*.

Work was perceived by participants to be offering financial benefits deemed important especially for expatriate workers. One participant succinctly put it this way:

> there is a global demand for our skills, especially for us within the information communication technology sector. You will find that the financial remuneration is not only better than in our home countries but also than any other career path. **Participant 3**

Allowing for this financial benefit positions the expatriates to be able to live more fulfilling lives and some participants reflected on how this manifests especially in a context with challenges:

> Given the good pay within my profession, I am able to not only take off my immediate family but also my family at home. You have to appreciate this can be an expensive project sustaining a home here in South Africa and my native country. The salary I get at the moment is enough for me to achieve all this. **Participant 1**

Financial benefits appear to be a core satisfier that characterizes not only the lives of the expatriate workers but extends towards their career wellbeing. The work done by the expatriate workers appears to offer a unique position that will allow individuals to contribute to their improved livelihood. In essence, when this is done personal relationships are enhanced. Table 14.2 provides some further quotes supporting this finding. Table 14.2 provides some further quotes supporting this finding.

The first sub-finding of financial satisfiers is linked to the second sub-finding of opportunities for career growth.

Participants to the study also gave priority to the importance of career growth opportunities as key especially given the current trends in society. One participant frames it this way:

> It's not so much about the money but the other non-financial opportunities that assist in my advancement. My company takes me to some local and international development opportunities. From this, I am enhancing my career portfolio and allowing to earn more money but also do my job to the best. **Participant 10**

Career growth opportunities not only enhance the individual's opportunity for advancement but were also linked to reducing high turnover. This is confirmed by two participants:

> So yes the money is good but most companies offer great financial packages, for me, it's the other things that also are critical. I have stayed at my current place of work for a bit now because of the opportunities like training, conference attendance and upskilling. **Participant 7**

Table 14.2 Satisfier: Financial benefits illustrating quotes

It's about the money—when you have the money you are not only happy at home but also at work. The good salaries in our sector assist in all this. **Participant 13**	Due to the remuneration, I can assist a lot of people back at home to improve their lives but also my own life in the harsh South African economy. **Participant 28**
I compare with my other friends working in other professions and careers. Financially it would appear that we in ICT are better off. **Participant 30**	I have moved three jobs in the last year — each job offering better financial remuneration. Three moves become sensible due to the end benefit. **Participant 5**
Recently our company is beginning to offer a range of financial options as part of employment. I have just signed up for some stock options. This is something you don't get elsewhere. A reason why I love my job. **Participant 8**	So there is the talk of the fourth industrial revolution, knowledge for me is the currency of such a revolution. For us, this is a great way for us not only to make money but also contribute. **Participant 15**
The South African ICT sector is financially rewarding as compared to what we experience back at home, yes, it's challenging to get in but once you are in you will enjoy the benefits. **Participant 20**	There is always work in our sector. More work means more money and a guaranteed source of income. This for me allows me to be able to do things I like and help my family. **Participant 6**

Table 14.3 Satisfier: Career growth opportunities illustrating quotes

The opportunity to grow allows one the opportunity to advance. Advancement does not necessarily mean leaving the company but growing within. **Participant 27**	Given information is the currency of our sector one of the things we have managed to place a priority on are those opportunities that advance ideas of opportunity in enhancing the information acumen of an individual. **Participant 22**
I am now studying further and for me to know the fees and all other expenses are met by my employer is appreciated. This makes me work even better knowing I am cared for. **Participant 11**	When I attend interviews next to the financial package, I prioritize career growth opportunities. I just don't want to be stagnant in a sector that is constantly changing. **Participant 15**
One of the career growth opportunities I appreciate with my employer concerns upskilling. It's a risk given the chances of a company investing in an individual who can leave them. For me, this not only noteworthy but rewarding. **Participant 18**	So within the ICT sector, companies are beginning to realize the need for a balance in the benefits they offer to employees. It is not about the money but also the opportunities that will help people not only perform their jobs but be happier. **Participant 23**
We usually host external experts to come train us but the best part is when we visit places like India and Texas on further development ventures. This experience is always uplifting in view of our industry. **Participant 14**	Opportunities for development should not be in those that place emphasis on getting knowledge but also assisting when things are not going well through psycho-social counseling. It's a highly stressful environment. **Participant 29**

> We usually get taken on an excursion with our families. You will understand why because our work takes us away from our families. Further, opportunities for promotion and handling big clients to show that our company cares for us. **Participant 5**

Table 14.3 provides further quotes supporting this finding of career growth opportunities and how this manifests within the context of work.

14.13   Finding Two: Inhibitors

Inhibitors were those issues that impeded the career wellbeing of the expatriate workers. These inhibitors were mostly confined and related to the work-life balance based on their work experiences. The most salient inhibitor was the strain on the work-home life.

The majority of the participants as shown in Table 14.1 flagged themselves as being married and it comes as no surprise the strain created by this affiliation. One participant narrated their experience:

> So as a systems analyst I have been on the road most of the time and this creates a strain on the home front. Last year alone I had to travel for at least two weeks a month. I spent most times in hotels and away from my family. My marriage suffered – not that I was a bad father and husband but I was just not there. **Participant 17**

Another participant narrated their experience and not necessarily characterized by being away from home through travels but the long hours of work:

> Software development requires long hours of work. As a female, you end feeling being suspected of spending too much time at work. As a result of this, your children are raised by your domestic helper as you come back late. **Participant 19**

Some of the participants who identified themselves as single also narrated challenges concerning the balance between the home and work life:

> I don't do the things I liked to do due to the long hours of work. I have had to cancel my gym membership as I don't have time to attend to this. I don't have time for my friends anymore, Don't get me wrong, I love my job and career-wise I am in a great space but the balance is just so overwhelming. **Participant 29**

Table 14.4 provides quotes supporting this finding of challenges from the work-home aspects and how this manifests within the context of work and home life.

Table 14.4 Inhibitor: Work-home challenges illustrating quotes

Conflict is inevitable but I sometimes feel that being in this job makes it something that comes with the job. **Participant 23**	Long hours of work just make it difficult especially when we are chasing a deadline. Meanwhile, you have other aspects to focus on like your relationships. **Participant 12**
Little or no support exists to assist us in managing the work-home balance despite the disastrous results showing a lack of management of this. **Participant 16**	What is the point of making money when you can't enjoy it with those who matter the most, your family? It brings a whole new perspective as to why we bother with all this. **Participant 19**
The challenges within the work-home aspects create maladies such as headaches and depression. So I am this well-paid but a depressed worker. **Participant 28**	Since I became a manager, I felt a pressure to perform and make sure that I perform to the best. Given my being a foreigner, the pressure doubles up and ultimately affecting relations at home. **Participant 3**
I know of someone who could not take it anymore and just left so they could build their home. **Participant 27**	When we have projects that require us to move up and about that is the worst time. We want to keep our clients at work happy but our clients at home are affected by all the travels and our absence. **Participant 1**

14.14 Finding Three: Negotiation, Re-Negotiation, and No-Compromise

Emerging from the findings was also processual career work that appears to oscillate between in individual (a) *negotiation*—those aspects individuals are willing to engage in dialogue about like work practices (satisfiers); (b) *Re-negotiation*—those aspects individuals and the organization constantly discuss to keep parties happy like remuneration (satisfiers) and finally, (c) *no compromise*—those aspects individuals are not willing to engage in any form of talk over issues like career mobility for the purpose of growth (inhibitors). Table 14.5 provides quotes supporting this processual career work amongst the participating expatriate workers.

14.15 Discussion

The purpose of this study was to investigate and understand the factors and experiences that influence the career wellbeing of a sample of expatriate workers in South Africa. Linking with the extant literature, the findings of the research illustrate the issues relating to expatriate worker's experiences within a South African context through the *satisfiers*, *inhibitors* and *the processual career work* related to this. These elements not only illustrate aspects of adjustment to the context (Codell et al., 2011; Abkhezr & McMahon, 2017) but also the sense-making that

Table 14.5 Processual Career Work: Illustrating Quotes

Negotiation	Re-negotiation	No compromise
I have arranged with my employer for me to come in early so I can leave knock off early to help my kids and wife. **Participant 11**	Given the competition in our sector, salaries are common and at times need to be done not just to everyone but on an individual basis. **Participant 19**	In the past three years, I have moved from three jobs – If I perceive no growth, I move. **Participant 6**
There is an expectation to work after hours but I even arranged I avoid this and come in half-day on a Saturday. **Participant 24**	I can come with an offer letter even if I don't want to leave but as a negotiation tool. This forces my employer to move to my demands. **Participant 9**	You get those employers who try to make promises to try and keep you. I have learned to read this from a distance and I am not prepared to move. **Participant 7**
Any three days in a month, my employer and I have come to an arrangement where I can work from home. **Participant 21**	You must keep on negotiating with your boss else these people can oppress you. Got an offer last week and I was not happy with this and so started more talks after initial talks. **Participant 18**	Somethings are just not for sale like my advancement. **Participant 13**
As a group of employees, we persuaded our boss to invest in technology that allows telework and teleconferencing. This has saved us unnecessary travel but also keeps us within the Eastern Cape without moving up and down, away from our loved ones. **Participant 2**	The latest response is to put a window period limiting the period you can come and re-negotiate salaries. This does not work especially in a context where demand for our skills is high. **Participant 16**	I read a place within a month and when I see there is nothing for me in terms of my own development, I leave. Why sit and hear promises when you can go where the real deal is. **Participant 20**

accompanies this process of adjustment (Chinyamurindi, 2016, 2017). Further, the findings of the research illustrate how a career identity emerges (Codell et al., 2011) through an interaction of a set of related factors and experience that include the individual, the organization and the wider external environment. This relatedness not only illustrates the career issues within expatriate careers but also answers to calls to empirical studies exploring this (Wang & Yang, 2016).

Expatriate workers in this study are positioned as career actors (Castro, 2015). Expatriate workers appear to exhibit individual resourcing tactics in seeking a vantage point that suits them. Priority is given (as illustrated in the findings) to (a) quests for better remuneration packages; (b) attainment of social status and finally, (c) living a life deemed to be meaning through their vocational pursuits. In attaining all these quests, expatriate workers either use *negotiation*, *re-negotiation*, and *no negotiation* not only to the benefit of the organization but also the

individual, bringing mutual gain (Carlson et al., 2017). All this happens within some form of contextual consideration (Valdez-Juárez et al., 2016). Using the JD-R (Bakker & Demerouti, 2007) it would appear that amongst expatriate workers there is a prioritization of seeking to work around job demands through resource behaviors such as *negotiation*, *re-negotiation*, and *no negotiation*.

14.16 Contribution

The study has attempted to make three main contributions.

14.16.1 A Theoretical Framework on the Career Wellbeing of Expatriate Workers

The first contribution of the study is through a theoretical framework proposed to understand the career wellbeing of expatriate workers. Figure 14.1 shows this theoretical framework.
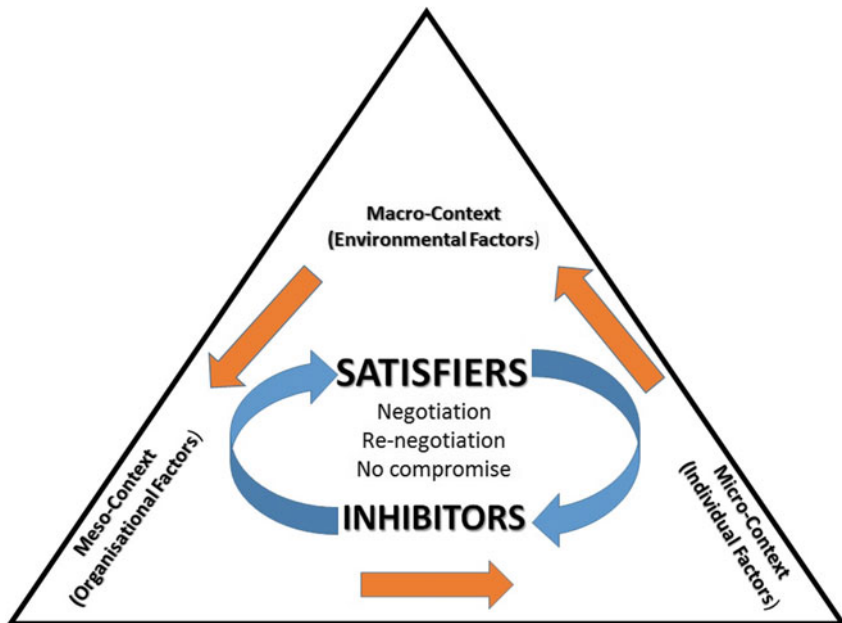
Fig. 14.1 At theoretical framework on the career wellbeing of knowledge workers

The theoretical framework generated from the findings of this research highlight some salient issues with ramifications within the contemporary career literature:

– **Satisfiers**—these are factors deemed to be favorable amongst those working within the work of expatriates. These factors as presented in the stories and illustrating quotes give focus to (a) remuneration; (b) status and (c) career growth.
– **Inhibitors**—these are factors deemed to impede expatriate workers and affect their career wellbeing. These factors include aspects that show the interaction between work and home life. Notably, (a) lack of work-life balance; (b) challenges in local culture adaptation; and (c) demanding work.
– **Environmental influencers**—the proposed framework emanating from this research also highlights the influence on the environment not only on the career development but also career wellbeing of expatriate workers. These factors include: (a) *the macro-context* with factors in the external environment like the political, economic, social and technological; (b) *the meso-context* with factors within the organization such as opportunities for career growth; work culture; and job demands emanating from organizational issues; (c) *the micro-context* with factors specific to the individual mainly covering those issues at an individual level prioritized to be of importance to the individual like work-life balance. All this appears to support the previous theorizing on the role of the environment especially amongst expatriate workers (e.g. Puranam et al., 2014; Van de Ven et al., 2013; Bennett & Lemoine, 2014; Ekienabor, 2016).
– **Processual career work**—the processual career work found within this study appears to oscillate between (a) *negotiation*—those aspects individuals are willing to engage in dialogue about like work practices; (b) *Re-negotiation*—those aspects individuals and the organization constantly discuss to keep parties happy like remuneration and finally, (c) *no compromise*—those aspects individuals are not willing to depart from or engage in any form of talk over like issues of career mobility for the purpose of growth.

The proposed theoretical framework on the career wellbeing of expatriate workers helps highlight through (see Fig. 14.1) through the **satisfiers** and **inhibitors** highlights those factors deemed important in attracting and retaining workers (Bussin & Brigman, 2019). Ultimately, through the **satisfiers** and **inhibitors**, an understanding of not only organizational but also determinants of work performance can be achieved (Lehn, 2016). The model uniquely does this within a South African context using a sample of expatriate workers.

Through the **processual career work** (*negotiation*, *re-negotiation*, and *no compromise*), the notion of a career being boundaryless (Suutari et al., 2018) is affirmed as this illustrates what expatriate workers are able to settle for and not settle for. The **processual career work** identified in this research through supporting previous findings showing the role of adaptability and flexibility amongst expatriate workers (Ceric & Crawford, 2016) brings the dimension of a no compromise as a sub-factor. This dimension represents a huge difference from

adaptability and flexibility in that it illustrates a point of no movement concerning issues that affect individual career development.

