WORK CHARACTERISTICS AND JOB CRAFTING: THEIR RELATIONSHIPS WITH EMPLOYEE WELL-BEING AND BEHAVIOR

A Thesis

Presented in Partial Fulfilment of the Requirements for the Degree of Doctor of Philosophy in Psychology (Organizational)

By

ERIC DELLE

Bachelor of Arts-Psychology with Political Science (Honours) & Master of Philosophy in Industrial & Organizational Psychology, University of Ghana, Legon

Faculty of Human Sciences

Department of psychology

Macquarie University

Sydney, Australia

Submitted on the 27th day of September 2019 for the degree of Doctor of Philosophy in Organizational Psychology

This page has been intentionally left blank.

Table of Contents

Table of Tables

Table of Figures

Statement of Originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

I have duly cited and referenced contributions of previous works and authors. I have also complied with Macquarie University Human Research Ethics standards (Reference: 5201817602133).

26th September 2019

Eric Delle

Authorship

This thesis contains prepared manuscripts, currently under review. The manuscripts are:

Paper one (in chapter 2), entitled "The relationships between job crafting and employee innovation: The role of work engagement", under review in Journal of Occupational and Organizational Psychology. I am the corresponding author, my Principal Supervisor, Ben J. Searle is the second author, and my Second Supervisor is the third author. My contribution to the research and paper is as follows: Concept = 50%; Data Collection = 100%; Analysis = 20%; Writing = 70%; Total = 60%

Paper two (in Chapter 3), entitled "Supervisor Support, Cognitive Demands, Employee Well-Being, and Performance: The Moderating Role of Social Job Crafting", under review in Journal of Vocational Behavior for review. I am the corresponding author, my Principal Supervisor; Ben J. Searle is the second author. My contribution to the research and paper is as follows: Concept = 50%; Data Collection = 100%; Analysis = 20%; Writing = 70%; Total = 60%

Paper three (in Chapter 4), entitled "Career adaptability: The role of developmental leadership and career optimism, to be submitted to Career Development Quarterly for review. My contribution to the research and paper is as follows: Concept = 80%; Data Collection = 100%; Analysis = 100%; Writing = 70%; Total = 87%

Publications and Presentations Arising From This Thesis

Delle, E., Searle, B.J., & Crane, M. The relationship between job crafting and employee innovation: The role of work engagement, under review (Journal of Occupational and Organizational psychology)

Delle, E., & Searle, B.J. Supervisor Support, Cognitive Demands, Employee Well-Being, and Performance: The Moderating Role of Social Job Crafting, under review (Journal of Vocational Behavior)

Delle, E., & Searle, B.J. Career Adaptability: The role of developmental leadership and career optimism, under review (Career Development Quarterly)

Delle, E., & Searle, B. (2017). *Job crafting and work role performance: The role of organizational identification*. Paper presented at the 12th Australian Psychological Society Industrial & Organizational Psychology Proactivity Symposium, Sydney, Australia.

Delle, E., & Searle, B. (2017). *The influence of developmental leadership on career adaptability and satisfaction: The role of career optimism*. A paper presented at the 12th Australian Psychological Society Industrial & Organizational Psychology Conference, Sydney, Australia.

Acknowledgements

The journey to successful completion of a PhD is both humbling and intellectually challenging. The PhD process exposes candidates to a very demanding research field, characterized by the need to impact societies, organizations, and the world with novel ideas and knowledge emerging from research publications. While every PhD candidate looks forward to achieving such goals through research publications, consultancy works, and teaching, it takes humility, determination, and courage to build a scholarly foundation, which is an important prerequisite to achieving such objectives. With much gratitude and appreciation to my Principal Supervisor, Dr. Ben J. Searle, I have understood and internalized the virtues of a Good Researcher: Humility, Endurance, Courage, Thriving, and Determination. As I close the chapter on this humbling process, compiling my thesis chapters, I wish to acknowledge the contribution of several people; particularly the Almighty God, my Principal Supervisor, and my beloved wife and children for making this process a success.

First, I thank the Almighty God for His spiritual support and guidance. I have received unmerited blessings and favor from the Almighty, and I trust that He will lead me as I strive to impact the lives of people with the knowledge acquired through this process.

Second, I thank and appreciate the contribution of my Principal Supervisor, Dr. Ben J. Searle for the mentorship, guidance, and constructive criticisms. My Principal Supervisor challenged me when he said what appears to be the most motivating statement a research supervisor ever told his student. Dr. Searle said:

> *"I have never been to African, but one of the reasons I accepted to supervise you, is that, I want this to be my contribution to Africa"*

The above statement stirred me up in challenging times. Indeed, it is a statement that kept me moving even when it seemed practically impossible. I have received valuable training under your guidance, but I admit that I still have a long way to go to make the necessary impact in my chosen field.

I also acknowledge the contribution of my second supervisor, Dr. Monique Crane. Her contribution at the early stages of my work was valuable.

To my beloved wife, Victoria Amboroboa, I say a big thank you to you for believing in me, for standing by me, and for playing the role of husband and wife in my absence, providing the best of care to our lovely children: Julien, Baron, Delvin, and Emily. Indeed, you are priceless. To our lovely children, I extend a great deal of appreciation to you for having to miss the physical presence of your daddy for about three years. For the time away from you, daddy says thank you for your understanding.

I also acknowledge the contribution of my late mum: Naa-Mwinekaare Tae-ire. Mum, I remember your unflinching support, determination, and actual contribution to get me through school. You wept, but did not through your hands in despair, when it was difficult to raise money to pay for my first-year senior high school fees. But for your effort, Mummy, I wouldn't have progressed to this level. Unfortunately, you are not alive to see the seed you sowed several years ago. With heavy heart, I dedicate this PhD to you posthumously.

I acknowledge the contribution of my siblings, particularly, Julius, Cynthia, Stephen, Charlotte, and Christiana Delle for their contribution toward my education. I also thank my brother, Joseph Delle for the valuable support he has given to me, here in Australia.

Thanks, and appreciation goes to Dauglas, Guyo, and Daniel for their encouragement. I also acknowledge Nancy Cherono for being a very good friend. I will forever be eternally grateful for her support and friendship.

I thank my sponsors, the Ghana Education Trust Fund (GetFund) for the sponsorship, without which I would not have had the opportunity to pursue my PhD overseas.

Finally, I acknowledge and thank my very good friends: Anthony Kumasey and Thomas Atobra for their tremendous support and encouragement.

Abstract

Much research is published asserting that desirable work characteristics (i.e. low job demands combined with high resources), whether they are achieved by manager design or by employee crafting, will lead to valued outcomes in terms of employee wellbeing and productive work behaviors. However, not enough of this research utilizes rigorous (e.g. longitudinal) research designs, too little of this research looks at moderating factors that may determine important boundary conditions, and far too little of this research is conducted in African nations. Thus, drawing on relevant frameworks including the Job Demands-Resources model, the Conservation of Resources theory, and the person-environment fit theory, which have been used to study extensively, the effects of work characteristics on work outcomes in wealthy nations, and less in African countries, this thesis examined work characteristics (e.g., supervisor support, cognitive demands, and developmental leadership) and job crafting, their relationships with employee well-being, and capabilities, and the extent to which these relationships depend upon positive workplace phenomena (optimism, engagement, and social job crafting) in the Ghanaian context. Addressing the disproportionate focus of workplace research on Western populations, all studies were carried out using surveys completed by members of the Ghanaian workforce. Two papers utilized a three-wave longitudinal design to examine cross-lagged associations in 415 banking employees. Paper 1 revealed that rather than job crafting enhancing employee innovation, it was instead innovation that stimulated job crafting behaviors, but only for highly absorbed employees. Paper 2 revealed that effects of cognitive demands on engagement depended on levels of supervisory support provided. Furthermore, employee proficiency and adaptivity appeared to each benefit from a particular combination of cognitive demands,

supervisor support, and social job crafting. Paper 3, utilizing cross-sectional data, focused on Ghanaian employees undertaking MBA studies at a Ghanaian public university. Results showed developmental leadership was positively associated with career adaptability, but only for employees who were relatively pessimistic about their careers. Theoretical and practical implications of these results are presented.