The final dimension from the proposed theoretical framework on the career wellbeing of expatriate workers gives cadence to the role of the environment. These facets include (a) *the macro-context*; (b) the *meso-context* and finally, (c) *the micro-context* and illustrate the role the context plays on career wellbeing (Kidd, 2008). This supports ideals within the career construction theory that posit individual adaptation and flexibility as part of career behavior happening through considering and adapting to environmental factors as part of their individual role transitions (Mcllveen & Midgley, 2015; Savickas, 2005; Xie et al., 2016).

14.16.2 Expatriate Workers as a Sample Group

The second contribution of the study heightens focus on expatriate workers as a sample group especially within a South Africa context. Much empirical work within the South African context has been centered on understanding the experiences of immigrant entrepreneurs (e.g. Fatoki, 2014; Muchineripi, et al., 2019; Rambe & Mpiti, 2017). This study extends from this by illustrating the career behaviors of expatriate workers.

14.16.3 Methodological Contribution

The study advances on research studies in South Africa that have used narrative inquiry within the confines of the organization (Chinyamurindi, 2016, 2017; Harry et al., 2017). Narratives, as illustrated in this research, appears to provide a strengths-based approach using an often neglected sample group in expatriate workers. The narrative analysis provided a platform of understanding not only the complexity but resolution tactics found within the context of their work. This is a welcomed move away from the predominant methods of inquiry that hinge mostly on the quantitative research approach.

14.17 Implications

Based on this study some implications are suggested considering the unit of analysis as used in this study, the expatriate worker. First, training and development opportunities need to be constantly given to expatriate workers as part of their career development and especially given the context they work in. This was

something that appeared to be prioritized by expatriate workers as illustrated in the data analysis. Further, from a human resources management perspective, the study gives attention to those factors that are prioritised by expatriate workers as part of their work experience. From this interventions can be proposed that may help not only keep expatriate workers in their places of employment but also within the country. Conversely, by paying attention, to the negative factors that influence career wellbeing as illustrated in this study, human resource practitioners can use this information to assist expatriate workers.

14.18 Limitations

Some limitations can be noted with this research. First, a notable shortcoming is the sample size used as part of this research. Future research could try and improve on this through a more rigorous means of attaining a reliable sampling frame. The second limitation to the study is that it only made use of a qualitative approach which meant that views expressed by participants to the study are subjective and not generalizable to the entire population of expatriate workers in South Africa. In essence, the findings provide a basis for understanding the sense-making processes (Chinyamurindi, 2016, 2017) that accompanies the expatriate experience within the contemporary career era. Future research could be conducted quantitatively to generate more objective data and test associations between variables using a larger sample size. Finally, future research could replicate this study especially in other countries and other industries as a basis not only for comparison but also in seeking for evidenced-based interventions that assist not just individual but organizational functioning.

14.19 Conclusion

This research study was a useful window in revealing not only the career wellbeing issues affecting expatriate workers but also the individual resourcing behaviours that accompany such behaviours. By paying attention to the issues raised in this study this can be a useful (and continuing basis) for conversations and interventions that not only help expatriate workers to perform their jobs but assist their families as well. This balance is an important priority not only for the individual but also for organizational gain.

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Willie Tafadzwa Chinyamurindi is an NRF Rated Researcher (Y2) and an Associate Professor within the Department of Business Management at the University of Fort Hare. He also serves as the Research Niche Area Leader within the Faculty of Management and Commerce at the same university. His research interests broadly are within human capital development, career management and the use of qualitative methodology within the management sciences. Willie is also an avid user of technology within teaching practice. He has presented at local and international conferences. He also continues to publish in local and international journals. He supervises honours, masters and Ph.D. students at the University of Fort Hare and Durban University of Technology. He has presented over 50 conference papers at various local and

international venues generated and over R1.8 million in third stream income that has helped fund students and his research projects. Willie received his Ph.D. in 2012 in the United Kingdom with the Open University Business School in Milton Keynes. His Ph.D. focussed on the use of narratives and stories in understanding the career development processes of previously disadvantaged individuals in South Africa. In his spare time Willie is an avid photographer, blogger and cricketer.

Chapter 15
Employment Practices with People with Autism Spectrum Disorder in the Digital Age

Elias Mpofu, Timothy Tansey, Ngonidzashe Mpofu, Wei-Mo Tu and Qiwei Li

Abstract Autism Spectrum Disorders (ASD) is a high-incidence condition affecting approximately one out of 68 of people. Adults with ASD are three to four times less likely to be employed than peers who do not have a disability. The high rate of unemployment of adults with ASD suggests a gap in employment development theory and practice knowledge addressing the specific needs of this population. This chapter provides new insights on theoretical framing of employment support interventions for people with ASD, including the interface between behavioral-gradient, structural-infrastructure, and psychosocial factors in vocational development with individuals with ASD. Practical implications of this chapter include taking into account level of functioning with ASD, structural-infrastructural supports, and the use of digital technologies in career counseling of people with neurodiversity.

Keywords Neurodiversity · Job development · Vocational rehabilitation · Career counseling · Disabilities · Employment outcomes · Digital resources · Opportunity structure · Autism

15.1 Introduction

Autism spectrum disorder (ASD) affects approximately one out of 68 children (American Psychiatric Association: APA, 2013). ASD is a set of neurologically-based developmental disorders characterized by difficulties with planning and sequencing tasks, social communication, and presence of perseverative or repetitive behaviors (APA, 2013). Furthermore, individuals with ASD have social skill deficits, a tendency to fixate on certain tasks or topics, difficulty adhering to routines, and process visual information more efficiently than verbal information (Standifer, 2009).

E. Mpofu (✉) · T. Tansey · N. Mpofu · W.-M. Tu · Q. Li
University of North Texas, Denton, USA
e-mail: elias.mpofu@sydney.edu.za

Consistent with other adults in society, work is of intrinsic value to people with ASD in enabling them to express their interest and their skills in self-fulfilling ways (Baldwin, Costley, & Warren, 2014). Research findings indicate that approximately 6–25% of people with ASD are employed (Newman et al., 2011; Nicholas, Attridge, Zwaigenbaum, & Clarke, 2015; Roux et al., 2012)—suggesting that they are three to four times less likely to be employed than working-age adults who do not have a disability (Hedley et al., 2016; Taylor & Seltzer, 2012).

The high rate of unemployment of adults with disabilities persists despite an increase in the number seeking vocational rehabilitation services (Burgess & Cimera, 2014). Individuals with ASD are likely to be underemployed with unfulfilling repetitive or routinized work tasks and to be passed over for job training opportunities (Baldwin et al., 2014) and to be skipped for job training opportunities (Baldwin et al., 2014). About 56–76% of adults with ASD with employment are with facility-based work setting rather than competitive employment (Migliore, Mank, Grossi, & Rogan, 2010; Taylor & Seltzer, 2011). For those who obtain employment, a variety of difficulties in work participation may arise such as issues with managing time and transitioning between work tasks (Gentry, Kriner, Sima, McDonough, & Wehman, 2015; Gentry, Lau, Molinelli, Fallen, & Kriner, 2012; Hill, Belcher, Brigman, Renner, & Stephens, 2013). These challenges lead to high turnover rates among this population (Gentry et al., 2015; Taylor & Seltzer, 2012). Findings of studies based on the National Longitudinal Transition Study-2 (NLTS2) dataset (e.g., Roux et al., 2012) and the Rehabilitation Service Administration (RSA-911) dataset (e.g., Burgess & Cimera, 2014) indicate a marginal-to-poor employment rate for persons with ASD. With a majority of the literature on employment participation by people with ASD has examined antecedents rooted in social inequality (Chiang, Cheung, Li, & Tsai, 2013; Hillier & Galizzi, 2014; Holwerda, Van der Klink, Groothoff, & Brouwer, 2012) or behavioral limitations (Bishop, Donald, & Lindsey, 2007), there is disappointingly little evidence on effective structural-infrastructural interventions to assist adults with ASD to obtain and retain employment (Howlin & Moss, 2012). This is despite the increasing use adoption of digital assistive technologies for employment participation.

Assistive technology refers to "any item or piece of equipment or product system acquired commercially, off the shelf, modified, or customized, and used to increase, maintain, or improve functional capability for an individual with disabilities" (Beard, Carpenter, & Johnson, 2007, p. 4). Digital Assistive devices (DADs) such as computer tablet devices, personal digital assistants (PDAs), and smart phones may help improve the job performance of individuals with ASDs (Baxter, Pike, & Reece, 2013; Burke et al., 2013; Gentry et al., 2012, 2015; Hill et al., 2013). Research on the utilization of PDAs by workers with ASDs is limited (Cihak, Fahrenkrog, Ayres, & Smith, 2009; Gentry, Wallace, Kvarfordt, & Lynch, 2010). Only a few studies have considered digital age technologiesfor employment support interventions utilizing digital age technologies (e.g., Baxter et al., 2013; Gentry et al., 2015; Hill et al., 2013). DADs are assistive technology devices that

compensate for or augment human work performance such as increased productivity and inclusiveness of persons with neurodevelopmental impairments in workplace diversity. DADs are increasingly ubiquitous in the work place. Mobility device (e.g., wheelchairs), computer modifications, and electronic devices are some examples of structural-infrastructural resources increasingly utilized to enhance the work participation of people with intellectual and developmental disabilities, including those with ASD.

Structural-infrastructural resource approaches to employment participation are those that address modifiable proximal factors to employment participation by proposing strategies, technologies and interventions premised on their evidence to improve work participation on the spectrum. For instance, a frequently cited barrier to accessibility in the workplace is a lack of job accommodations supporting adequate functioning of individuals with ASD (Khalifa, Sharif, Sultan, & Di Rezze, 2019). Job accommodations play a critical role in increasing and maintaining productivity for individuals with ASD in the workplace (Hagner & Cooney, 2005; Rashid, Thompson-Hodgetts, & Nicholas, 2018). Job accommodations refer to any adjustment or change to the job environment, actual job, or the way of doing things to allow a person with a disability to secure a job or acquire access to benefits available to other individuals in the workplace. By definition, they are structural-infrastructural resources for enabling people with ASD to engage in gainful employment. Empirical studies have supported the use of assistive technology for individuals with ASD in the workplace (e.g., Cullen, Alber-Morgan, Simmons-Reed, & Izzo, 2017; Gentry et al., 2012, 2015; Hendricks, 2010; Hill et al., 2013; Smith, Atmatzidis, Capogreco, Lloyd-Randolfi, & Seman, 2017).

To provide a background our discussion on the significance of structural-infrastructural oriented approaches to work participation of persons with ASD, we briefly discuss the work participation needs of people with ASD and the potential benefits of digital technologies to address low participation in employment. Next, we provide an overview on digital age tools that may improve the work participation of people with ASD. Finally, we propose implications for vocational rehabilitation interventions in which digital technologies are used as structural-infrastructural interventions and their potential to make a positive difference in employment outcomes of people with ASD.

15.2   Chapter Objective

Against the backdrop of the discussion above this chapter sets out to provide new insights on theoretical framing of employment support interventions for people with ASD, including the interface between behavioral-gradient, structural-infrastructure, and psychosocial factors in vocational development with individuals with ASD.

15.3 Barriers and Facilitators to Employment Participation with ASD

Personal perceptions of disability-related restrictions, and options to circumvent those limitations (say with accommodations), add a level of control by people with ASD over their social outcomes and employment participation. However, the severity of these restrictions is greater for people who have Low-Functioning Autism (LFA), particularly in the area of communication. In contrast, people with High-Functioning Autism (HFA) tend to have greater social and adaptive skills. Behavioral predisposition theories would explain differences in social outcomes with disability in terms of a social-behavioral gradient or continuum in which higher functioning with disability would portent lower supports to attain the same social outcomes as typical others (Mpofu & Mpofu, 2018). Persons with LFA generally present with more severe communication difficulties and secondary disability than persons with HFA; and for which they would require accommodations in more life domains than their high functioning peers.

In contrast, people with HFA may require accommodations in fewer life domains than their peers with LFA. High cognitive functioning is a better predictor of employment success in persons with ASD than any other personal attribute (Baldwin et al., 2014; Holwerda et al., 2012). Even within a level of ASD functioning, permutations on communication and others behavioral skills will vary significantly among individuals (Hendricks, 2010). Behavioral theory-oriented studies have considered the role of training persons with HFA in social and vocational skills (Hiller, Fish, Siegel, & Beversdorf, 2011; Palmen, Diden, & Lang, 2012) as well as employment preferences (Migliore, Mank, Grossi, & Rogan, 2007; Taylor et al., 2012). However, work preference measures may be of limited value for persons with low-functioning ASD who typically experience significant language and communication problems but be relatively appropriate with individuals with high functioning ASD.

Individuals with ASD are heterogeneous population and that no two individuals with ASD are identical in their employment support needs. With this caveat, we now consider barriers to successful employment outcomes by people with ASD for which structural-infrastructural interventions applying digital technologies would be a solution: atypical social skills, executive functioning and opportunity structure.

15.4 Social Skills

Individuals with ASD often experience communication and social difficulties with colleagues and supervisors (Camarena & Sarigiani, 2009; Müller, Schuler, Burton, & Yates, 2003; Ruef & Trumbull, 2002; Sperry & Mesibov, 2005). For that reason, individuals with ASD are at elevated risk of social exclusion at the workplace

(White, Keonig, & Scahill, 2007). Social skills are critical to workplace satisfac-toriness, or how one gets along with co-workers and supervisors, which determines the fit with the work setting as well as likelihood to retain employment. Individuals with ASD who have social skill deficits tend to fixate on certain topics and to process visual information more efficiently than verbal information (Standifer, 2009). Teaching social scripts and social stories is effective for developing social skills in people with ASD (Reichow & Volkmar, 2010). Although individuals with ASD can learn social skills from social scripts, they may still require prompting as not to miss out on social cues for the actions to engage (Loveland & Tunali, 1991).

The social engagement of people with ASD may be effected by comorbid mental health needs which are often undiagnosed within this population (Gotham, Bishop, Brunwasser, & Lord, 2014; Hassiotis & Turk, 2012), adding to workplace disad-vantage associated with lack of social participation skills (Gotham et al., 2014). Social skills programs, peer groups and self-management strategies have also been used to assist in improving social functions in structured school environment set-tings (Rogers, 2000), but much less so in employment settings. People with ASD are at elevated risk for exclusion from employment by implicit discrimination by employers, work colleagues and/or employment networks (Gewurtz, Langan, & Shand, 2016; Meyer, 2016), starting with the hiring process (Baldwin et al., 2014; Richards, 2012). With social skills deficits, the behavioral gradient effectively limits work opportunities of individuals with ASD due to perceptions of impairment-related restrictions and limitations that would cause undue hardship to prospective employers (Nesbitt, 2000).

15.5 Executive Functioning

People with ASD frequently have trouble in executive function-related tasks involving prospective memory, organization, planning, and goal-direction (Gentry, Wallace, Kvarfordt, & Lynch, 2010) that can diminish their work engagement with tasks that require simultaneous self and task monitoring. However, use of smart technology devices to compensate for these limitations can enhance task perse-veration and completion by people with ASD in competitive or ordinary settings (Baldwin, Costley, & Warren, 2014; Parr & Hunter, 2014; Scott, Falkmer, Girdler, & Falkmer, 2015).

Task accessibility, a function of ergonomic or workflow qualities, can influence the success that individuals with ASD in completing tasks in the expected time without disrupting the workflow or work unit performance (Benedyk, Woodcock, & Harder, 2009; Boff, 2006). These personal and task-structure qualities can pre-sent limitations to successful work performance and are amenable to utilizing technology assisted workplace accommodations for improving organisational skills, navigation and providing information in a way that is easy to understand and process (Burke et al., 2013; Gentry et al., 2012, 2015; Hill et al., 2013).

Individuals with ASD may experience difficulties managing work time; activity scheduling with use of digital assistive devices, such as computer tablets, personal digital assistants (PDAs), and smart phones may overcome those limitations (Baxter et al., 2013; Burke et al., 2013; Gentry et al., 2012, 2015; Hill et al., 2013). Assistive devices may also be utilized to promote independence among workers with ASD by prompting transitions between tasks, supporting on-task behavior and assisting with time management (Gentry et al., 2012; Hill et al., 2013). However, there is evidence to suggest that some individuals with ASD may fixate on the assistive technology, which may increase the amount of time to perform job tasks and be over-stimulating (Burke et al., 2013; Hill et al., 2013).

15.6 Opportunity Structure

Antecedent social inequalities can influence employment participation opportunities. As Shattuck and Roux (2015) aptly observe, "unemployment is not just an individual predicament", it is a social problem and research must address, "…the social environment and the impact of interventions targeting a community or policy level" rather than being overly "modifying individual behaviors and abilities" even though also "an important pursuit" (p. 246). Moreover, labor market dynamics such as the availability of works positions in communities and neighborhoods both sustain and drive social inequalities. Further, more than 75% of young adults with ASD lived with their families (Taylor & Seltzer, 2011). Families, in providing support to adult member with ASD, invest material, emotional and personal effort to access and retain employment for their family members (Hillier & Galizzi, 2014). Therefore, young adults with ASD from high income families had superior work participation compared to those from low socioeconomic status (SES) backgrounds suggesting the importance of social equity context in addressing employment of persons with ASD (Chiang et al., 2013; Hillier & Galizzi, 2014; Holwerda et al., 2012).

The use of digital age technologies to address these structural opportunities contingencies has not been adequately studied for their capacity to bridge work exclusion from social disadvantage. For instance, social support by family and peers may also assist people with ASD to achieve a range of job related functions, such as attaining and retaining employment as well as navigating workplace task assignments requiring collaboration (Cimera, 2010; Gentry et al., 2015; Hill et al., 2013). Likewise, impoverished communities have less social capital through community-based social networks to provide employment opportunities and development (Granovetter, 1995). Social inequality due to deprivations in access to general amenities (e.g., transportation, health care services, social services, personal safety) diminish employment opportunities in the communities or neighborhoods overall; and especially for people with historical social disadvantage such as people with disability. Structural-infrastructural type theory may explain employment outcomes for people with ASD by enabling the examination of latent social capital

effects on employment outcomes (see also Migliore, Gross, Mank, & Rogan, 2008). Conceivably, with use of digital technologies such as online or mobile app employment services with social media networked others, people with ASD may be able to access the larger market of hidden jobs often not advertised by employers.

15.7 Digital Technologies for Work Participation on the Spectrum

The use of DADs for job accommodations among individuals with ASD has recently gained increased attention from vocational rehabilitation (VR). DADs of interest are those characterized as portable, customizable, capable of handling large amount of data storage, and accessible with touch screens and multimedia input and output (Hill et al., 2013). Given those features, digital technologies not only provide an interface to promote independence for individuals with ASD and increase accessibility in the workplace (Myles, Ferguson, & Hagiwara, 2007; Stock, Davies, Davies, & Wehmeyer, 2006), but also demonstrate cost-effective potentials by reducing job coaching hours (Gentry et al., 2015).

15.8 Personal Digital Assistants (PDAs)

PDAs can improve the job performance of people with ASD across a range of job related functions, such as navigating around the workplace and performing tasks accurately (Gentry et al., 2015; Hill et al., 2013). PDAs have been utilized successfully in school settings with students who have ASD to improve their performance in a number of areas (Cihak et al., 2009; Gentry et al., 2010; Mechling & Savidge, 2011). PDAs support independent task completion and task transitioning of students with ASD (Cihak et al., 2009; Mechling & Savidge, 2011). PDAs also facilitate task acquisition and maintenance by children and adolescents with ASD (Bellini & Akullian, 2007). The acquired skills could also be generalized across a range of settings (Bellini & Akullian, 2007), suggesting that PDAs could be utilized successfully within workplace settings to support adults with ASD to improve their job performance.

PDAs with video modelling and prompting may be an effective strategy for training adults with ASD to support and maintain accurate task performance (Burke et al., 2013; Kellems & Morningstar, 2012). Individuals with ASD can perform tasks, such as filling shelves or shipping tasks, with a higher level of accuracy if they are provided with a PDA that have video modelling and prompting of the task (Burke et al., 2013; Kellems & Morningstar, 2012). Furthermore, evidence suggests that individuals with ASD utilised PDAs with video modelling and prompting to maintain skills they had learnt by viewing the material before and during task

completion (Kellems & Morningstar, 2012). Notable in these studies was that the participants were individuals with HFA. As such, there is a lack of evidence to support the utility of PDAs to improve the task performance of individuals with LFA. In workplace settings there are other areas PDAs could potentially be utilized to provide job supports.

PDAs can be utilized as a workplace accommodation to support on-task behaviour, task transitioning, navigation, behavioural management and thus overall job performance (Gentry et al., 2012, 2015; Hill et al., 2013). For instance, PDAs with alarm and verbal reminder applications significantly reduced the amount of supervision that was required to ensure individuals with ASD stayed on task and moved from one task to the next (Gentry et al., 2012, 2015; Hill et al., 2013). The number of times individuals who became lost in a workplace was also reduced with way finding videos recorded on a PDA (Gentry et al., 2012). Furthermore, PDAs significantly reduced anxiety experienced by workers with ASD and related problematic behaviour (Gentry et al., 2012). The available research supports the use of PDAs by individuals with HFA to improve their job performance in areas such as task performance, way-finding and behavioural management. However, the following case examples are illustrative of the implementation of PDAs for this purpose:

Case Example #1: Mr. Paul Southern, with Work iPad and Digital Calendar

Mr. Paul Southern is a 42-year-old with high functioning autism spectrum disorder, living independently. He is employed as a furniture mover by a local contactor delivery service. His essential job functions include loading and offloading furniture from the truck, as well as helping customers place delivered furniture pieces in their desired locations at home. Paul Southern experiences difficulty following work routines, initiating social interactions, and picking up on social ques in conversations with both coworkers and customers. As a means to assist his work task compliance, Paul was issued a company-sponsored tablet containing daily updates of his assigned tasks for the day. His employer is currently in the process of synchronizing the company's online booking software with Paul's iPad digital calendar. The new calendar task reminder would list Paul's daily tasks over the course of a week with an attached pdf of images that would describe his roles. If successful, then the digital calendar will replace the need for daily reminders emails from the secretary outlining Paul's tasks for the following day. This approach gives Paul the opportunity to prepare for his work routines days in advance, instead of the night before or the day of the move. Non-technology accommodations for Paul include being paired with delivery partners to model and learn from means that Paul has a consistent team from whom to learn and further develop social cues through modeling.

Case Example #2: Ms. Jennifer Scotts, with Smartphone for Flexible Work Scheduling

Miss Jennifer Scotts is a 37-year-old woman with moderate symptoms of autism spectrum disorder. She is employed part-time as a janitor in an office building, responsible for cleanup duties on a single floor. Her essential job functions include cleaning the office kitchenette, sweeping the floors, and emptying the desk-side trashcans. Jennifer has trouble coping with sudden changes to her routine and surroundings and communicates with a combination of physical gestures and overly simple sentences. Jennifer's employer provided her with a company smartphone that she frequently uses to call into work and find out if any cleaning routines have changed and if anyone was absent or left early from work that day. She then uses that information to prepare for any changes to her routine she might experience as she arrives on shift, such as having one less trashcan to empty, working with a new office cleaner, and avoiding sections of the office building going through renovations. The structured routine at work means that Jennifer consistently meets her daily personal goals at work, establishing her positive social and practical integration into the office culture and environment. A non-technology accommodation for Jennifer includes having her homecare support staff present at her work with her to provide a consistent familiar face and to help manage behavioral issues on days when adjustment to change is difficult for her.

These two case illustrations make the point that DADs alone will not address workplace adjustment of people with ASD. Making the work environment neuro-diversity friendly includes training of co-workers and supervisors on work participation with neurodevelopmental disorder and without stigmatizing the employees with ASD. Providing technology accommodations but neglecting the training of co-workers and supervisors in inclusive work practices would be harmful to people with ASD and be failing to address the quality of the work environment. Employees on the spectrum with workplace social isolation by peers would likely be less productive and with avoidable work absenteeism from work-related mental health distress (Hendricks, 2010).

The following are illustrative research studies on the use of DADs for improving on employment outcomes with ASD (see Boxes 1 and 2).

Research Box 1

Gentry et al. (2012) in their case studies, for example, adopted Apple iPod Touch as an assistive device for participants with ASD to manage their job tasks (e.g., switching tasks) and transportation schedule. The job coach provided initial training and setup of an iPod Touch for the participants with ASD after gaining insights into their needs. In their randomized control trial

(RCT) study, Gentry et al. (2015) adopted an Apple iPod Touch as a vocational support to reduces personal support needs on the job and improve work performance for adults with ASD who were beginning a vocational placement support by a job coach. The features used in the iPod Touch was to facilitate task management (e.g., task reminders and task lists), visual modeling (e.g., picture prompts and video-based task-sequencing prompts), behavioral self-management adaptations (e.g., way-finding tools), and communication (e.g., communication with job coach via Wi-Fi when the job coach available on the jobsite. The finding demonstrated the use of iPod Touch as an assistive technology significantly reduces the need of workers with ASD in job coaching support without compromising functional performance on the job.

Research Box 2

Hill et al. (2013) in their attempt adopted the Apple iPad as an assistive technology to increase the independence and success of young adults with ASD and other development disabilities in the workplace. The features utilized in the iPad were for the participants to manage job tasks, reduce anxiety, facilitate self-monitoring, manage medications, and facilitate positive coping behaviors. The results from this study exemplify the use of iPad as an assistive technology to enhance functioning needed to contribute to a positive work experience and successful outcomes. Cullen et al. (2017) also yielded similar findings providing additional support for adopting an iPad as a vocational support device for individuals with ASD.

From these research studies, it is apparent that use of DADs has beneficial multiplier effects on the work participation of individuals with ASD with regard to their productivity through enhanced on-task behaviors. DADs use by people with ASD also reduces demands on co-workers and supervisors to provide coaching support, making for a more disability inclusive work environment.

15.9 Virtual Reality Environments

In addition to PDAs and tablets, the use of virtual reality technology in promoting participation in the workplace for individuals with ASD is an emerging area (O'Sullivan & Kearney, 2018). Unlike PDAs and tablets that are mainly used by individuals with ASD as a personal assistive technology, virtual reality technology not only serves as a vocational support device for individuals with ASD, but also helps empower human resource (HR) managers or supervisors to manage workers with ASD and increase accessibility within their workplace (O'Sullivan & Kearney,
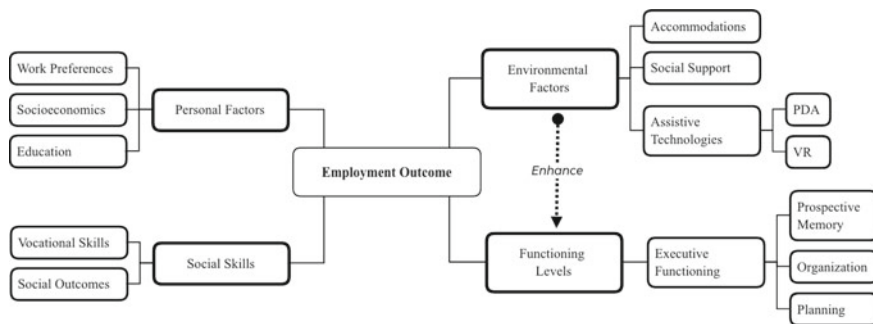
Fig. 15.1 Person x environment interactions on employment outcomes with digital technologies (*Source* own work)

2018). For example, virtual reality technology can simulate an environment that illustrates the sensory stimulation perceived by individuals with ASD from aspects of the work environment lay out and lighting. On the evidence from virtual technology, HR managers can adjust the sensory stimulation (e.g., environment layout and lighting) to be neurodiversity inclusive (O'Sullivan & Kearney, 2018). Work environments with neurodiversity inclusive sensory stimulation enhance the quality of work life for individuals with ASD by minimizing work distractions.

Virtual environments are being used to model interactions and provide social skills practice for individuals with ASD (Mitchell, Parsons, & Leonard, 2007) as well as providing assistance with understanding emotions (Moore, Cheng, McGrath, & Powell, 2005). The use of virtual realities provides stable and predictable environments which make it easier for individuals with ASD to learn.

Although the use of technology is promising, research is still required to support social understanding of adults with ASD (Silver & Parsons, 2015). Novel technology approaches, which support the use of social awareness and develop social interaction skills for individuals with ASD when interacting with others, requires further investigation. Figure 15.1 illustrates person and environmental considerations in use of smart technology tools as workplace accommodations.

15.10 Implications for Vocational Rehabilitation with People with ASD in the Digital Age

The number of individuals with ASD in the VR programs in the United States has significantly increased over the past years. The cost spent on supporting individuals with ASD in the workplace is higher than that on supporting groups of persons with other disabilities (Cimera & Cowan, 2009). However, the employment outcomes remain unsatisfactory despite the high cost on vocational support for individuals
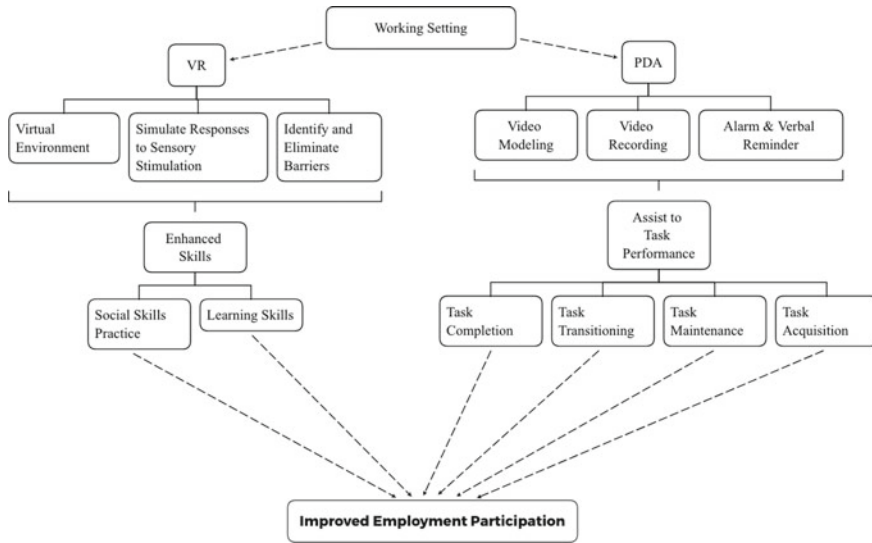
Fig. 15.2 Logic model for improved employment participation with use of digital technologies (*Source* own work)

with ASD (Cimera, 2012). Use of digital technologies may provide serviceable model for improving on employment placement and retention of people with ASD. The use of such digital technologies not only promotes independence for individuals with ASD and increase accessibility in the workplace, but also has potential in reducing job coaching hours and promote cost-effectiveness of VR services. Given these advantages, VR programs should consider provision of digital technologies as a service option for individuals with ASD in meeting their unique needs in the workplace. Figure 15.2 summaries key considerations in use of digital technologies as workplace supports for people with ASD.