CHAPTER 1.

THESIS INTRODUCTION

Employees play a crucial role in helping their organizations succeed. Studies in the field of organizational psychology have contributed immensely in identifying behaviors, capabilities, and psychological states that might help organizations achieve competitive advantage. As an emerging economy in the West African sub region, Ghana needs a work environment with well-designed work, capable, proactive, and engaged employees. This program of research focuses on phenomena that have emerged from organizational psychology research, with a particular interest in psychological states (such as work engagement), psychological capabilities (such as adaptability and work proficiency), and proactive behaviors (such as employee innovation and proactive performance); and the extent to which such outcomes are influenced by work characteristics, job crafting, optimism, and leadership in the workplace (such as work demands). Specifically, this program of research aimed to investigate the question: How do characteristics of work and employees, independently and interactively, influence employee outcomes? This general research question is broken down into specific questions, which are examined in three separate manuscripts.

1.1. The Research Context

As an emerging economy in Sub-Sahara Africa, Ghana has performed creditably well politically, economically, and socially. Politically, Ghana is a model of democracy in Africa as it has successfully held elections and changed governments since 1992. The stable and peaceful political atmosphere the country enjoys has created a friendly environment for job creation and businesses, leading to a steady rise in Gross Domestic Product (GDP) of the country. The agricultural, industrial and service sectors have contributed to building a strong economy for Ghana (Aryeetey & Baah-Boateng, 2016). The industrial sector, which is supported mainly by

natural resources such as gold, oil, bauxite, manganese, and diamond, contributes 20% and 15% to GDP and employment respectively; the agricultural sector supported by cocoa, timber, oil palm, rubber, coffee, and citrus contributes 20% and 44.7% to GDP and employment respectively; and the service sector which is now the major driver of growth in Ghana and supported by organizations such banks, insurance, and telecommunication contributes 51% and 40% to GDP and employment respectively (Aryeetey & Baah-Boateng, 2016). Today, Ghana's economy is projected to grow at 8.3%, making it the fastest growing economy in the world (World Bank, 2018).

Despite the tremendous economic achievements, the sectors of growth lack value-addition (Aryeetey & Baah-Boateng, 2016). Available evidence shows that 22% of workers in Ghana are poor, and only 1 out of 5 jobs is considered a productive or well-designed job (Aryeetey & Baah-Boateng, 2016; Baah-Boateng & Ewusi, 2013), a situation likely to impede growth sustainability. To support the economy, work organizations need to upgrade their technology, provide better conditions of work, better jobs, and higher wages to attract quality, innovative and knowledgeable workforce (Aryeetey & Baah-Boateng, 2016).

Well-designed work, good work practices, and policies are what make healthy organizations. Healthy organizations prioritize individual well-being, which in turn make them effective (Raya & Panneerselvam, 2013; Arnoux-Nicolas et al., 2016; Grawitch & Ballard, 2016). Ensuring that employee's experience positive well-being is important for organizational performance and success. In the context of Ghana, a healthy job may be a 'luxury' as insufficient quality and well-designed jobs, poor wages and poor quality of work-life are common for the average worker in Ghana (Aryeetey & Baah-Boateng, 2016; Baah-Boateng & Ewusi, 2013). In addition, because of job scarcity most workers in Ghana are experiencing 'job captivity' as they cannot leave their current jobs, even if those jobs were not well designed. Further, the Ghanaian

worker is paid a daily minimum wage of GH¢9.68, approximately USD2 (Ministry of Employment and Labour Relations, 2018), which is applicable to public and private sector organizations. This minimum wage leaves the average worker in Ghana 'impoverished' and potentially affects how they work. Indeed, the empirical evidence points to well-being crisis in Ghanaian organizations. An understanding of the factors that might promote employee well-being and organizational effectiveness is important to positioning Ghanaian organizations well in the business space locally and globally.

The studies described in this dissertation focus on the service sector, with particular reference to banking institutions. The banking industry of Ghana has metamorphosed into a competitive business environment because of reforms dating back to 1989 (The Banking Law, PNDC Law 225) which opened the space for more local banks to be incorporated. In addition to creating a more viable banking industry, the implementation of a divestiture program by government resulted in the privatization of some state banks contributing substantially to the liberalization of the financial sector (PNDC Law 326, 1993). Consequently, the banking market has witnessed the presence of private and domestic banks. To consolidate the gains accomplished so far, the Financial Sector Adjustment Programme (FINSAP) and Financial Sector Strategic Plan (FINSSIP) were implemented with the goal to fostering healthy competition among banks, resulting in increased deposit mobilization, increased savings and financial deepening (George Obeng, 2017). Further, the passage of a new Banking Act in 2004 by the parliament of Ghana ushered in the capital adequacy ratio law, which stipulates that banks incorporated in Ghana must maintain a minimum capital adequacy ratio of 10%, which translates into GH¢60 million, GH¢100 million, and GH¢400 million in 2007, 2013 and 2018 respectively (Bank of Ghana, 2018).

The reforms in the Ghanaian banking industry have resulted in some visible innovations

such as the automated teller machine (ATM), e-banking, telephone banking, and SMS banking. Despite the substantial progress made so far, the banking sector is still confronted with a myriad of challenges and issues. For example, recently, UT bank and Capital bank collapsed, and poor corporate governance practices and huge non-performing loans were cited as reasons (Bank of Ghana, 2017). According to the Chief Executive Officer of Nananom Financial Group, George Obeng (2017), the challenges facing banks in Ghana could be categorized into three: (a) work practices, (b) customer expectation, and (c) capital adequacy issues. With respect to work practices, Obeng asserts that bad corporate governance practices resulting from poor leadership, lack of knowledge, skills or attributes, poor job design, role assignment challenges, unbalanced board (e.g., all accountants) and teams, high level of incompetence and poor communication within ranks characterize banking institutions. In terms of customer expectations, many banks are unable to provide modern banking services required by customers. Finally, many banks are unable to meet the increasing capital adequacy ratio required for banking operation in Ghana.

Although salaries of banking employees are about 13% higher than other jobs (www.SalaryExplorer.com), the demanding nature of banking jobs compared to those other jobs make the difference not too significant. Moreover, most banks now employ a commission-based salary and a contract-based employment strategy, where graduates either have to work for only commission or as contract staff, work for salaries lower that what is typically 13% higher than those of other jobs. This practice has become an integral part of the employment strategy of many banks in Ghana because of the increasing levels of unemployment. Therefore, the conditions of job captivity, poor wages, and working conditions, which have implications on work engagement, adaptability and proactivity are also present in the Ghanaian banking context.