Success in using DADs to bridge employment outcomes with ASD may vary according to context, individual behavioral competencies and the specific employment outcome. For instance, for individuals with HFA (a behavioral gradient variable), work participation may depend more on the area-level employment opportunities and services available (structural-infrastructural variables) than of any other personal factor attribute (Howlin, 2000; Howlin Goode, Hutton, & Rutter, 2004) and with supported employment options (behavioral-structural variable) (Wehman, Lau, Molinelli, & Brooke, 2012). Similarly, the policy implications of prioritizing specific digital technology interventions would be different. For instance, task focused digital technology workplace intervention support of adults with ASD may likely neglect the relational aspects of work participation as addressed by social media networking, which if used with perseveration, may also harm successful work outcomes. Similarly, prioritizing to address the opportunity

structure may lead policymakers to undervalue or overlook relevant digital technology support innovations that may add to the social capital of those with marginalization to access work participation.

15.11   Summary and Conclusion

Vocational rehabilitation services need to identify evidence-based practices specific to serving individuals with ASD. Structural interventions supported with digital technologies may improve employment participation with adults with ASD. Increased understanding of smart technologies for workplace supports by employment agencies may enhance the employment participation by people with ASD. In consideration of the high turnover rates among employed individuals with ASD, it is essential to utilize digital technologies as workplace accommodations to support and improve their job performance. While research on the utility of digital technologies by workers with ASD is limited, the emerging evidence suggests that digital technologies are viable and feasible as workplace accommodation to improve the job performance of individuals with HFA.

Adopting structural-infrastructural approaches to evaluate and promote employment participation by people with ASD could enhance employment outcomes with ASD better than relying solely on impairment status (a behavioral variable) or social inequality (a structural variable) as outcome predictors. A focus on modifiable structural-infrastructural affordances applying digital technologies to employment participation with people with ASD would better support these individuals to lead productive work lives.

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Elias Mpofu Ph.D, DEd, CRC, FASROC, MAPS is professor of rehabilitation and health services at the University of North Texas, honorary professor of rehabilitation counselling at the University of Sydney, distinguished visiting professor at the University of Johannesburg. He is a Fellow of the Australian Society of Rehabilitation Counsellors and has an international reputation in rehabilitation and health research applying the World Health Organisation's International Classification of Functioning, Disability and Health (ICF). Elias serves as editor of the Australian Journal of rehabilitation Counselling and the Journal of Psychology in Africa. Elias has more than 200 research publications in rehabilitation and health, including four seminal book volumes.

Timothy Tansey Ph.D. Dr. Tansey is an associate professor in the Rehabilitation Counselor Education program at the University of Wisconsin-Madison. Dr. Tansey has over 20 years' experience as a rehabilitation counselor, educator, or rehabilitation researcher. He has published over 60 peer-reviewed articles in the areas of evidence-based practices in vocational rehabilitation, self-regulation and self-determination, and applying novel technology in vocational rehabilitation and rehabilitation counselor education. Dr. Tansey serves on the co-editor of the Rehabilitation Counseling Bulletin and on the editorial boards for a several other journals in rehabilitation counselling.

Ngonidzashe Mpofu M.Ed., CRC, NCC, is a doctoral candidate in Department of Rehabilitation Psychology and Special Education, School of Education, University of Wisconsin-Madison, USA. She received her M.Ed. in Counselor Education from the Pennsylvania State University, University Park, USA, with an emphasis in both Clinical Rehabilitation and Mental Health and Clinical Mental Health in Schools and Communities. She is currently a project assistant for both the RRTC and Targeted Communities research projects at the University of Wisconsin-Madison. Ngonidzashe has co-author several book chapters in leading book titles in rehabilitation and community health.

Wei-Mo Tu Ph.D, is an assistant professor of Rehabilitation and Health Services at the University of North Texas. Wei-Mo Tu completed his master's degree in rehabilitation counseling from the National Changhua University of Education in Taiwan and earned his Ph.D. in rehabilitation psychology from the University of Wisconsin-Madison in the United States. He was a supported employment specialist and vocational evaluator. His areas of research interests include vocational rehabilitation, psychosocial aspect of disability, and applications of the International Classification of Functioning, Health, and Disability (ICF) in rehabilitation.

Qiwei Li received his master's degree in Health Services Administration from the Department of Rehabilitation and Health Services at the University of North Texas (UNT), Denton, TX. He is currently a doctoral candidate in the Health Services Research program at the UNT, with a concentration in rehabilitation science. His research interests fall in the area of applications of the of World Health Organization International Classification of Functioning, Health and Disability (ICF) to understanding the community participation for older adults aging with and/or into chronic conditions and disabilities.

Chapter 16
Work Adjustment and Career Wellbeing of People with Neuromuscular Disabilities

Ngonidzashe Mpofu, Susan Miller Smedema and James Athanasou

Abstract Work adjustment in the information or digital age presumes the use of technology-based accommodations for job performance, skills development, and work routine adaptations. For people with neuromuscular conditions, digital technologies to bridge workspace accessibility and job performance for increased productivity. Increasingly, most jobs include a digital technology component. Understanding of work adjustment in the digital age has implications for career social inclusion, involvement, job development and retention for people with neuromuscular disability. Adoption of technology-oriented work adjustment support by employers will develop or improve people with disabilities' work skills, work habits, and job retention. Three uses of digital technology as workplace accommodations include task access and efficiency, personalized job training, and career networking. The objective of this chapter is to provide a theoretical background on the topic and to identify psychosocial implications of Industry 4.0 workplaces for people with neuromuscular conditions in terms of work adjustment and workplace wellness or job satisfaction.

Keywords Neuromuscular disabilities · Vocational rehabilitation · Social inclusion · Career wellbeing · Job satisfaction

16.1 Introduction

Neuromuscular disorders (ND) are a group of genetic conditions are that affect the neuromuscular system (skeletal muscles), which includes the muscles, peripheral motor nerves in the arms legs, neck and/or face, and the neuromuscular junction were the nerves and muscles meet the motor neurons in the spinal cord, at a rate of

N. Mpofu (✉) · S. M. Smedema
University of Wisconsin-Madison, Madison, USA
e-mail: nmpofu@wisc.edu

J. Athanasou
University of Sydney, Sydney, Australia

about 1 in 1000 individuals worldwide (Hara et al., 2011; Skeie et al., 2010; Zatz, Passos-Bueno, & Vainzof, 2016). Those that are inherited through an X-chromosome-linked recessive gene (also known as dystrophinopathies) mainly affect males, while those that are inherited via autosomal dominant or recessive manners affect both males and females at about equal rates. Dystrophinopathies, such as Duchenne Muscular Dystrophy (DMD) or Becker Muscular Dystrophy, affect between 1 in 3500 to 5000 newborn males worldwide by affecting the skeletal muscles, with death usually as a result of cardiomyopathy (Falvo & Holland, 2018; U.S. National Library of Medicine, 2019a). Friedreich Ataxia affects approximately 1 in 40,000 people in the United States, with onset between the ages of 10 and 15 years old (U.S. National Library of Medicine, 2019b). This form of ND is characterized by slow and progressive ataxia, which impairs motor and mental processing and reaction time but does not slow down cognition itself. Problems with working memory and attention may present.

ND are all progressive in nature and will at some point result in noticeable muscle weakness and fatigue on the part of those affected by them. The conditions have lifespan effects as they can begin at any point from birth, into childhood, while others commence during adulthood; each variation of the condition's expression depending on the individual and the type of neuromuscular condition that affects him or her, as life expectancy varies based on the type of disorder and its severity (Oberstadt, Esser, Classen, & Mehnert, 2018). The unique expression of each neuromuscular condition, as it interacts with the vocational outcomes of the person with the neuromuscular condition, is one that could be mediated by the use of technology in Industry 4.0 (Kbar et al., 2015).

The transformation of the workplace due to the introduction of technology has created a new experience of workspaces that require a more deliberate integration of work and learning. People with neuromuscular conditions (PND) have an opportunity to interact with employment, through technology, in more integrative ways that have previously been available in the past. Beyond the mere adaptation of technology as an assistive service or device, but rather that the workplaces themselves are becoming universally digitized creating a more natural interaction between person and machine (Kbar et al., 2015). Technology for the workplace (and personal use) is being designed for the human form, adapting to the person-in-context and creating more of an autonomous working environment that uses gestures, multi-modal user interfaces, movement and images that engage the user regardless of where he or she is physically located. The adaptability of and flexibility provided by technology means that biopsychosocial barriers may be mitigated and, in some instances, eliminated, because of accessibility that can be afforded by industry 4.0 workplaces and spaces.

Further, the use of technology in providing adaptations and accommodations has now also generalized to PND having more options around the physical design and location of their workplaces (Neufeind, O'Reilly, & Ranft, 2018). Learning needs and social theories that emphasize these newly forming social environments can present both an opportunity and a challenge for change toward full vocational integration of PND. The evidence for continued learning needs presents in the

fast-paced evolution of technology, which necessitates that learning becomes not only a continuous way but a state of being as well that has consequences in employee recruitment, retention, and vocational stability for PND.

The new age of workplace technology has placed a demand for rehabilitation service providers to rethink the modalities they use in vocational training and practice, while they work with clients to meet client vocational goals. This shift in economic and social structures to modern digital technology from manufacturing tactile traditions has revolutionized the variety of methods for income generation of, wealth creation by and social integration into the workplace community by PND (Kbar et al., 2015; Siemens, 2005; Tapscott, 1996). When working with PND, rehabilitation service providers must contend with digitally connected workplaces and spaces, with new economic and social factors that require a certain level of independence and assertiveness on the part of the service recipients, in this case, PND. Never before has there been a place and time where strong leadership qualities that are open to workplace transformation are encouraged for positive workplace experience. Especially as autonomous work environments carry the dual responsibility of providing access for the technology user while expecting a personal sense of responsibility by the user to meet work performance goals due to that same accessibility. Rehabilitation counselors must also incorporate an evaluable component of the effectiveness and impacts of Industry 4.0 workspaces, which considers a person-environment fit-based intervention that is appropriate to the digital workspace in which a PND exists, and reach action decisions that are malleable enough to adapt to a nearly continuous revision of process in industry 4.0 workplace participation (Kbar et al., 2015).

In this chapter, we discuss the opportunities and challenges that are present for PND social integration in the digital workplace, comparing it to traditional approaches that had previously been applied and now require updating to match the new economic and social opportunities that are presented by technology use. The Minnesota Theory of Work Adjustment (MTWA; Dawis & Lofquist, 1976) framework is used for understanding career wellbeing for PND looking at job satisfaction and job satisfactoriness. Micro-, meso- and macro-level factors affecting career wellbeing as examined, looking at cognitive domains rather than affective or psychomotor activities for job seekers with ND. People with ND are generally at an increased rate of susceptibility to muscle weakness-related and fatigue-related vocational limitations that require workplace accommodations compared to people without ND, while neither having ND impact on their actual levels of intelligence nor their willingness to work or seek out meaningful employment (Kessler Foundation, 2015; Minis et al., 2010). Secondary impacts for PND may include acquiring adequate education, job training, and skills development interventions that take into account learning styles influenced by the course of the condition as per individual with a neuromuscular disorder (Falvo & Holland, 2018; Minis et al., 2010). Most jobs nowadays include a digital technology component, so when working with PND rehabilitation service providers must do their best to consider an all-encompassing strategy of incorporating advancements in communication, information sharing, and training. Adapted education and training are crucial to

vocational success for PND. Understanding work adjustment and integration in the digital age has both current and future implications for PND career social inclusion, involvement, job development, and retention. Furthermore, we also consider current applications of digital technology as workplace accommodations include task access and efficiency, personalized job training, and career networking.

16.2   Chapter Objective

The objective of this chapter is to provide a theoretical background on the topic and to identify psychosocial implications of Industry 4.0 workplaces for people with neuromuscular conditions in terms of work adjustment and workplace wellness or job satisfaction.

16.3   Definitions and the Minnesota Theory of Work Adjustment

The phrase "neuromuscular disorders" encompasses over 160 diseases and a formal definition is "a condition, acquired or hereditary, caused by an abnormality of the anterior horn cell, peripheral nerve, neuromuscular junction or muscle" (Phillips, Fleming, & Tsintzas, 2009, p. 747). Figure 16.1 arranges them into four broad categories.

Fig. 16.1 Four broad categories of neuromuscular diseases (*Source* own work)
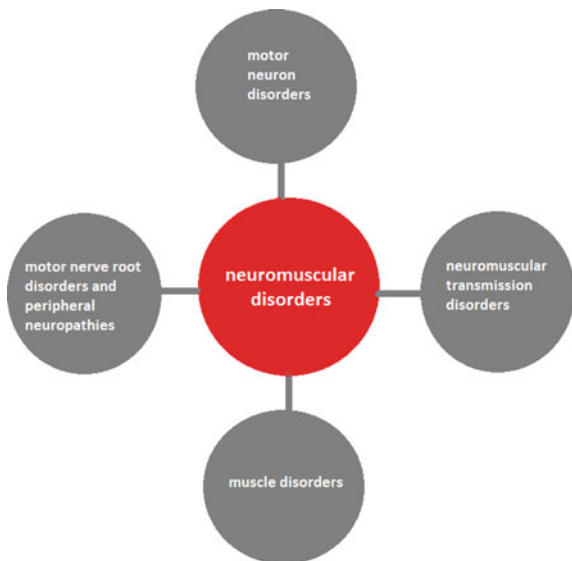
   The Minnesota Theory of Work Adjustment (MTWA; Dawis & Lofquist, 1976) provides a useful framework for understanding the career wellbeing of individuals with neuromuscular disabilities, especially in the context of Industry 4.0. is the fourth industrial revolution which has resulted in the digitization of manufacturing processes. While the MTWA was initially developed to help address vocational issues in adjustment counseling settings, according to Chan et al. (1997), the MTWA can be easily applied to the vocational adjustment of people with disabilities. Work adjustment, which according to Chan et al. (1997) is the ultimate vocational outcome for individuals with disabilities, is indicated by two primary factors: the *satisfaction* that is obtained by the employee as a result of the characteristics of the job, and the *satisfactoriness* of the individual's job performance to the employer. Successful work adjustment occurs when the job environment provides a maximal correspondence between the reinforcer system of the work environment and the worker's wants and needs (i.e., need-reinforcer correspondence) and the worker's abilities and the requirements of the job (i.e. ability-requirement correspondence; Chan et al., 1997). Consequently, work adjustment results from high levels of job satisfaction and job satisfactoriness, which ultimately leads to successful job tenure.