1.2. The Need for Employee Well-Being, Proactive Behavior and Career Adaptability

Globalization and technology have ushered in a new business environment that requires

organizations to adopt work policies and practices that can attract and retain individuals with the mindset for today's work. Most importantly, there is a high need for a competitive and a strategic workforce to deliver enterprise value. This program of research focuses on psychological states/attitudes (i.e., work engagement and optimism), capabilities (i.e., adaptability, proficiency), and proactive behaviors (task proactivity, innovation, and job crafting), which are crucial in contemporary organizations. Engaged, proactive, and capable employees are not just assets to organizations, they are strategic resources. While these types of employees are important, they do not just perform in a vacuum, as work-related, leadership behaviors, and individual characteristics are likely antecedents and boundary conditions. A small number of studies undertaken in South Africa seem to suggest that job crafting, proactivity, and work engagement are associated with positive individual work outcomes (de Beer, Tims, & Bakker, 2016; Peral & Geldenhuys, 2019; Peral & Geldenhuys, 2016) as they are elsewhere. However, these South African studies also show that some of the items measuring job crafting may not be appropriate in the African context (de Beer, Tims, & Bakker, 2016; Peral & Geldenhuys, 2019; Peral & Geldenhuys, 2016), suggesting the need for more African-based studies, and highlighting the likely impact of culture in differentiating result outcomes of individualistic wealthy nations from collectivists nations including Ghana (Hofstede, 1980; Mueller & Thomas, 2000). According to Hofstede (1980), people from collectivist countries emphasize group interest, while those from individualistic countries (e.g., Australia, UK, US etc.) emphasize individual values such as autonomy, personal initiative, achievement, and personal financial security. These prominent differences in cultural values seems to contribute significantly in explaining differences in the behavior of people from wealthy western nations and those from collectivist nations such as Ghana (Mueller & Thomas, 2000). Building on the few studies in a South African context and the little knowledge of antecedents and circumstances under which workers become engaged,

proactive, and capable in the Ghanaian (i.e., a collectivist context) work context, this program of research seeks to understand how work-related factors, individual characteristics and leadership operate simultaneously to influence work engagement, employee innovation and career adaptability in the Ghanaian context. In a systematic manner, we discuss why research on these constructs are crucial for organizations in Ghana, particularly, banking institutions.

1.2.1. Employee Well-Being

Well-being is a broad term that refers to a broad range of psychological states, both positive ones and negative ones. Work engagement is a positive well-being construct that receives much research attention in the field of occupational health and organizational psychology. Kahn (1990, p. 700) asserted that work engagement is the expression of oneself physically, cognitively, and emotionally in task behaviors. Work engagement is more typically characterized as a positive psychological state, comprising vigour, dedication, and absorption (Bakker, Schaufeli, Leiter, & Taris, 2008). *Vigour* refers to "high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence also in the face of difficulties", *absorption* is the experience of "being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work", and *dedication* is the sense of "significance, enthusiasm, inspiration, pride, and challenge" (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002, p. 295).

The tasks employees perform have the potential to influence well-being (Schaufeli, 2007; Simpson, 2009), and employee well-being is, in turn, important for both individual and organizational outcomes. Collectively, individuals in an engaged state experience a psychological connection with work, invest themselves fully in their tasks, show proactivity and commit themselves to high performance standards (Bakker & Leiter, 2010). According to Sonnentag (2017), people feel engaged in the course of working, but while some tasks may stimulate

feelings of engagement, other tasks may not trigger such feelings. Thus, characteristics of tasks (e.g. the extent to which they are cognitively demanding) and of work groups and settings (e.g. the extent to which leaders are supportive) have the potential stimulate the experience of work engagement (Kahn, 1990; Sonnentag, 2017). Research shows that job characteristics comprising resources (e.g., supervisor support, autonomy etc.) and demands (e.g., cognitive demands, work pressure etc.) have the potential to increase work engagement (Bakker & Demerouti, 2017). Further, theoretical and empirical evidence suggest that job crafting relates more positively to work engagement (Bakker & Demerouti, 2017; Tims, Bakker, & Derks, 2012).

Employers are interested in engaged employees because of well-founded assumptions of the links between employee engagement and employee capability (Bakker, 2009; Bakker & Bal, 2010; Halbesleben & Wheeler, 2008). Research shows that engaged workers are efficacious, energetic, and show positive attitude to work (Bakker, 2009); that they are high performers (Bakker & Bal, 2010; Halbesleben & Wheeler, 2008); and that they are likely to create customer satisfaction (Salanova, Agut, & Peiro, 2005) and otherwise contribute substantially to the financial performance of organizations (Xanthopoulos, Bakker, Demerouti, & Schaufeli, 2009a; Demerouti & Cropanzano, 2010).

Although work engagement research has progressed, much of what we know is drawn from working populations from the West. The noticeable benefits of work engagement are ample evidence for researchers in Africa including Ghana to start studying such an important phenomenon. Some African studies have shown that work engagement is important for African organizations (de Beer, Tims, & Bakker, 2016; Kumasey, Delle, & Farhad, 2019; Peral & Geldenhuys, 2019; Peral & Geldenhuys, 2016). For example, recently, Kumasey, Delle, and Farhad (2019) showed with a sample of Ghanaian employees that organizational justice and commitment are positively associated with work engagement, suggesting that much of what is

true of engagement in the West should also be true in Ghana.

Burnout represents a negative component of employee well-being. Burnout is a syndrome characterized by three components: *exhaustion*, a form of work-related fatigue associated with feeling overtaxed and drained of one's emotional and physical resources; *depersonalization* (also known as cynicism), a sense of detachment from work goals and activities, as well as from the other people one encounters through work; and *inefficacy*, the sense that one's efforts at work are ineffective and/or make little meaningful difference (Demerouti, Bakker, Vardakou, & Kantas, 2003; Maslach, Schaufeli, & Leiter, 2001). In this program of research, we focused on the most commonly studied component, exhaustion (Schaufeli &Taris, 2005).

Burnout can impair employee health and hinder performance (Ahola & Hakanen, 2014; Taris, 2006). Burned-out employees show self-undermining behaviors, which includes making more mistakes or creating more interpersonal conflicts at work (Bakker & Costa, 2014), and they are reluctant to craft their jobs (Demerouti, et al., 2015; Tims, Bakker, & Derks, 2013). However, work resources (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Nahrgang, Morgeson, & Hofmann, 2011), and the crafting of such resources (Tims et al., 2013) have been shown to protect employees from burnout.

1.2.2. Career Adaptability

The current dynamic and technological work environment warrant that employees are adaptable in order to sustain their well-being and perform optimally in the face of everything from changing customer demands through to changing international obligations. According to Ployhart and Bliese (2006), adaptability refers to an individual's ability, skill, disposition, willingness, and/or motivation, to change or fit different tasks, social, and environmental features (p. 13).

Much evidence shows that adaptability matters for the individual, organizations, and

societies. For example, adaptability is associated with career satisfaction and self-rated career performance (Zacher, 2014), entrepreneurial intentions (Tolentinon, Sedoglavich, Lu et al., 2014), and job search self-efficacy (Guan, Deng, Sun et al., 2013). For example, career adaptability encapsulates psychosocial resources that enable employees to anticipate, prepare, and manage existing and imminent career changes that have the potential to affect one's successful integration to the work environment (Savickas, 1997). It involves the alignment of individuals' behaviors, competencies, and attitudes to work-related changes (Savickas, 2013). It makes sense, then, that researchers suggest that both individual and situational factors have the potential to influence the adaptive capacity of employees (Rafferty & Griffin, 2006; Tolentinon et al., 2014).

As modern work environment is increasingly changing, due to the computerization of jobs (Bimrose & Hearne, 2012; Fleigh-Palmer, Luthans, & Mandernach, 2009; Slyva, Mol, Den Hartog, & Dorenbosch, 2019), work and personal resources that may facilitate adaptation to such a work context is vital area of research interest. We focus on developmental leadership, which is an important work resource, and optimism, a personal resource as antecedents of career adaptability. We examined optimism in the context of career adaptability because previous research shows that optimistic people perform well in dynamic contexts (Hennessey, Rumrill, Fitzgerald, & Roessler, 2008). Furthermore, optimistic people are not just positive about the future, they work and achieve goals even in times of adversity (Scheier & Carver, 1992).

1.2.3. Employee Performance

The dynamic nature of work has compelled modern organizations to embrace a new measurement framework for employee performance. Today, organizations consider and measure performance not just as fulfilment of job descriptions, but also how well the employee adapt to changes in work systems and take steps to bring about changes in work systems and processes at

work (Griffin, Neal, & Parker, 2007). More specifically, Griffin and colleagues (2007),

developed a model which measures performance as task proficiency, adaptivity, and proactivity,

at the individual, team, and organizational level. In this program of research, we measured

performance at the individual level.

How well employees perform tasks assigned to them by a supervisor is important for the

individual and the organization. *Task proficiency*: is a traditional performance measure, which

captures the fulfilment the job description by the job incumbent. Task proficiency is closely

related to task performance (Borman & Motowidlo, 1993; Johnson, 2003). The relevance of

adaptability in modern workplaces warranted the inclusion of adaptability as critical component

of job performance (Griffin, Neal, & Parker, 2007; Tucker, Pleban, & Gunther, 2010). Griffin

and colleagues (2007) define *adaptive performance* as the extent to which an employee adapts to

changes in the work system or roles. They also differentiate adaptability from such performance

constructs as proactivity, or even from proficiency. Adaptive work performance may be

particularly important in dynamic work environments, whereas work proficiency may be more

important in relatively stable environments (Griffin et al., 2007).

Modern work contexts are more decentralized due to uncertainties and competition (Frese

& Fay, 2001; Grant & Parker, 2009). Therefore, proactive forms of work behavior, where

employees anticipate and initiate changes, is increasingly encouraged in such contexts (Campbell,

2000; Crant, 2000; Grant & Parker, 2009). Proactive work behavior refers to a diverse set of

things that employees can do that meet certain criteria. According to Parker, Bindl, and Strauss

(2010), behaviors are proactive provided they are self-initiated (rather than being directed by

others), involve efforts to achieve change to oneself or one's work situation (rather than

maintaining a status quo), and are directed towards a relatively long-term goal (rather than being

an immediate reaction to a current situation). A similar set of criteria proposed by Grant and

Ashford (2008) was that proactive behaviors had to be anticipatory (driven by expectations of what will happen in the future) and had to involve some planning in addition to having an action component. Therefore, *task proactivity* represents self-initiated, future-oriented behavior engage in for the purpose of changing their work situations, roles, or themselves (Griffin et al., 2007).Examples of proactive behaviors studied within the literature include taking charge (Morrison & Phelps, 1999), voice (Morrison, 2011), and personal initiative (Frese, Kring, Soose, & Zempel, 1996).

Employee innovation is another example of a proactive work behavior (Parker & Collins, 2010). Innovation is sometimes considered the successful implementation of new products and services. However, Drazin, Glynn, and Kazanjian (1999) defined innovation as the creative process of generating new ideas for products, services, and processes at work, combined with the actions taken to implement these ideas, regardless of the success of these new ideas. This multi-stage view demonstrates how innovation fits within the boundaries of employee proactivity (Unsworth & Parker, 2003). Moreover, the inclusion of processes to the targets of innovation also means that every employee can be innovative, by suggesting ways that things can be done better within an organisation (Axtell, Holman, Unsworth, Wall, Waterson, & Harrington, 2000). Altering work routines, experimenting with different methods, and simplifying work processes would all count as innovation that have the potential to benefit the organization and employee (Amo, 2006).

Innovation contributes substantially to economic growth (Thakur & Hale, 2013), quality service and problem-solving capacity of organizations (De Vries, Bekkers, & Tummers, 2016). In the present dynamic and unpredictable work context, where employees face performance challenges (Parker, Johnson, Collins, & Nguyen, 2013), innovation becomes a vital tool for sustaining organizational performance. According to Aryeetey and Baah-Boateng (2016),

businesses in Ghana in particular need an innovative workforce to improve and sustain

performance. For example, the current demand for modern banking services has led some banks

to adopt automated teller machines, telephone banking, and online banking, but while other banks

have resisted such innovations (Ameme & Wireko, 2016). This reflects a lack of support for

innovation in Ghanaian work cultures.

Ghanaian managers may be able to stimulate the innovative potential of workers through

changes to work design. Evidence shows that job characteristics and contextual factors are

important antecedents of innovation (Wallace, Butts, Johnson, Stevens, & Smith, 2016). As most

jobs in Ghana are not well designed (Aryeetey & Baah-Boateng, 2016; Baah-Boateng & Ewusi,

2013) and processes tend to follow hierarchies reflective of a conservative, high power-distance

culture, employee innovation has great potential for improving not only organisational outcomes

but also the nature of work itself. We therefore suggest that a study of the influence of work

characteristics on employee innovation in Ghana is worthwhile.

1.2.4. Job Characteristics

The characteristics of work tasks, work roles, and work environments have great potential

to affect employee wellbeing and productivity (Bakker & Demerouti, 2017; Parker, 2017; Ohly

& Fritz, 2010; Rudolph, Katz, Lavigne, & Zacher, 2017). Job demands are those aspects of a job

that require effort and attention, whereas job resources are those aspects of work that have

potential to assist in meeting job demands, or to otherwise enhance job performance and well-

being (Bakker & Demerouti, 2017). Examples of job demands include cognitive demands (such

as time pressure, task complexity, and problem-solving), organizational constraints (such as

inadequate equipment or slow bureaucratic systems), and role conflict. Examples of job resources

include support from supervisors and co-workers, autonomy, and performance feedback. It is

generally understood that if demands can be kept low, and can be supplemented by plentiful and

useful job resources, this would create a situation that facilitates positive well-being, performance (including innovation), and employee development (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

However, the responsibility for designing and redesigning jobs no longer resides only in the hands of managers. Employees increasingly play an active role in shaping the characteristics of their work by *job crafting,* the actions employees take to adjust their work tasks, goals and relationships (Wrzesniewski & Dutton, 2001). Grant and Parker (2009) note that job crafting is a strategic way by which employees change the situation or oneself with the purpose to achieve better fit to the job, team, or organization. Consequently, job crafting represents a proactive approach to achieving person-environment fit, where the focus is on change to the job rather than to oneself (Parker & Collins, 2010).