16.4 Job Satisfaction

An individual is likely to stay at a job that results in a high level of job satisfaction. Job satisfaction is described as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience" (Locke, 1976, p. 1300). Fritzsche, Dhanani, and Spencer (2014) explain that job satisfaction tends to be an end in itself, as those who are satisfied in work tend to have positive experiences in other life areas including job performance, life satisfaction, and health. Satisfying employment provides benefits to the individual such as social activity, financial autonomy (Diener, 1984), appreciation by others (Spector, 1997), and higher levels of subjective wellbeing and quality of life overall (Linn, Sandifer, & Stein, 1985; Park, Seo, Park, Bettini, & Smith, 2016). It has also been found to mitigate the impact of negative circumstances in other areas of life (Iverson & Maguire, 2000), such as the consequences of disability such as ND.

   The authors of the MTWA define 20 dimensions of reinforcers that influence job satisfaction: (1) ability utilization, (2) achievement, (3) activity, (4) advancement, (5) authority, (6) company policies and practices, (7) compensation, (8) co-workers, (9) creativity, (10) independence, (11) moral values, (12) recognition, (13) responsibility, (14) security, (15) social service, (16) social status, (17) supervision-human relations, (18) supervision-technical, (19) variety, and (20) working conditions (Dawis & Lofquist, 1976). A vocational counselor working with individuals with neuromuscular disabilities can identify the needs and values of each client and

subsequently identify jobs with corresponding reinforcers which influence job satisfaction. In addition, the individual's specific vocational interests can be assessed (e.g. using a vocational interest inventory) in order to facilitate a job match that provides the worker with personally fulfilling tasks. Using job matching methods such as these can increase the need-reinforcer correspondence between the person and the job, ultimately leading to higher job satisfaction. Specifically related to Industry 4.0, utilization of innovative technology such as robots and cloud computing can allow for creativity and flexibility in employment, maximize ability utilization despite the physical limitations of a neuromuscular disability, and provide optimal working conditions for the person.

16.5   Job Satisfactoriness

Satisfactoriness of job performance is also required in order for a high level of work adjustment to occur. Even if a worker is satisfied with their job, but performs unsatisfactorily, the employer may choose to terminate that employee. The ability-requirement correspondence of the job and employee is considered in terms of the individual's general employability skills, specific employability skills, and placeability skills (Chan et al., 1997; Dawis & Lofquist, 1976). *General employability skills* include skills that can be utilized at any job and include such characteristics as hygiene, attendance, punctuality; interpersonal relationships, frustration tolerance, etc. These behaviors are important for job maintenance, and poor skills in these areas can be detrimental to job satisfactoriness and work adjustment. *Specific employability skills*, on the other hand, include such employee characteristics as intelligence, aptitudes, achievement, temperament, and physical capacities (Maki, McCracken, Pape, & Scofield, 1979). These qualities can be determined through vocational assessment and then compared with the attributes of desired jobs that meet the reinforcement needs of the individual to determine a good employee-job match. Jobs identified through this method may result in the highest level of job satisfactoriness (i.e. job performance). *Placeability skills*, in contrast, are related to the individual's ability to actually get a job. Placeability is not related to the individual's ability to perform specific job tasks but reflects the sophistication of their job-seeking behaviors. Indicators of placeability are a client's resourcefulness, motivation, resume writing skills, and interview behavior (Chan et al., 1997). Other factors related to placeability of individuals with disabilities include relevant legislation related to the employment of persons with disabilities (e.g., the Employment Equity Act), technology, and the changing economy. As manufacturing processes become more automated in Industry 4.0 and the emphasis of employment will be on cognitive skills, the physical implications of ND are reduced and individuals will be more likely to meet the demands of the employer.

16.6 Barriers to Employment Participation for People with Neuromuscular Disabilities

ND areall characterized by progressive muscle deterioration, weakness and physical fatigue (Zatz et al., 2016). Muscle degeneration can cause physiological impacts, such as heart and breathing problems, muscle cramping and stiffness, joint deformities, chronic aches and pain, and upon occasion contractures, which are the physical tightening and freezing of the affected joints (Skeie et al., 2010). Because the impact of ND has to do with muscle deterioration as it interacts with motor neurons (muscle-controlling nerve cells), persons struggling with this physical disorder may have typical levels of intelligence. The assessment of the intelligence of an affected individual might, however, be impacted by the presence of chronic fatigue on the one hand and resilience factors and coping strategies on the other hand, as they impact the individual's perception of control over his or her own life outcomes. Rehabilitation service providers must take into the account not only the essential skills required by an employer when hiring for a certain vocational role but must also consider the psychosocial adjustment-appropriate intervention strategies necessary for PND work adjustment within Industry 4.0 work settings (Minis et al., 2010). Poor blood circulation by a heart impacted by NDs can produce fatigue, feelings of lethargy, and swelling in the legs and feet. Illness intrusiveness in work adjustment and performance may be mitigated by the fact Industry 4.0 environments provide for non-traditional work environments, such as in an adapted office or providing the means to work from home on those days when muscle pain, nutrition restrictions and other symptoms of the condition are harder for the PND to handle.

16.7 Findings and Discussion

By taking into account both satisfaction and satisfactoriness, the (MTWA addresses the potential adaptation of an individual with a neuromuscular condition to a job, occupation or industry. It sets a practical cornerstone for rehabilitation counseling. The approach that originated with the University of Minnesota Employment Stabilization Research Institute considers the dynamic interplay between values, reinforcers, requirements, and abilities. It has found ready application in promoting the career development of persons with differing disabilities (Buys et al., 2001) and has potential to assist in maximizing a person's adjustment to the workplace through the mechanism of person-environment fit (Athanasou, 2017). This is especially the case where technological change can now afford opportunities for persons with conditions such as facioscapulohumeral muscular dystrophy, hereditary motor, and sensory neuropathy, Duchenne muscular dystrophy, multiple sclerosis, myotonic muscular dystrophy, post-polio syndrome or amyotrophic lateral sclerosis.

Fig. 16.2 A model of the micro-, meso- and macro level factors linking neuromuscular conditions and work in Industry 4.0 (*Source* own work)

Of course, gaining or remaining in employment is not the be-all-and-end-all of rehabilitation, but it is a reasonable goal for just under half of those with ND (Athanasou, 2016, 2019a). This is the case whether the onset is in teenage years (e.g. hereditary motor and sensory neuropathy), in early adulthood (e.g. myotonic muscular dystrophy), or middle adulthood and mid-career (e.g. amyotrophic lateral sclerosis and myasthenia gravis). The defining features of these conditions (but not the only aspects) include: progressive muscle weakness, contractures, spine deformity, decreased mobility, loss of strength or endurance, decreased respiratory function and sometimes cardiomyopathy or intellectual impairment. Natterlund and Ahlstrom (2001) surveyed activities of daily living as well as quality of life in 77 adults with muscular dystrophy and reported that the mean disease duration was 23 years (range 4–69 years) with over half dependent on others.

Three levels of challenges have been identified by Minis (2013) are as follows: (a) micro or individual level; (b) meso- or organizational level; and (c) a macro or societal level. This breakdown into micro-, meso- and macro- is continued in this chapter. The analysis is in terms of the fit between person-environment and occupation (Fig. 16.2).

16.8 Micro-level Factors: (a) Fatigue, Exhaustion or Pain

Being fit for work following an ND needs to have regard for fatigue or exhaustion as this is a common accompaniment for persons with neurodegenerative conditions. Some aspects of fatigue, exhaustion or pain associated with neurodegenerative conditions are highlighted and serve as a precursor to considering the employment aspects within Industry 4.0.

A number of studies have reported on the effects of neuromuscular symptoms and their impact on personal and vocational adjustment. Sadjadi et al. (2011) used the *Individualised Neuromuscular Quality of Life* in both the UK and the US and reported one UK patient's comment:

> I lost my job due to the weakness and fatigue. Most of my co-workers were working
> 12-hour shifts. There is no way I could do that. I loved my job and did not want to go on
> disability (benefits) (Sadjadi et al., 2011, p. 6).

Cook, Molton, and Jensen (2011) compared self-reported fatigue in a normative
population using the Patient-Reported Outcomes Measurement Information System
with 337 persons with muscular dystrophy and 580 persons with multiple sclerosis.
They reported clinically higher fatigue scores than the general population for the
clinical samples (muscular dystrophy—M = 56.1 SD = 8.2, Cohen's d = .22;
multiple sclerosis—M = 58.1, SD = 8.2, Cohens d = .88). Furthermore, the pattern
of fatigue over the age-span in the clinical samples was not the same as in the
general population where there is a "retirement bonus" and the average level of
fatigue becomes lower in the older age groups 55–64, 65–74 and 75+years.
Similarly, Kalkman et al. (2005) examined fatigue across 598 patients and indicated
that age correlated with fatigue severity in the facioscapulohumeral dystrophy
(r = .19, p = .002) and myotonic dystrophy groups (r = .17, p = .002) but not the
hereditary motor and sensory neuropathy type 1 group. Nevertheless, 61–74% in
the three groups were reported as "severely fatigued" (2005, p. 1408).

Andries et al. (2004) surveyed employees younger than 46 years and also
commented that work-related fatigue in some guise was a feature of employees with
chronic conditions such as ND. Around 18% of those with neuromuscular condi-
tions (N = 303) reported "much" work-related fatigue compared with 28% of those
with multiple sclerosis (N = 281) and 8% of a comparison group (N = 183). Using
their *Work Handicap Questionnaire* the proportion of those with a neuromuscular
condition with at least one work restriction was 62%; those having at least one
physical restriction (53%) outweighed at least one non-physical restriction (28%).
Around 46% had a working week of fewer than 33 h.

In addition to fatigue, the significant impact of pain on health-related quality of
life in person with neuromuscular conditions has been investigated. Carter, Han,
Abresch, and Jensen (2007) noted that pain was particularly severe in some con-
ditions, such as amyotrophic lateral sclerosis or Charcot-Marie-Tooth disease.
Reviewing six studies, Hoffman, Jensen, Abresch, and Carter (2005) indicated that
chronic pain was reported in 60% or more of the samples but not for all persons
with ND. The rates of pain varied according to diagnosis (Guillain-Barre syndrome,
facioscapulohumeral muscular dystrophy, Charcot-Marie-Tooth disease, myotonic
dystrophy type 2, amyotrophic lateral sclerosis).

Accordingly, a common difficulty for those with ND is adjusting to employment.
This occurs against a background of all the other problems related to quality of life
with any chronic condition. Grootenhuis, de Boone and van der Kooi (2007) surveyed
67 adults with Duchenne Muscular Dystrophy and reported significantly lower
quality of life scores compared to a healthy comparison group (N = 1962).
Difficulties related to gross motor (difficulty walking, bending), fine motor (manual
dexterity, strength), daily activities (difficulties with work), vitality (energy, tired-
ness), aggressiveness and depressive moods for males (N = 46) with effect sizes from
2.5 to 0.5. For females (N = 21) there were significant differences with healthy

controls (N = 2354) on gross motor, fine motor, sleeping, social functioning, daily activities, vitality, and depressive moods and effect sizes ranged from 2.2 to 0.5. The role of career was also emphasized in a study of patients with myasthenia gravis. Jeong et al. (2018) surveyed 120 patients in South Korea. They confirmed that "the participants seemed to be experiencing higher QOL [quality of life] when their career has not changed due to their illness" (p. 4). In the case of muscular dystrophy, 35% referred to its effect on opportunities for work (Natterlund & Ahlstrom, 2001, p. 208). In addition to physical problems associated with fatigue, exhaustion or pain, there are also psychosocial determinants of the capacity to function in the modern workplace.

16.9   Micro-level Factors: (b) Psychosocial Variables or Factors for Career Wellbeing

There is a range of psychosocial factors that impinge upon employment for persons with ND. Hartley, Goodwin, and Goldbart (2011) undertook in-depth interviews that examined the experiences of patients with ND. A key concern about physical deterioration and the opportunity to stay mobile or independent. They reported a number of psychosocial themes that were relevant, such as being able to associate with others to maintain wellbeing. Employment and education were relevant considerations and example was cited of a graphic designer who had been unable to gain employment as she could only work limited hours. Broader psychosocial factors included lack of services for adults, the links between reduced mobility and happiness levels.

For the most part there is no effect of cognitive abilities on employment but there are reports of links between lower intelligence and myotonic muscular dystrophy (Turnpenny, Clark, & Kelly, 1994), children with congenital mitochondrial myopathies (Shurleff et al., 2018), adults with myotonic dystrophy and diffuse frontal lesions (Romeo et al., 2010) or boys with Duchenne muscular dystrophy (Banihani et al., 2015; Milic et al., 2014). Fowler et al. (1997) examined 154 individuals with ND and reported the Full Scale IQ for myotonic muscular dystrophy group (M = 92.4, SD = 12.4, N = 31) compared with individuals with other neuromuscular conditions (M = 105.6, SD = 13.7, N = 39). The IQ of the employed group (M = 105.6, SD = 15, N = 39) was significantly higher than the unemployed group (M = 97.3, SD = 13.4, N = 51).

16.10   Meso-level Factors—Work Adjustment

The principal meso-level factor is at the level of the employer or organization where the principles of satisfaction and satisfactoriness operate. This requires rehabilitation processes such as work adjustment with reasonable accommodation for those persons with neuromuscular disorders.

Table 16.1 Occupations of patients with facioscapulohumeral muscular dystrophy (Wevers et al., 1993)

Impairments	Occupations of respondents
Stage 1—reaching problems (face, shoulder girdle)	Carpenter, manager, soldier, driver, typist, social worker, research manager, economic consultant, physiotherapist, managing director, senior official
Stage 2—reaching problems (face, shoulder girdle) and mobility problems (pelvic girdle, leg)	Nurse, assistant accountant, shop assistant, farmer, nurseryman, controller, tradesman, messenger, warehouse clerk, upholsterer, social worker, paint-sprayer worker, secretary, cybernetics engineer
Stage 3—reaching problems (face, shoulder girdle) and mobility problems (pelvic girdle, leg) and hand function problems (lower arm, hand)	Electronics, bank clerk, welder, tradesman, assistant bookkeeper, manager, secretary

Andries et al. (2004) concentrated on the measurement of work restrictions in persons with chronic disorders and focused at this meso-level on the intersection between disabilities in everyday life and job demands. They termed this overlap "work handicaps" and argued that introducing work adjustments was designed to lead to improved performance and less fatigue.