In this program of research, we adopted the commonly used approach of operationalizing job crafting from the perspective of the job demands-resources model (Bakker & Demrouti, 2017; Tims & Bakker, 2010; Tims, Bakker & Derks, 2012). Following this approach, job crafting represents the proactive changes employees make to their job demands and resources (Tims & Bakker, 2010). Employees craft their jobs to increase structural job resources (e.g., seek for more autonomy), increase social resources (e.g., seek for more performance feedback), seek challenging jobs (e.g., ask to be part of a new work project), and decrease hindrances associated with work (e.g., reduce cognitive demands; Tims et al., 2012). For example, although all job crafting is aimed at changing one's experience of work, social job crafting focuses on building relationships to enhance growth, capability and esteem. Social crafting activities include independently seeking performance feedback from supervisors and colleagues, or requesting coaching or mentoring (Tims et al., 2012).

Research shows that job crafting benefits employees and organizations. For example, job

crafting is related to increased work engagement (Vogt, Hakanen, Brauchli, Jenny, & Bauer, 2016; Tims et al., 2012) and peer-rated in-role performance (Bakker, Tims, & Derks, 2012). Job and personal resources as well as other factors are more likely to influence job crafting behavior. For example, research shows that autonomy, self-efficacy, person-job misfit, and proactive personality are important antecedents of job crafting (Bateman & Crant, 1993; Fay & Frese, 2001; Frese & Fay, 2001; Ventura, Salanova, & Llorens, 2008; Wrzesniewski & Dutton, 2001). For example, researchers argue that autonomous employees are more likely to feel responsible for work problems (Parker, 1998) as they decide what and how to perform their job, which makes autonomy an important precursor for job crafting (Wrzesniewski & Dutton, 2001). Most of the studies on job crafting are based on western samples. Relatively few studies on job crafting have been conducted in African contexts (e.g., de Beer, Tims, & Bakker, 2016; Peral & Geldenhuys, 2019; Peral & Geldenhuys, 2016), and these predominantly utilize working populations in southern rather than northern or western Africa. The beneficial consequences of job crafting, which includes greater levels of work engagement and job satisfaction in a South African work context afford opportunity for more research in other African countries, so that the African perspective could be developed to advance the job crafting literature. Given the benefits of job crafting to individuals and organizations, a study on job crafting has the potential to influence significantly organizational practices in Africa, particularly Ghana.

1.3. Theoretical Underpinnings

Given that work psychology phenomena have not been studied much in African economies such as Ghana, it is risky to form predictions simply on the basis of empirical research findings. To provide sound theoretical explanations for the hypothesized relationships among our study variables, we utilized a number of well-researched theories of organizational behavior. These provide sound theoretical justifications for the hypothesized relationships in our prepared

manuscripts.

1.3.1. The Job Demands-Resources (JD-R) Model

JD-R is a parsimonious model for explaining relationships between job characteristics and work outcomes (Demerouti et al., 2001). Research has demonstrated consistently that job demands are likely to reduce engagement and impair health, whereas job resources enhance engagement (Bakker & Demerouti, 2014; Tims, Bakker, & Derks, 2013). Reviews of empirical research support the assertion central to the JD-R model: that although work demands and work resources are important for both positive and negative aspects of employee well-being, demands primarily operate by depleting personal resources (thereby contributing to burnout), whereas resources primarily operate by enhancing motivational states (thereby contributing to engagement). In addition to being arguably the most common model used to examine work design (and redesign), the JD-R model has also dominated the approaches taken to studying job crafting in recent years (Tims et al., 2012).

To understand the model, it is important to recognize the broad scope of the categories of demands and resources. For example, Bakker and Demerouti (2017) argue that leadership is an important work resource because leaders have the potential to greatly influence the work environment, which in turn influences individual employees' well-being and performance. Further, leaders influence or create job resources for their followers, including social support and autonomy, to facilitate follower's performance (Breevaart et al., 2014). For example, research shows that by creating job resources, transformational leaders (including inspirational motivation, individual consideration, and intellectual stimulation) increase followers' work engagement (Breevaart, Bakker, Demerouti, & Derks, 2016; Breevaart et al., 2014) and performance (Judge & Piccolo, 2004; Wang, Oh, Courtright, & Colbert, 2011).

In one of the studies presented in this dissertation, I focus on developmental leadership,

similar to one key aspect of transformational leadership: individualized consideration. Developmental leadership focuses on building the capacity of followers through the offering of training opportunities, provision of work-related feedback, coaching and counselling (Bass, 1985; 1999). According to the JD-R model (Bakker & Demerouti, 2017), such resources should help employees cope in dynamic work environments (Siu, Bakker, & Jiang, 2014). Thus, developmental leaders provide important work resources for developing career adaptability.

Further, the JD-R model suggests that apart from job or work resources, personal resources are also important drivers of employee behavior and well-being. Personal resources represent aspects of the self that contribute to a sense of control over one's situation, and an ability to achieve desired outcomes (Hobfoll, Johnson, Ennis, & Jackson, 2003; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Personal resources commonly studied in the context of JD-R include, but are not limited to, aspects of personal psychological capital such as self-efficacy, optimism, hope, resilience, self-esteem, and personal effectiveness (Luthans, Avey, Avolio, Norman, & Combs, 2006; Van Wingerden, Derks, & Bakker, 2017). Work and personal resources are both important, and even have the potential to interact in creating an ideal situation for wellbeing and performance outcomes.

1.3.2 Conservation of Resource Theory

The conservation of resource theory (COR; Hobfoll, 1988, 1998a) focuses on how people act, and react, depending on the availability of resources. Some of the resources are finite and are depleted through use (e.g., time and physical or cognitive energy; Ten Brummelhuis & Bakker, 2012), such that they diminish over a work shift. Others are relatively persistent, such as object resources (e.g., tools for work, car), personal resources (e.g., optimism, self-efficacy, self-esteem), and information resources (e.g., knowledge, credit; Hobfoll, 2011); such resources may not diminish in the short-term, but are usually spread unequally in any context.

COR theory stipulates that people strive to obtain, retain, foster, and protect things that are of value to them (Hobfoll, 1988). Hobfoll predicted that "those with greater resources are less vulnerable to resource loss and more capable of orchestrating resource gain, those with fewer resources are more vulnerable to resource loss and less capable of resource gain" (2011, p. 117). Furthermore, COR theory contends that resources seem more crucial in the context of resource loss (Hobfoll, 2002). For example, research showed that social support related more positively to job satisfaction for employees who had to cope with high role conflict (Seers, McGee, Serey, & Graen, 1983).

In the context of work, this has several implications. As suggested by the JD-R model, employees benefit from being given more resources. However, in addition to this implication for managerial work design, employees who are capable of crafting their jobs to generate additional resources (through effective investment of resources such as work time and effort) should also benefit. Finally, the benefits of additional resources are more likely to be seen when job demands are high (since these deplete finite personal resources) and/or when other resources are low. This all suggests it may be important to look at interactive effects of resources.

1.3.3. Challenge-Hindrance Framework

According to the challenge-hindrance framework (Cavanaugh, Boswell, Roehling, & Boudreau, 2000), demands are inherently a part of work and work organizations, but not all demands are equally harmful. Cavanaugh and colleagues differentiated between two types of demands. *Challenge demands* (e.g., time pressure, responsibility, problem-solving) were described as having potential to provide benefits to the employees experiencing them (i.e. enhancing accomplishment, potential for recognition/reward, and personal goal attainment). By contrast, *hindrance demands* (e.g., goal ambiguity, role conflict, organizational constraints) were described as "those work characteristics that tend to constrain or interfere with an individual's

work achievement" (Cavanaugh et al., 2000, p. 68). Research shows consistent evidence that challenge and hindrance demands produce different effects on well-being and behavior, with challenge demands more likely to produce positive effects and hindrances associated with more negative outcomes (LePine, Podsakoff, & LePine, 2005; Podsakoff, LePine, & LePine, 2007).

In recent years, several researchers have integrated this distinction into the JD-R model. Meta-analytic evidence suggests that challenge demands and job resources both relate positively to work engagement, whereas hindrance demands are associated with disengagement as well as burnout (Crawford, LePine, & Rich, 2010). The approach used by Tims and colleagues (2012) to measure different forms of job crafting similarly differentiates between challenge and hindrance demands, with an assumption that employees engaged in job crafting will act to enhance challenges and reduce hindrances.

In this program of research, I focus on cognitive demands (the amount of concentration and effort require to perform a task). While some studies treated cognitive demands as a challenge demand, yet in other studies it functioned as a hindrance demand. For example, Tims and colleagues measured cognitive demands as a hindrance among employees working in a chemical plant in the Netherlands, while a study involving Dutch call centre employees and the Belgium Police Department, examined cognitive demands as a challenge demand (Van den Broeck, De Cuyper, De Witte, & Vansteenkiste, 2010). Thus, the specific role cognitive demands play may depend on the occupation of the sample being studied. In this program of research, however, I examined cognitive demands as challenge demand because concentration is a necessary part of banking work, and employees in the banking context who demonstrate this work characteristic are more likely to perform well.

1.3.4. Person-Environment Fit Theory

As employees do not work in a vacuum, but interact with the work context (i.e.,

environment), researchers in the field of organizational psychology and management, try to understand this interaction using the person-environment fit theory. The person-environment fit theory is very useful in explaining most of the phenomena in organizational psychology (Saks & Ashforth, 1997). The person-environment fit theory facilitated the development of the theoretical arguments in paper 3, which focused on career adaptability, developmental leadership, and career optimism. Adaptability is important in the current dynamic work context, but work and personal resources are important in facilitating employees' career adaptability. Therefore, paper 3 investigated the role of developmental leadership and career optimism on career adaptability, arguing that although leadership is important, it might only be useful in helping some employees adapt to their work environment.

1.4. Chapter Road Map

This thesis aims to assess the effect of characteristics of work, job crafting and leadership behavior on work engagement, employee innovation, and career adaptability, and the extent to which these effects are influenced by some boundary conditions. We used longitudinal and cross-sectional data to test the theoretical relationships among the variables. The longitudinal design enables us test stability of relationships overtime, providing a deeper understanding of the relationships existing between the variables under study.

This dissertation addresses the research question:

How do characteristics of work and employees, independently and interactively, influence employee outcomes?

I framed this broad research question differently in each paper, as each question make significant contribution to existing literature. Figure 1 depicts the relationships investigated in each paper, and in this program of research.

Paper 1: How does work engagement affect relations between job crafting and innovation?

(Chapter 2).

Paper 2: How do work characteristics and social job crafting influence employee well-being and innovation? (Chapter 3).

Paper 3: How do leadership behaviors and career optimism influence career adaptability? (Chapter 4).

Chapter 5 provides a general discussion linking all the findings in the prepared journal articles. Specifically, the chapter identifies and discusses the themes emerging from these papers, and their implications for theory and practices in organizations.
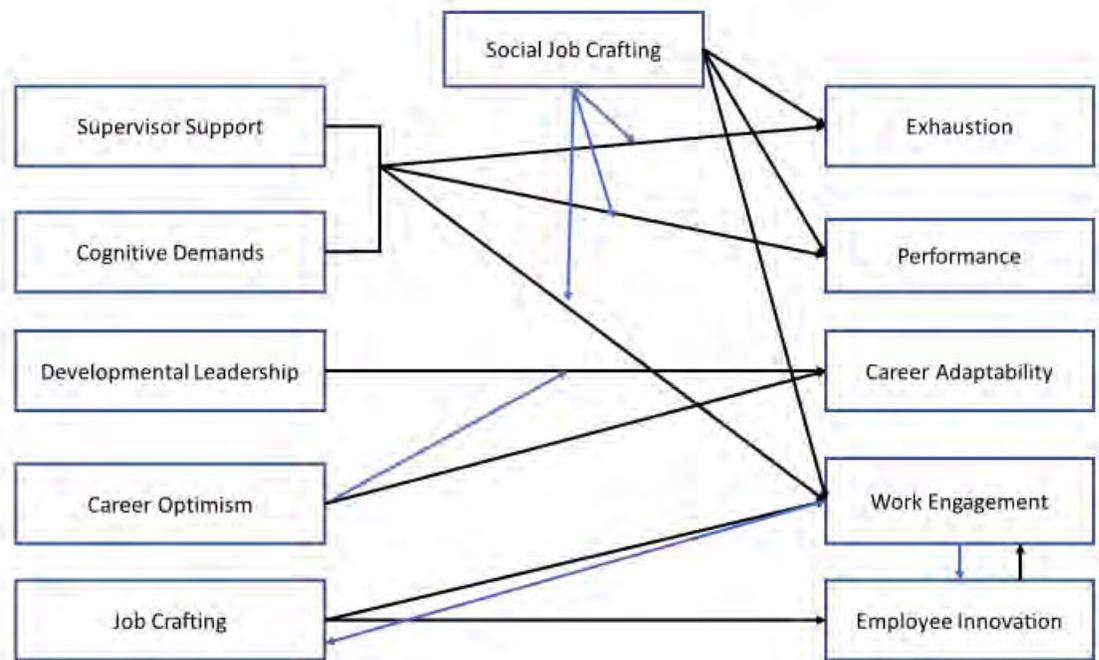
Figure 1: Conceptual Framework of Examined Relations in the Three Papers

References

Ahola, K., & Hakanen, J.J. (2014). Burnout and health. In: Leiter MP, Bakker, AB, Maslach C, editors. *New Perspectives on Burnout Research*. Hove Sussex: Psychology Press; 10-31.

Aryeetey, E., & Baah-Boateng, W. (2016). Understanding the African lions-Growth traps and opportunities in six dominant African economies. Understanding Ghana's Growth success story and job creation challenges.

Aryee, S., Walumbwa, F.O., Zhou, Q., & Hartnell, C.A. (2012). Transformational leadership, innovative behavior, and task performance: Test of mediation and moderation processes. *Human Performance, 25*(1), 1–25.

Baah-Boateng, W., & Ewusi, K. (2013). Employment policies and options. In K. Ewusi (ed.), *policies and Options for Ghana's Economic Development,* 3rd edition. Accra: Institute of Statistical Social and Economic Research (ISSER), University of Ghana.

Bandura, A. (1991). Social Cognitive Theory of Self-Regulation. *Organizational Behavior and Human Decision Processes, 50,* 248-287.

Bakker, A.B., Hakanen, J.J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of Educational Psychology, 99,* 274-284.