In general, persons with neuromuscular disorders are more likely to have a substantial employment history because of the chronic nature of these conditions. In relation to the assistance that is needed to improve quality of life for myasthenia gravis, Jeong et al. (2018, p. 5) commented: "More specifically, assuming career change as one aspect of lowered quality of life, the patients' efforts to improve their self-esteem and obtain satisfaction even after their career change are needed. For those who go through inevitable career changes, providing programs that include career construction counseling with connections to suitable alternative work-places can be effective". The types of occupations for which persons with a neuromuscular condition have been employed are summarized in Table 16.1, consistent with the level of functional ability.

16.11 Macro-factors—the Impact of Industry 4.0

Macro factors deal with the context beyond the local employer and take into account concepts or developments such as Industry 4.0. The phrase Industry 4.0 may not be familiar to many rehabilitation practitioners. It began as a German initiative that described a transformation in commerce and industry (Kagermann, Lukas, & Wahlster, 2011). Figure 16.3 portrays its development across time. It describes an industrial revolution that will have implications for vocational rehabilitation of all persons with disabilities.
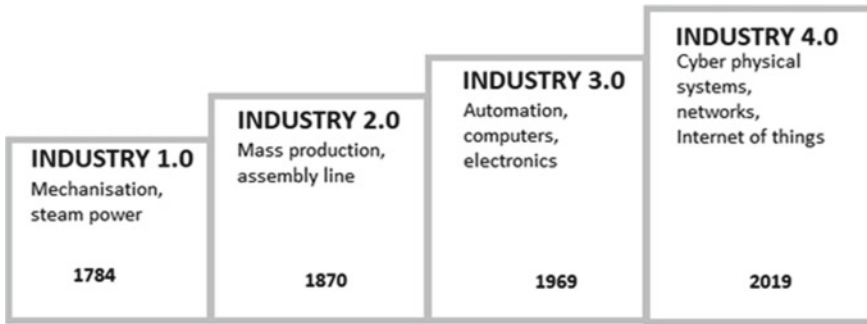
Fig. 16.3 A schematic outline of the industrial progression to Industry 4.0

As is well known, industrial revolutions varied the nature of occupations at each stage and Industry 4.0 promises to do the same. Industrial changes commenced with mechanization using water power or steam engines (1st industrial revolution); then there was mass production such as the power loom in 1784 or the first assembly line in 1870 (2nd industrial revolution); recently it was the turn of information technology with the first programmable logic controller in 1969 and subsequent automation (3rd industrial revolution) (Athanasou, 2019b).

In essence, Industry 4.0 encompasses a combination of processes in manufacturing that are software intensive, such as latest developments in cloud computing or the "Internet of things" to the extent that the product itself can interact with the machine producing it. Industry 4.0 combines *inter alia*: digital supply chains, communication infrastructure, big data, 3D printing, augmented reality, collaborative robotics or machine-to-machine learning. Technology is used for (a) innovation; (b) machine self-maintenance to minimize downtime; or (c) self-organized logistics for continuous production. A consequence of Industry 4.0 is that production will be integrated across regions or nations and not located in a single factory. Work will become increasingly complex through procedures involving optimization, self-configuration of processes or automatic diagnostic systems. Examples of Industry 4.0 applications in Australia include: (a) a virtual shipyard program to help local small and medium enterprises build local capabilities, (b) growing Australia's cybersecurity ecosystem, (c) fleet management software to increase mine truck fleet productivity and (d) a digital health platform (Aljukic, 2017).

IBM (2017) has used cognitive manufacturing as a shorthand description of key aspects of Industry 4.0 used. The benefits were documented in terms of (a) asset performance management (e.g., 34% reduction in equipment downtime for an auto manufacturer); (b) process and quality improvement (e.g., 5–20% reduction in labor costs for an electronics manufacturer); (c) resource optimization (e.g., energy savings for a cement plant); and (d) supply chain optimization (e.g., 10% reduction in global supply costs for an automotive original equipment manufacturer) (IBM, 2017, pp. 7, 9).

At first glance, a cyber-physical system may seem quite remote from rehabilitation. Undoubtedly it will affect every major industry and will alter the ways in which larger businesses operate. It is a realistic expectation that employment in production will stabilize. There will be an impact on higher levels of worker education and skills.

At an individual level, the work activity requirements of occupations from O*NET the US Occupational Information Network (U.S. Department of Labor, 2019) can be classified to determine what will be required for Industry 4.0. Similarly, the work activities that are suitable for persons with neuromuscular disabilitiescan also be classified and compared (Athanasou, 2017, p. 243).

It was hypothesised (Athanasou, 2019b) that Industry 4.0 will require: (a) 100% of the information input activities as essential (e.g., estimating, getting information, inspecting equipment); (b) only 17.6% of activities as essential for interacting with others (e.g., interpreting the meaning of information for others, performing administrative duties); (c) 100% of the mental process activities as essential (e.g., analyzing data, planning or developing objectives); and (d) only 14.2% of work output activities as essential (e.g., controlling machines). The implication is that in an Industry 4.0 world the emphasis will be on the cognitive domains rather than affective or psychomotor activities; there will be fewer but more specialized opportunities in industry and commerce with the elementary sales, service and unskilled occupations relatively unaffected.

The practice and psychological interventions that relate to this analysis are complex and idiosyncratic. There is no simple recipe or one-size-fits-all solution. The counselor operates not only within the context of a person's medical condition and their residual abilities but also moves back and forth within the existential adjustment of a person to such chronic conditions, that are debilitating or life-threatening. Nevertheless, there is some vocational potential and it deserves to be exploited for the benefit of the person.

Within the parameters available to each person and consistent with their own personal narrative, there is scope for the application of the principles of the Theory of Work Adjustment to maximize employment potential that utilizes technology to the advantage of the client with a neuromuscular condition. Without wishing to be prescriptive, the application of logotherapy principles that emanate from the work of Viktor Frankl (1982) help to explore meaningfulness in life and with the support of motivational interviewing (Athanasou, 2017) can aid in vocational adjustment.

In conjunction with what might be one's preferred counseling approaches, use may be made of the O*NET checklist in Table 16.2 to explore satisfaction and satisfactoriness. The checklist of work activities is a classic application of a trait-factor approach that matches an individual with the complexities of an Industry 4.0. The exploration of interests and abilities together with values and work preferences is part and parcel of a person-environment fit approach that enhances the vocational potential of persons with wide-ranging neuromuscular conditions. Assessment and re-assessment or re-evaluation supported by intensive personal counseling and active job placement (Salomone, 1971; Young, Murphy, & Athanasou, 1996) add a degree of vitality and dynamism to vocational rehabilitation.

Table 16.2 O*NET activities required for Industry 4.0

Work activities	Essential
Information input	
Estimating	✓
Getting information	✓
Identifying objects	✓
Inspecting equipment	✓
Monitoring processes	✓
Interacting with others	
Assisting and caring	
Coaching and developing	
Communicating with persons outside	
Communicating with supervisors, peers	
Coordinating the work and activities of others	
Developing and building teams	
Establishing and maintaining interpersonal relationships	
Guiding, directing and motivating	
Interpreting the meaning of information for others	✓
Monitoring and controlling resources	✓
Performing administrative activities	✓
Performing or working directly with the public	
Provide consultation and advice	
Resolving conflicts	
Selling or influencing	
Staffing organisational units	
Training and teaching	
Mental processes	
Analysing data	✓
Developing objectives	✓
Evaluating information	✓
Judging qualities	✓
Making decisions	✓
Organising, planning	✓
Processing information	✓
Scheduling work	✓
Thinking creatively	✓
Updating and using relevant knowledge	✓
Work output	
Controlling machines	✓
Documenting information	
Drafting, laying out devices, parts, equipment	
Handling moving objects	

(continued)

Table 16.2 (continued)

Work activities	Essential
Operating vehicles	
Performing general physical activities	
Repairing and maintaining	

Source O*NET (US Department of Labor, 2019); Athanasou (2019b); ✓ = required for employment in Industry 4.0

16.12   Implications for Theory and Practice

Job satisfaction and job satisfactoriness as proposed by the MTWA, are reciprocal in that they tend to reinforce each other, leading to even better work adjustment. For example, as mentioned above, individuals with high levels of job satisfaction have been shown to demonstrate better job performance (Fritzsche et al., 2014). Similarly, individuals with good job performance are likely to be rewarded by their employers with reinforcers such as raises, recognition, and increased responsibility, which consequently are likely to lead to increased job satisfaction. The dual structural and process model form of the MTWA, allows for all factors related to job satisfaction and job satisfactoriness to be considered by vocational professionals, simultaneously, in order to identify the kinds of jobs that have high need-reinforcer and ability-requirement correspondence, in order to achieve the highest level of work adjustment and career wellbeing in persons with neuromuscular disabilities in Industry 4.0. The MTWA, although originally intended to assist people with choosing careers and adjusting to those careers with a rehabilitation context, has shown itself to be both flexible to and agreeable with the changing digitized work environments of Industry 4.0, allowing for continuous research to further develop the applications of the theory, and make it far more adaptable for current use and in the future with regards to workplace adjustment and wellness for PND. Vocational rehabilitation professionals can benefit from such an amenable theory when completing client case conceptualizations and developing framework-guided interventions.

16.13   Conclusion

Vocational rehabilitation professionals have an opportunity to increase the scope of their practice and services within the framework of Industry 4.0. They now have more access to both client- and employer-need information, as well as an expanded reach into areas of employment that may have neither been readily available nor accessible prior to workplace digitization. Work adjustment in the digital age assumed the use of technology-based accommodations for job performance, skills development, and work routine adaptations. For PND, digital technologies have

provided the means to bridge the gap between workspace accessibility and job performance outcomes, while also redefining what constitutes a workspace altogether (office building or home). The adoption of technology-oriented work adjustment support by employers could contribute to the development or improvement of PND work skill, work habits and job retention; each of these adoptions being closely related to task accessibility and efficiency, personalized job training, and career advancing networking.

Potential future directions for research involving the use of technology in the digital workplace include: (i) addressing the issues of readiness for disability disclosure, and privacy and security of health-related information when PND accommodations may be necessary while protecting the PND from involuntary or premature disclosure of the condition to workplace colleagues in the age of fast information; and (ii) the further development of effective and interconnected service distribution pathways and implementation strategies for PND to meet their goals in the vocational digital age. The psychological impact the disability disclosure can have on the PND must be considered within the workplace to ensure an environment that adjusts or adapts to the need of the PND in order to minimize further physical and psychological deterioration in fitness to work.

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Ngonidzashe Mpofu M.Ed., CRC, NCC, is a doctoral candidate in Department of Rehabilitation Psychology and Special Education, School of Education, University of Wisconsin-Madison, USA. She received her M.Ed. in Counselor Education from the Pennsylvania State University, University Park, USA, with an emphasis in both Clinical Rehabilitation and Mental Health and Clinical Mental Health in Schools and Communities. She is currently a project assistant for both the RRTC-Employer Practices and Targeted Communities research projects at the University of Wisconsin-Madison, and the book review editor for the Australian Journal of Rehabilitation Counselling. Ngonidzashe has co-authored several book chapters in leading book titles in rehabilitation and community health.

Susan Miller Smedema Ph.D., CRC, LPC is an associate professor in the Rehabilitation Counseling / Rehabilitation Counselor Education program at the University of Wisconsin—Madison. Prior to working at UW-Madison, she taught at Florida State University and the University of Northern Iowa. Dr. Smedema has published over 44 peer-reviewed journal articles, written 8 book chapters, and presented 21 times at national conferences, including the National Council on Rehabilitation Education and the American Counseling Association's annual conferences. She is a three-time winner of the American Rehabilitation Counseling Association Research Award, serves on the editorial board of Rehabilitation Counseling Bulletin, and is a board member for the National Council on Rehabilitation Education.

James Athanasou Ph.D. is a psychologist specializing in vocational guidance and rehabilitation. He is Associate Professor (0.4) in Rehabilitation Counselling in the Faculty of Health Sciences at the University of Sydney. He is the co-editor of the first and second editions of the *International Handbook of Career Guidance* (Springer) as well as author of *Encountering Personal Injury* (Sense Publishers) and *Promoting Career Development after Personal Injury* (Sense Publishers) and over 200 published papers. He is a member of the Career Development Association of Australia and the Australian Society of Rehabilitation Counsellors. From 2018, he is also Honorary Professor in the Australian Collaboratory for Career Employment and Learning for Living at the University of Southern Queensland. In 2018, he was nominated for the Australian Psychological Association Rehabilitation Interest Group research prize.

Chapter 17
"I don't think they realised what an impact they had…their voices are still in my head: The profound impact of attentive care on career meaningfulness and wellbeing"

Margie J. Elley-Brown

Abstract Care perspectives view individuals as primary relational with work as a means by which individuals can achieve career wellbeing. In this chapter theoretical understanding of the ethic of care is advanced using Heidegger's philosophy of care. Heidegger argued care is at the heart of our being and essential to meaning in our relationships and ventures. Findings from empirical phenomenological research that explored subjective meanings of women's career are used to show how an ethic of care caused an increase in career meaningfulness. Women spoke of the enduring significance of key people who showed them an ethic of care. Interactions with these key people did not involve structural interventions, nor did they necessarily occur over long periods; they were instinctive and extemporaneous. People who exercised an ethic of care showed awareness of need, concern for the other and a willingness to take responsibility. The objective of this chapter is to consider how career wellbeing in individuals and organisations can be improved by including care perspectives.

Keywords Care perspectives · Ethic of care · Phenomenology · Women's careers · Meaning

17.1 Introduction

Recent theoretical developments have seen increased emphasis on sociological aspects of career (e.g. Lent, Brown, & Hackett, 2000; Savickas, 2005). Strong ties with family members have been shown to be significant in shaping career identify

M. J. Elley-Brown (✉)
Auckland University of Technology (AUT), Auckland, New Zealand
e-mail: margieeb@gmail.com

and offering psychosocial support (Ibarra, 1999). In particular, for women, early career influences such as maternal attitude to career have been revealed to be more significant than mother's actual career (Betz & Fitzgerald, 1987). Further, mothers' messages to their daughters can positively influence career decision making and self-esteem when mother's relationship with her daughter is loving and caring, and low in control (Sholomskas & Axelrod, 1986). The supportive influence of a woman's partner has been recently documented by Litano, Myers, and Major (2014) as a factor in career wellbeing; they describe the positive "cross-over effect" that a partner who is an "ally" rather than an "adversary" provides.

Career literature abounds with studies on social capital practices such as networks and mentoring schemes in women's career development (e.g. Hamilton Volpe, & Marcinkus Murphy, 2011; Ibarra, Carter, & Silva, 2010; Motulsky, 2010; O'Neil, Hopkins, & Bilimoria, 2011; Tschopp, Unger, & Grote, 2016). Mentoring involves a long-term relationship between the mentee and mentor; it provides the mentee with ongoing emotional support, counsel on professional development, and role models (Ibarra et al., 2010) and networks involve formal and informal organisational structures that can increase women's self-efficacy and agency (O'Neil et al., 2011). Yet the literature reveals that women often lack access to networks, mentors and role models (Ibarra, Ely, & Kolb, 2013) and experience challenging organizational conditions such as working in gendered organizational systems and gender bias. In a recent article O'Neil, Brooks, & Hopkins (2018) sought to better understand the relationships and career supports of women and found women expect a great deal of other women in the workplace but often do not receive it.