Bakker, A.B., Tims, M., & Derks, D. (2012). Proactive personality and job performance: The role of job crafting and work engagement. *Human Relations, 65,* 1359-1378. http://dx.doi.org/10.1177/0018726712453471

Bakker, A.B., & Demerouti, E. (2014). Job demands-resources model. In C. Cooper & P. Chen (Eds.), *Wellbeing: A complete reference guide* (pp. 37-64). Chichester, UK: Wiley-Blackwell.

Bakker, A.B., Rodriguez-Munoz, A., & Sanz-Vergel, A.I. (2016). Modelling of job crafting behaviors: Implications for work engagement. *Human Relations, 69,* 169-189.

Bakker, A.B., & Demerouti, E. (2017). Job Demands-Resources model: Taking Stock and Looking Forward. *Journal of Occupational Health Psychology, 22*(3), 273-285. http://dx.doi.org/10.1037/ocp0000056

Bass, B.M. (1985). *Leadership performance beyond expectations.* New York: Academic Press.

Bass, B.M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology, 8,* 9-32. Doi: 10.1080/135943299398410

Bimrose, J., & Hearne, L. (2012). Resilience and career adaptability: Qualitative studies of adult counselling. *Journal of Vocational Behavior, 81,* 338-334. Doi: 10.1016/jvb.2012.08.002

Carmeli, A., Meitar, R., & Weisberg, J. (2006). Self-leadership skills and abilities. *International Journal of Manpower, 27*(1), 75–90.

Cavanaugh, M.A., Boswell, W.R., Roehling, M.V., & Boudreau, J.W. (2000). An empirical examination of self-reported work stress among U.S. managers. *Journal of Applied Psychology, 85,* 65-74. Doi: 10.1037/0021-9010.85.1.65

Crawford, E.R., LePine, J.A., & Rich, B.L. (2010). Linking job demands and resources to
employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology, 95,* 834-848. Doi: 10.1037/a0019364

Demerouti. E., Bakker, A.B., Nachreiner, F., & Schaufeli, W.B. (2001). The Job Demands
Resources model of burnout. *Journal of Applies Psychology, 86,* 499-512. Doi:
10.1037/0021-9010.86.3.499

Demerouti, E., Bakker, A.B., Vardakou, I., & Kantas, A. (2003). The convergent validity of two
burnout instruments: A multiltrait-multimethod analysis. *European Journal of Psychological Assessment, 19,* 12-23. Doi: 10.1027//1015-5759.19.1.12

De Smet, A., Loch, M., & Schaninger, B. (2007). Anatomy of a healthy corporation. *Mckinsey Quarterly, 2,* 1-11.

De Vries, H., Bekkers, V., & Tummers, L. (2016). Innovation in the public sector: A systematic
review and future research agenda. *Public Administration, 94*, 146–166.

Di Fabio, A. (2017). *Promoting Sustainable Development and Well-Being in a Culturally Diverse World.* Keynote at the First international cross-cultural conference "Healthier societies
fostering healthy organizations: A cross-cultural perspective" organized by the Department
of Education and Psychology, University of Florence, May 26-27, 2017, Florence. Co-
presidents F. Cheung, J.M. Peiro, D.H. Saklofske, and F. van de Vijver.

Drazin, R., Glynn, M.A., & Kazanjian, R.K. (1999). Multilevel theorizing about creativity
in organizations: A sense making perspective. *Academy of Management Journal, 24*(2),
286307.

Fleigh-Palmer, M.M., Luthans, K.W., & Mandernach, B.J. (2009). Successful reemployment through resiliency development. *Journal of Career Development, 35,* 228-247. Doi: 10.1177/0894845308327271

Grant, A. M., & Parker, S. K. (2009). Redesigning work design theories: The rise of relational and proactive perspectives. *The Academy of Management Annals*, *3*, 317-375.

Guan, Y., Deng, H., Sun, J., Wang, Y., Cai, Z., Ye, L., Fu, R., Wang, Y., Zhang, S., & Li, Y. (2013). Career adaptability, job search self-efficacy and outcomes: A three-wave investigation among Chinese university graduates. *Journal of Vocational Behavior, 83*(3), 561–570.

Hakanen, J.J., Seppala, P., & Peeters, M.C.W. (2017). High job demands, still engaged and not burned out? The role of job crafting. *International Journal of Behavioral Medicine.* Doi: 10.1007/s12529-017-9638-3

Hobfoll, S.E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44*(3), 513-524.

Hobfoll, S.E. (1998). *Stress, Culture, and Community: The Psychology and Philosophy of Stress.* New York: Plenum.

Hobfoll, S.E. (2001). The influence of culture, community, and the nested self in the stress process: Advancing Conservation of Resources Theory. *Applied Psychology: An International Review, 50*(3), 337-370.

Hobfoll, S.E. (2011). Conservation of resource caravans and engaged settings. *Journal of Occupational and Organizational Psychology, 84,* 116-122. Doi: 10.1111/j.2044-8325.2010.02016.x

Hu, M.L.M., Horng, J.S. and Sun, Y.H.C. (2009), "Hospitality teams: knowledge sharing and service innovation performance", Tourism Management, Vol. 30 No. 1, pp. 41-50.

Janssen, O, E Van De Vliert and M West (2004). The bright and dark sides of individual and group innovation: A special issue introduction. *Journal of Organizational Behavior, 25*(2), 129–145.

Judge, T.A., & Piccolo, R.F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology, 89,* 755-768. Doi: 10.1037/0021-9010.89.5.755

Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33,* 692-724. http://dx.doi.org/10.2307/256287

Kanter, R.M. (1983). *The Change Masters*. New York: Simon and Schuster.

Kumasey, A.S., Delle, E., & Hossain, F. (2019). Not all justices are equal: The unique effects of organizational justice on the behavior and attitude of government workers in Ghana. *International Review of Administrative Sciences,* 1-19. Doi: 10.1177/0020852319829538

LePine, J.A., Podsakoff, N.P., & LePine, M.A. (2005). A meta-analytic test of the challenge stressor-hindrance stressor framework: An explanation of inconsistent relationships among stressors and performance. *Academy of Management Journal, 48,* 764-755. http://dx.doi.org/10.5465/AMJ.2005.18803921

Maslach, C., & Jackson, S.E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior, 2,* 99-113.

Maslach, C., Schaufeli, W.B., & Leiter, M.P. (2001). Job burnout. *Annual Review of Psychology, 52,* 397-422. http://dx.doi.org/10.1146/annurev.psyc.52.1.397

Nahrgang, J.D., Morgeson, F.P., & Hofmann, D.A. (2011). Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology, 96,* 71-94. Doi: 10.1037/a0021484

Parker, S.K., Johnson, A., Collins, C., & Nguyen, H. (2013). Making the most of structural support: moderating influence of employees' clarity and negative affect. *Academy of Management Journal, 56* (3), 867-892. http://dx.doi.org/10.5465/amj.2010.0927

Parker, S. (2017). Work Design Growth Model: How work characteristics promote learning and development. In R.A., Noe & J.E. Ellingson (Eds). *Autonomous Learning in the Workplace.* SIOP Frontiers Book Series. Taylor & Francis

Petrou, P., Demerouti, E., Peeters, M. C. W., Schaufeli, W., & Hetland, J. (2012).Crafting a job on a daily basis: Contextual correlates and the link to work engagement. *Journal of Organizational Behavior*, *33*, 1120-1141.