In the workplace, interventions typically follow set procedures and formulae and adhere to performance management goals and protocols, with the individual worker viewed as human capital to be developed. However, the commonly held "human capital" view of employees (Foss, 2008; Ployhart & Moliterno, 2011) has begun to be challenged with focus growing in intensity on care perspectives that see work as a means for individuals to increase in self-esteem and find fulfilment through enduring relationships (Islam, 2013; McAllister & Bigley, 2002). Further, meaningfulness in career has become a predominant theme in contemporary organisation studies (Heslin, 2005; Lips-Weirsma, 2002) and work is increasingly seen as a vehicle for the individual to become enriched and their existence enlivened (Honneth, 2008).

Recently, some writers have drawn links between care perspectives and the care ethic with Heidegger's concept of attentive care, Sorge (Heidegger, 1996) and suggested that these might be understood by using philosophical approaches that draw on phenomenology and existentialism (Reich, 2014 ; Tomkins & Simpson, 2015). There are also calls for the concept of care in the organizational setting to be undergirded by philosophies of care rather than merely by business theories (Kroth & Keeler, 2009; Tomkins & Simpson, 2015; Elley-Brown & Pringle, 2019).

A Maori whakatoki (proverb) is often quoted especially in education and organisation circles to explain the importance of strong relationships.

Unuhia te rito o te harakeke kei whea te kōmako e kō

Whakatairangitia rere ki uta rere ki tai

Ui mai koe ki ahau he aha te mea nui o te ao

Māku e kī atu he tangata, he tangata, he tangata!

Remove the heart of the flax bush and where will the kōmako sing?

Proclaim it to the land proclaim it to the sea

Ask me 'What is the greatest thing in the world?'

I will reply, 'It is people, people, people!'

This proverb alludes to the importance of having strong relationships at the centre —of an organisation or group—such relationships are likened to the "heart of the flax bush" where the komako sings (common name: bellbird a songbird known for its loud clear liquid songs). Twentieth century German existential philosopher Martin Heidegger believed that at the heart of our humanity lies the notion of care —he described care as being fundamental to our existence as human beings and that it is a "primordial structural entity," there before we realize that we are surrounded by others.

17.2   Problem Stated and Chapter Objective

In this chapter the notion of the ethic of care is explored both historically and empirically through the lens of Heideggerian care. Empirical data is provided in the form of phenomenological anecdotes—evocative stores from an interpretive study into women's career meanings—to illustrate how experiencing an ethic of care provided inspiration, increased meaningfulness, and future career wellbeing. An ethic of care contrasts with other organizational supports and structures such as mentoring and networks in that it can have a more spontaneous and informal quality. In this chapter the value of philosophies of care is expounded and an argument made for the care ethic to receive greater attention in career and organizational management initiatives.

How does being shown attentive care contribute to women's career confidence and wellbeing? How is Heideggerian care different from other supports and organisational structures? How can an ethic of care be used in career development and organizational initiatives? This chapter sets out to address these questions. It first returns to the ancient Roman tradition of care, follows its historical development and explores how care was developed by twentieth century existential philosopher Martin Heidegger as *Fursorgen*—solicitous care.

17.3   A Brief History of Care

The 'Cura' tradition of care first appeared in ancient Roman writings and was named after a mythological figure Cura who crafted human being from the earth—ex humo (Reich, 2014). The notion of Cura (care) was further developed by writers such as Virgil and Seneca and had two different meanings. First: care as anxiety or worry; second: care to provide wellbeing for another person. For Seneca care implied attentive commitment and extreme devotion to another person and a means to become truly human, also as a way to become 'god-like', a powerful force that lifts us as humans onto a plane equal with God (Burdach, 1923; Seneca, 1967). Care later appeared in the nineteenth century in writings by van Goethe and Kierkegaard. Danish philosopher and religious thinker Soren Kierkegaard (1813–1855) was influential in using the notion of care or concern and suggested care is not just fundamental to our understanding of human life but also the key to an authentic life (Reich, 2014).

Kierkegaard's work strongly influenced German philosopher Martin Heidegger who acknowledged his development of the notion of care drew from the Cura tradition. Heidegger's book Being and Time was first published in 1927 and immediately gained recognition as a classic work, considered the greatest work of philosophy in the twentieth century, a work trademarked by its depth and its simplicity (Heidegger, 1996). Previously religious thinkers such as St Paul, Luther and Kierkegaard had proposed that it is through our relationship with God that we 'find' ourselves. However, for Heidegger the existence of God had no philosophical relevance, rather it is through confronting death that we become truly who we are—by making meaning out of our finite existence. For Heidegger, 'being' human involves coming to terms with our finitude. In Heideggerian philosophy the name for human existence is Dasein which literally means "being there." Heidegger claimed that as human beings we can exist in one of two dominant modes: authentically or inauthentically. We must make a choice between these two, in order to come to grips with our possibility of being—this is an essential part of being human. To be authentic we have to live a life of possibility (Heidegger, 1996).

17.4   Heidegger and Care

The concept of care lay at the centre of Heidegger's philosophy, the German word "Sorge" translates as "care for" "concern for." We live and share our existence in a world filled with people, a state Heidegger called "being with." Even when we are not physically with other people, our way of being is still being-with. Heidegger argued that care isn't just about existing in the world and with other people, it's about being there "for" others. Further, we are compelled to care and show concern for other people; it is fundamental to being-in-the-world and we cannot avoid it. To be-in-the-world in an authentic existential state is to be "care-full." Heideggerian

care however isn't necessarily practical—such as tasks a caregiver might do for a sick person—but has a deeper origin—he called "a primordial structural totality." Further, care makes our existence both significant and meaningful (Heidegger, 1996).

17.5 Heideggerian Care in Action

Living in the world and 'being-with' others involves care and involvement whether emotional or practical; it involves caring for others and being cared for in return. Heideggerian care also means being oriented to the future because part of being authentically human is to move forwards towards possibilities. As in Roman times two types of care exist in Heidegger's school of thought: solicitude which means nurturing others and anxiety which connotes struggle and tends to concern itself with trivia in order to avoid facing up to what being really means. The first meaning of care is further exemplified by exercising self-control and showing consideration. In our day-to-day lives this type of care can be seen in two positive ways that Heidegger calls 'leaping.' 'Leaping-in' occurs when a care-giver assumes control and takes over for a person; out of concern for the person the care-giver problem solves creating an imbalance between the two with the result being that the person can feel controlled or dominated (Heidegger, 1996).

'Leaping ahead' by contrast is more empowering for the recipient in that the care-giver intervenes and opens up possibilities for the person, who can then move to find their own solution rather than being dependent. As a result, the care recipient feels in control, empowered, and has increased freedom and meaningfulness. Heideggerian care can be seen in our day to day life somewhere between these two extremes of positive care—leaping into dominate and leaping ahead to liberate. Tomkins and Simpson (2015) identify three aspects of leaping ahead: anticipation, autonomy, and advocacy. Anticipation concerns the future focussed nature of care that is forward thinking; autonomy alludes to the space provided by care than gives the care-recipient room to move forward; advocacy involves standing in for the recipient. These three aspects combine to create 'empowerment' for the care recipient.

There are also deficient types of care that Heidegger refers to. These types of care can be seen in everyday life where we are too preoccupied with getting on with life without much thought for anyone else. Sometimes we don't even notice that we are with another person or our smartphone or device draws our attention. Sometimes we can attempt to be part of a social situation and the reverse occurs when others don't seem to notice we are in the room. People then become just a commodity to be used and abandoned at will. We feel we don't matter to others, we don't receive any attention from them; we lack purpose and meaning (Gardiner, 2016). We are just getting on with life and day to day activities and lose any sense of our own authenticity and purpose. The solution, Heidegger reasoned is to be resolute and open to others and to the world around us; this is how care is seen and defined (Heidegger, 1996).

17.6   Phenomenology

Heidegger was one of the founding fathers of phenomenology that has a complex philosophical pathway (Creswell & Poth, 2017) and is defined as the study of lived experience or 'lifeworld' (Ger. Lebenswelt); the world we live rather than the world or reality separate from us (van Manen, 2016). Phenomenology is concerned with the question, "What is this experience like?" and its goal is to explain meanings as they occur in our everyday lives, things that we often take for granted.

A phenomenological study describes what a phenomenon means for several people and focusses on describing what they all have in common. Its purpose is to reduce individual experiences to universal essence and to gain "a grasp of the very nature of the thing" (van Manen, 2016, p. 175). The phenomenological researcher collects data from people who have experienced the phenomenon and works to develop a composite description of the essence of the experience for all participants. The researcher endeavours to stay close to the experience of the person by capturing their experience in storied form (Grant & Giddings, 2002). These storied descriptions or anecdotes contain 'what' participants have experienced and 'how' they have experienced it (Moustakas, 1994).

Phenomenology used as research methodology can provide an in-depth understanding of a phenomenon as it is experienced by several individuals. It has been claimed to have potential in organisation research as a means to understand human experience and to observe a phenomenon from a subjective viewpoint: the individual's perspective (Ehrich, 2005; Gibson & Hanes, 2003; Gill, 2014). This kind of methodology necessitates the participant to be reflective and able to express her thoughts in an interview.

17.7   The Current Study

The current study investigated the phenomenon of a woman's career. It sought to answer the questions: "What does it mean for a woman to have a career?" and "What are some of the essential meanings of the phenomenon of a woman's career?" Phenomenology was seen to be an excellent fit for this research that involved women working in the education sector who are likely to be adept communicators.

Purposive sampling was used as selection process (Bryman & Bell, 2015) to fulfil two primary criteria: to have experienced a career in the education sector and to be able to talk about what their career means to them. The potential sample was primarily recruited using an advertisement in a women's magazine, and secondly using a snowball technique through contacts of the researcher and supervisors. The sample comprised 14 professional women, aged between 24 and 61 years, and all working in education at either primary, secondary or tertiary level. All women had tertiary qualifications from diploma to doctorate and lived in New Zealand.

One woman had no children, the remaining thirteen had between one and three children. All women had a partner.

Participants were involved in an in-depth conversational interview of between one and one and a half hours (van Manen, 2016). This took place in a venue of choice for the participant, either their workplace or home. A small number of questions was used to provide prompts to the conversation such as "Do you think that your work has helped you find out who you are" "Can you tell me how you have been able to manage to balance the needs of family life and relationships amidst the demands of your working life?" The questions were a guide only and the researcher often used prompts, probes, reflection, and silence, working with the participant to interpret the question. The role of the researcher is to discover what 'being' in the phenomenon is like. The data analysis begins in the interview in an interpretive way as the researcher questions the participant's response and works with her to interpret what it means. The interview is an active process of meaning making The aim is to stay close to the lived experience of the participants and what the phenomenon means to them (Vandermause & Fleming, 2011).

The transcripts were then read and analysed for relevant incidents and stories (Vandermause & Fleming, 2011). The next task was phenomenological reduction where anecdotes—evocative stories—were crafted that contained interpretive meanings rather than descriptive narrative. Stories were often found throughout a transcript and pieced together in a time-consuming process so that aspects of the participants live experience are exposed. The anecdotes were returned to participants for review and consent to continue with data analysis gained before the identification of themes. These themes are structures of experiences and are described as being like "knots in the web" of experience (van Manen, 2016).

17.8   Findings and Discussion

Being cared-for was a recurring notion in the career stories women told. It was through care that they were often able to understand and make sense of their everyday lives and role as teachers. Women described how care from others was key to their career direction and agency. Care had positive influence, through key people, supporters, and gate openers and was seen at formative and transition points.

What follows next are some of the women's stories that related 'care-filled' incidents, times in their lives when someone paid attention to them, noticed them, and saw a future for them. Care was crucial in gaining career meaningfulness and wellbeing. The first section has focus on how care from her mother was seminal in career decision marking and confidence; the second on a partner's support and care that provided perspective. Third, examples of other key people such as teachers and lecturers who cared with examples of how the future-focused and empowering positive form of care Heidegger espoused—leaping-ahead.

17.9 The Stories

17.9.1 Early Career Influences: The Profound Influence of a Mother Who Cared—"Mum Was My Biggest Fan"

Many women told how their mother was a powerful influence in their career pathway with mother's words often quoted during an interview. Women in this study were often the first in their family to go to University and described themselves as a "forerunner," often acknowledging that their mother's support was a key motivator for this. Mother's influence was interpreted as particularly salient since she wasn't able or permitted to advance in her own career.

Kiri's mother who had a large family of 11 children was unable to have a career of her own outside the home. Kiri says:

> I had the most gorgeous mother in the world. She was an amazingly intelligent person, who without any formal education, was very well read. She became an integral part of what I did and would often visit me in my classroom. She was my biggest fan, my mother – and I was also her biggest fan. In my day-to-day life as a principal, it's my mother who comes back to me when I have to deal with children and parents. There are lessons I've learnt I take into my life today. One thing she used to say was, "Just be careful with your words, because they have power. Especially yours Kiri." I remember her saying that. She was powerful in her being. And she drove us to be good women. (Kiri)

Kiri's story reveals the life-long impact of her mother who passed away while Kiri was still in her thirties. Her mother's care towards her reveals understanding and awareness of Kiri's strengths and potential weakness, recognising her as a leader whose words had power. This kind of care involves noticing and speaking up in such a way that encourages and moves the care-recipient towards greater authenticity and self-belief (Heidegger, 1996).

The empowering influence of her mother is also apparent in the story told by Amanda who like Kiri was the first in her family to study at University. Amanda describes how her mother encouraged her to choose her own pathway and make her own career decisions:

> Mum always supported what I did. She gave me the confidence to do what I wanted. She says she wished she'd had the chance to go to university. Having daughters of her own, she wanted us to do what we wanted and to not let anyone tell us otherwise. She didn't tell me what to study. She said, "You choose, it's your chance." My adventure into university was the first for our family…. I was the frontier for that……Having Mum's support and the freedom to choose, I thought that whatever choices I made would work out. (Amanda)

The type of care that mother exhibited enabled these women to move toward possibility rather than to accept what others did. Like another participant Rachel, they described themselves as being independent "I've done everything for myself" yet acknowledging the care of mother "Mum's had a big influence." Mother often did not have her own career or had been restricted in her career development "she'd always wanted to go to university…. none of them back then could", confirming

findings from Betz and Fitzgerald's (1987) study that revealed maternal attitude to career is more significant than mother's actual career. Further mother's care provided a sense of certainty and self-belief as evidenced by comments such as "she was my biggest fan" and "she gave me the confidence to do what I wanted." The messages they received from their mother, who was loving and caring but low in control, positively influenced their career decision making and self-esteem (Sholomskas & Axelrod, 1986).

17.9.2   Care from a Supportive Partner: "The Other Thing That Keeps Me Going"

A later influence was a woman's partner, described not just as supportive but also as a reality check. Kiri said of her husband, "The other thing that keeps me going is I've got a wonderful man who says to me, "Don't take it all too seriously." And that helps too." And Debbie was candid about the levelling influence her partner provides:

> My partner is really well read and politically engaged. He finds it a little bit hard to understand the whole allure of the university and some of the pitfalls of being an academic. I think he finds it a bit weird. He is very supportive. By the same token he's not the sort of person that has everything absolutely invested in my career and me as a career person. I mean he also sees me as a person. Not just a worker. (Debbie)

Women also described their partner's career as different from, in particular, not as stressful as theirs. Amanda described herself as "wearing the pants" and that her husband is "not a career man" adding "I'm not trying to insult him." She adds:

> If I need to do something with my job, the two of us ask, how can we make this work? I think quite often the reverse is the stereotype. At school, a lot of the Mums are not working or working two or three hours a day, and their partners have high career stress. I've got a partner who doesn't have that stress. It gives me the freedom to put in the time I need to. Having his down-to-earth common-sense approach gives me the freedom to say "Right my next step for study, or…" I like having someone who can get his hands dirty, dig a garden. I don't feel the pressure of competing with someone else. (Amanda)

Amanda is also quite open about her motivation for choosing her husband—she wanted to have the freedom to make her own choices and to pursue her own career. Having a husband with a "down to earth common-sense approach" means she can move ahead in her career whilst her husband 'cares' for her and takes a major share of the childcare responsibilities and household tasks.

Rachel who is studying whilst working full time describes how her husband supports her one hundred per cent, taking the primary role for care of their daughter and prioritising Rachel's study demands; she comments:

> I feel bad there's always something to be done on the house of something to be bought and I'm saying, "I need a couple of thousand to pay for this paper." He just says "Okay…" I think that's awesome because I don't know if the roles were reversed, I'd be like that. I sit back and think, 'Wow, he's compromised a lot.' (Rachel)

As with Amanda, Rachel's career and the decisions around it take centre stage in the family. Being with an attentive and supportive partner has also been key for Tina, an academic and associate professor. She comments she became more confident as a person when she met her husband soon after breaking up from a difficult relationship. She and her husband's joint decisions are made contingent on her career: Tina's career takes priority, her husband comments "you apply wherever you want, I can find a job anywhere." She describes how she has the freedom to drive the decision-making process:

> All the decisions I made when I came back to work were my decisions. I talked with my husband about them, but they were all driven by me, he is a much more supportive person. (Tina)

Heidegger said that as Dasein (beings) we have become confused, we only know what it is 'to be' in a vague and hazy way, and not a powerful and rigorous way that we deeply desire. Our knowledge of being is blurred and we are on the lookout for new ways to be. Care enables us to move beyond confusion and to feel more confident and certain of who we are and what we want to do next. The women in this study became more assured and agentic through being shown care; they were less accepting of what Heidegger called living averagely or having a mainstream view, doing "what other women do." In the stories in these two sections, care can be seen to have a caregiving (practical) function as well as a supportive (psychosocial) function (Heidegger, 1996).

A caring and supportive partner enabled these women to progress their career whilst maintaining perspective. Litano, Myers, and Major (2014) describe the positive "cross-over effect" and career wellbeing that having a partner who is an "ally" rather than an "adversary" provides. A partner who takes an equal or major share of the childcare and household management was typical for many women who considered this the "normal" way of balancing work and family demands. Rather than having essentialist roles they shared an egalitarian gender role ideology with their partner, and this had positive crossover effects in reducing conflict between them and facilitating decision making. These women's partners were committed to 'being there' for them, and considerate of their career needs so women could be autonomous and in control of their decision making; these things contributed to more meaningful career experiences (Elley-Brown, Pringle & Harris, 2018).

17.9.3 Influence of Caring and Attentive Teachers and Lecturers: "Their Voices are Still in My Head"

Women told of teachers and lecturers who played a key role in their career decision making and career confidence, as they made early career choices during high school and tertiary study. Kiri an Indigenous (Maori) primary school principal in her mid-forties, tells of significant teachers at high school:

> I've been asked this a lot throughout my life, "What makes a difference for Maori students? How can we help them succeed? And I've thought about it, reflected on it and spoken about it a lot. I understand the importance of knowing te Reo [Maori language]. I understand the importance of knowing about culture, that culture counts. But for me one of the things that also made a difference was two Pakeha [white] teachers at Girls High. It wasn't that they knew te reo Maori or anything about Maori culture. It was rather that on a human level they were people who could see potential. They simply encouraged me…. (Kiri)

Kiri goes on to tell how she had gained full marks in a test and the girls around her were teasing her and saying she had cheated. Her science teacher stepped in just as Kiri was close to tears, unable to stand up for herself—the teacher stood up for Kiri and said, "actually if anybody's cheated it's you guys off her." She goes on:

> I didn't know how important this teacher was until years later. I maintained contact with both those teachers, both of them said to me "Go to Teachers' College". They knew that story, and they both said, "No, come on." It wasn't much to those teachers. But what they did for me, in my head as time has gone on, was very significant. I can put my finger on those times and the things that they said. Even though language and culture counts, what also counts is people who believe in you. And if you can do nothing else as a teacher for Maori, it is to believe in them and to encourage them. Look it must've been significant, I'm still telling that story to this day. (Kiri)

By stepping in, the teacher enabled Kiri to maintain her dignity and as a result Kiri feel more human. She describes how from then on "I thought—I can do this." Heidegger (1996) describes this as an ontological shift. Kiri comments that thirty years later, she can still hear their voices "the things that they said."

Carol also describes the empowering influence of key people:

> I think people are always part of it. Throughout my life I can see people who have come into my life at the perfect time and have said things that have given me a boost or the confidence to do something. In my first year there was one teacher on practicum. She had been in education a long time. At the end of my practice she looked at me and said, "you should be teaching now. I don't know why you didn't go years ago. I would entrust my kids to you now." (Carol)

The lecturer had watched Carol and seen her potential; her positive words had an empowering effect on Carol who was initially constrained by her background as an adopted child. She had felt disenfranchised and without a sense of her own identity. A few prescient words from a lecturer gave Carol the confidence that she needed to move forward.

17.9.4 Leaping-Ahead—Moving Toward Possibility: "Oh Yes, You Could Quite Easily Do This"

Quite often, women spoke of how people didn't pay attention, or they felt passed over, were sometimes outwardly discriminated against or bullied; they also commented that typically other people were too preoccupied with their own things to

notice them (Gardiner, 2016). However, sometimes care was shown in ways strongly aligned with the positive form of care Heidegger describes as leaping ahead. Women described these people as being different from others. They said, "I haven't found other people take the time to know what your strengths are, to take an interest in you" and "they really believed in me; they said, 'you can be something else'" and "I don't think they realized what an impact they had."

Tina, an academic and Associate Professor told of the profound influence of a visiting professor who came into her department for one semester three years prior to the interview. Tina describes how his behaviour was very different from any other colleague she had encountered:

> He just instilled this extra confidence in me. He'd say to me, "Oh yes, you could quite easily do this" or "Why don't you apply, this would be quite good for you." And, he would also say, "You know, you're quite ready to apply for Associate Professor."

Tina goes on to describe how she did apply for Associate Professor after he had left:

> If it wasn't for him, I don't think I would have applied. When he came, I felt "Oh here is somebody who actually understands me, who takes time to know what I research or what my strengths are." (Tina)

A significant writer on care, Weil (Weil & Panichas, 1977) made it a central characteristic for ethics and proposed attention is essential to care, that to care means giving a person full attention, to see them just as they are. Unlike other colleagues, the professor got to know Tina and exercised the highly positive form of care "leaping ahead" described as a combination of anticipation, autonomy and advocacy. He anticipated Tina's next career move, and allowed her the space to make her own decision (Tomkins & Simpson, 2015). His care had a transformative quality that helped Tina, the recipient of care to "grow and develop" (Bass & Riggio, 2006, p. 3).

Being watched and paid attention was also significant for Miriama who discovered a greater sense of her own identity as Maori (Indigenous) when an older teacher she greatly admired and used to watch stepped in and spoke strongly to her about how she needed to change her perspective—saying to Miriama "Whether you like it or not, the kids view you as Maori. So, you have to represent us in a really positive way." Initially taken aback Miriama tells how this interaction arrested her and she thought the older teacher was "a little terrifying, but that's because she cared. She'd give you a hug but also tell you off." Care therefore, is not necessarily about being 'kind' or 'nice' but rather it can be linked to agency and self-efficacy as Tomkins and Simpson attest that for Heidegger "compassion, kindness and niceness are neither necessary nor sufficient for care" (Tomkins & Simpson, 2015, p. 1023).

17.10 Implications for Theory and Practice

Women in this study told of significant connections with their family in particular with their mother and partner. These strong ties were significant in shaping their career identity and provided them with psychosocial support (Ibarra, 1999) and mother's support and care provided them with germinal material on who they are. Powerful reciprocal relationships with their partner were pivotal in terms of career identity formation viz: "he sees me as a person. Not just a worker" validating what Hall and Mao (2015) contend that the involved authentic careerist must be fully aware that work is merely one part of life and to 'hold it lightly.' These people who showed an ethic of care towards them enabled women to keep things in perspective whilst staying true to themselves. This research illuminates the importance of an ethic of care through strong ties. More research is required into sociological career influencers such as mother and partner.

These anecdotes reveal that receiving care during her career was transformative and its effect long-term for women's career confidence and wellbeing. These interactions shared a common characteristic that the person providing the care was genuinely concerned and interested in the other. Further there is a natural and spontaneous nature to these incidents that could be considered quite ordinary and prosaic. The care-giver paid attention and watched, noticed and recognised the recipient, took responsibility and acted. By contrast management processes that involve watching people to measure, monitor and analyse can have a dominating effect and individuals can think that their basic self-worth has not been acknowledged and feel invisible or alienated (Honneth, 2008).

Receiving care through attention, recognition of need, identification of potential —has the ability to build strong social bonds and ties. However just because care is positive, and recognition is appropriate, it does not necessarily follow that a person agrees with the other. It is important also to understand that attentive care is not sympathy—or support for a cause. What a care perspective does acknowledge is that individuals are valuable in themselves, and within the organizational setting it reframes work as a means to reach instrumental goals whilst at the same time promoting human flourishing (Islam, 2013).

It is well documented that women still face many barriers in the workplace, sexism, discrimination and harassment. However, Sandberg (2015) writing in *Lean in* argues that women keep themselves from progressing in their careers because they lack the self-confidence and drive possessed by men and lower their expectations of what they can achieve. Although motivation is complex and moulded by numerous factors, including sociological factors, peer group, education, and connections, as well as expectations and bias of those around us, there is evidence from this study and the emerging literature that an ethic of care as viewed through Heideggerian care can offer some promise as a construct undergirded by a strong philosophy that might help individuals and organization to gain increased meaning and wellbeing in their work.

17.11 Concluding Thoughts and Future Research

Perhaps the greatest challenge if this kind of care is to become more apparent in organisational settings and career management is to ask whether this behaviour can be learnt or as Tomkins and Simpson (2015) ask, can it be "outsourced" to people with a more developed and sensitive side? Still, Heidegger argued that it was part of our nature to care, not just for a select few. Yet, participants pointed out and alluded to the fact that this behaviour is rare—recall Tina who commented "no one else had every done that before" and "I haven't found that other people take the time to actually know what your strengths are, to take an interest in you."

A care perspective viewed through the lens of Heideggerian care can be seen to offer an important step towards understanding the 'human' aspect of management, recognizing that organizations are primarily social systems populated by existentially involved people. More empirical research is needed with focus on the workplace as a place of social meaning and caring interaction. Phenomenological studies by design involve a small number of participants with aim to garner rich data on human experience. This research conducted in education—an area seen as ideal for this kind of methodology provides a sample of what might be explored using hermeneutic phenomenology in other contexts and with a greater diversity of participants. Further research is encouraged to extend work on the ethic of care in practice and Heideggerian care. Perhaps existential philosophy with emphasis on an ethic of care can direct us to ways of being that create greater wellbeing and meaningfulness in our work and provide as the Maori proverb describes a place at the heart of the flax bush where the bellbird can sing. Such knowledge might not establish exact principles of 'how to' care but it may engender habits of mind and thought that can move us in some small way and remind us of what we do at work, and with whom, and why that is significant and meaningful.

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Margie Elley-Brown is a Senior Lecturer in Management at AUT University, Auckland, Aotearoa New Zealand. In other career incarnations she has been a secondary school Mathematics teacher, Arts and Cultural director, career practitioner and business consultant. A longstanding interest in women's career journeys led to her doctoral research that used Heideggerian hermeneutic phenomenology to explore the lived experience of women educators. Uncovering meanings is the product of hermeneutic phenomenology developed as method. A key theme and research finding, discussed in this chapter involves the power of an "ethic of care" in creating meaning.

Conclusion: Theory, Practices and Dynamics in Support of an Integrated Conceptual Framework for Future-Fit Career Wellbeing

The chapter contributions in the various parts of the book presented elements for an overall conceptual understanding of the psychological aspects of future-fit career wellbeing in the digital workspace. In summary, the various elements seem to highlight the following implications for "future-fit" individual career wellbeing:

- Development of proactive personality traits towards engaging in career self-management (e.g. through effective goal setting, mapping the environment for relevant resources, planning and monitoring actions and providing useful feedback).
- Enhancing of individual career self-management capabilities by building capacities for career adaptability, intrapreneurial self-capital and work self-efficacy.
- Create purposeful and meaningful work experiences, positive work friendships, and provide training and development opportunities to address employees' career wellbeing needs.
- Practices that consider the impact of the fourth industrial revolution on the the career wellbeing of employees.
- Taking responsibility for career self-management by enabling self-regulatory (personal) conditions.
- Development of self-regulatory elements such as career and life satisfaction, personal and interpersonal relationships and motivation and commitment.
- Development of personal-situation interaction elements which include happiness in the workplace, thriving, cognitive, spiritual, physical and social experiences.
- Creating supportive organisational conditions that enable future-fit career wellbeing.
- Enhancing organisational conditions through the management of psychological contracts, providing social and organisational support, providing rehabilitation processes and creating an ethical and attentive caring environment.

In general, the chapter contributions provided evidence-based practical implications supported by empirical research. However, the nature of future-fit career wellbeing for individuals and the psychological aspect thereof remains an important area of inquiry and more research is needed to understand future-fit career wellbeing and the psychological aspects of career wellbeing in the VUCA and digital landscape. The impact of Industry 4.0 on the career wellbeing of individuals remain under-researched in this landscape and more research in various organisational, occupational and cultural contexts are needed. The measures and frameworks presented in the various chapters stem mostly from theoretical reviews of the research literature and in some cases, cross-sectional research in specific cultural settings. Longitudinal studies in various organisational and cultural contexts are needed to establish cause-effect links between constructs and the manifestation of future-fit career wellbeing aspects among individuals from diverse socio-demographic and cultural backgrounds. Some of the chapters illustrated the application of frameworks, measures and interventions in real-life case settings. Evaluative research is required to test the effectiveness and long-term impact of different interventions on career wellbeing. More empirical evidence is required on how the psychological factors, internal organisational context factors, individual characteristics, organisation-individual relationship and organisational practices influence the experiences, perceptions, engagement and future-fit career wellbeing of individuals.

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