Ohly, S., & Fritz, C. (2010). Work characteristics, challenge appraisal, creativity, and proactive behavior: A multi-level study. *Journal of Organizational Behavior, 31,* 543-565. Doi: 10.1002/job.633

Rafferty, A.E., Griffin, M.A. (2006). Refining individualized consideration: distinguishing developmental leadership and supportive leadership. *Journal of Occupational and Organizational Psychology, 79,* 37-61.

Rottinghaus, P. J., Day, S. X., & Borgen, F. H. (2005). The Career Futures Inventory: A measure of career-related adaptability and optimism. *Journal of Career Assessment, 13,* 3–24.

Rudolph, C.W., Katz, I.M., Lavigne, K.N., & Zacher, H. (2017). Job crafting: A meta-analysis of

relationships with individual differences, job characteristics, and work outcomes.

Journal of Vocational Behavior, 102, 112-138.

http://dx.doi.org/10.1016/j.jvb.2017.05.008

Saks, A.M., & Ashforth, B.E. (1997). A longitudinal investigation of the relationships between

job information sources, applicant perceptions of fit, and work outcomes. *Personnel*

Psychology, 50, 395-426.

Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space

theory. *The Career Development Quarterly, 45*(3), 247–259.

Savickas, M. L. (2013). Career construction theory and practice. In S. D. Brown & R. W. Lent

(Eds.), *Career development and counselling: Putting theory and research to work* (2nd

ed., pp. 147–183). Hoboken, NJ: John Wiley & Sons.

Schaufeli, W.B., Salanova, M., Gonzalez-Roma, V., Bakker, A.B. (2002). The measurement of

engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of*

Happiness Studies, 3, 71-92. http://dx.doi.org/10.1023/A:1015630930326

Schaufeli, W.B., & Taris, T.W. (2005). The conceptualization and measurement of burnout:

Common ground and worlds apart. *Work Stress, 19,* 256-262.

Schaufeli, W.B. (2007). Burnout in health care. In: Karsh B, Holden RJ, editors. *Handbook of*

Human factors and Ergonomics in Health Care and Patient Safety. Mahway: Lawrence

Erlbaum, 217-232.

Scheier, M.F., & Carver, C.S. (1992). Effects of optimism on psychological and physical well-being: Theoretical overview and empirical update. *Cognitive Therapy and Research, 16*(2), 201-228

Seers, A., McGee, G.W., Serey, T.T., & Graen, G.B. (1983). The interaction of job stress and social support: A strong inference investigation. *Academy of Management Journal, 26,* 273-284. http://dx.doi.org/10.2307/255975

Simpson, M.R. (2009). Engagement at work: A review of the literature. *International Journal of Nursing Studies, 46,* 1012-1024.

Sonnentag, S. (2017). A task-level perspective on work engagement: A new approach that helps to differentiate the concepts of engagement and burnout. *Burnout Research, 5,* 12-20. http://dx.doi.org/10.1016/j.burn.2017.04.001

Sylva, H., Mol, S.T., Den Hartog, D.N., & Dorenbosch, L. (2019). Person-job fit and proactive career behavior: a dynamic approach. *European Journal of Work and Organizational Psychology,* 1-15. Doi: 10.1080/1359432X.2019.1580309

Tadic, M., Bakker, A.B., & Oerlemans, W.G.M. (2013). Work happiness among teachers: A day reconstruction study on the role of self-concordance. *Journal of School Psychology, 51,* 735-750. Doi: 10.1016/j.jsp.2013.07.002

Taris, T.W. (2006). Is there a relationship between burnout and objective performance? A critical review of 16 studies. *Work Stress, 20,* 316-334.

Thakur, R., & Hale, D. (2013). Service innovation: a comparative study of US and Indian service firms. *Journal of Business Research, 66*(8), 1108-1123.

Tims, M., & Bakker, A. B. (2010). Job crafting: Towards a new model of individual job redesign. *South African Journal of Industrial Psychology*, *36*, 1-9.

Tims, M., Bakker, A.B., Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior, 80,* 173-186. http://dx.doi.org/10.1016/j.jvb.2011.05.009

Tims, M., Bakker, A.B., & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology, 18,* 230-240. http://dx.doi.org/10.1037/a0032141

Tims, M., Bakker, A.B., Derks, D., & Rhenen, W.V. (2013). Job crafting at the team and individual level: Implications for work engagement and performance. *Group & Organization Management, 38* (4), 427-454. Doi: 10.1177/1059601113492421

Tims, M., Derks, D., & Bakker, A.B. (2016). Job crafting and its relationship with person-job fit and meaningfulness: A three-wave study. *Journal of Vocational Behavior, 92,* 44-53. http://dx.doi.org/10.1016/j.jvb.2015.11.007

Tolentino, L.R., Sedoglavich, V., Lu, V.N., Garcia, P.R.J.M., & Restubog, S.L.D. (2014). The role of career adaptability in predicting entrepreneurial intentions: A moderated mediation model. *Journal of Vocational Behavior, 85,* 403-412.

Unsworth, K.L., & Parker, S. (2003). *Proactivity and Innovation: Promoting a New Workforce for the New Workplace.* In: Holman, David and Wall, Toby D. and Clegg, Chris W. and Sparrow, Paul and Howard, Ann, (eds.) The New Workplace: A Guide to the Human Impact of Modern Working Practices. John Wiley & Sons, Chichester, pp. 175-196.

Van de Ven, A (1986). Central problems in the management of innovation. *Management Science, 32,* 590–607.

Van den Broeck, A., De Cuyper, N., De Witte, H., & Vansteenkiste, M. (2010). Not all job

    demands are equal: Differentiating job hindrances and job challenges in the job demands-

    resources model. *European Journal of Work and Organizational Psychology, 19*(6), 735-

    759. http://doi.org/10.1080/13594320903223839

van Dick, R., Hirst, G., Grojean, M.W., & Wieseke, J. (2007). Relationships between leader and

    follower organizational identification and implications for follower attitudes and behavior.

    Journal of Occupational and Organizational Psychology, 80, 133-150.

Wallace, J.C., Butts, M.M., Johnson, P.D., Stevens, F.G., & Smith, M.B. (2016). A multilevel

    model of employee innovation: Understanding the effects of regulatory focus, thriving,

    and employee involvement climate. *Journal of Management, 42* (4), 982-1004. Doi:

    10.1177/0149206313506462

Wang, G., Oh, I.S., Courtright, S.H., & Colbert, A.E. (2011). Transformational leadership and

    performance across criteria and levels: A meta-analytic review of 25 years of research.

    Group & Organization Management, 36, 223-270. Doi: 10.1177/1059601111401017

West, MA (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and

    innovation in work groups. Applied Psychology: *An International Review, 51*(3), 355–386.

World Bank (January, 2018). Global economic prospects: Broad-Based Upturn, but for How

    Long? Sub-Sahara Africa.

Zacher, H. (2014). Career adaptability predicts subjective career success beyond personality traits

    and core self-evaluations. *Journal of Vocational Behavior, 84,* 21-30.

In paper 1, we examined relations between job crafting, employee innovation, and work engagement among banking employees in Ghana. As most studies examined employee innovation as an outcome (Bindl et al., 2019), our study responded to calls by previous researchers to test innovation as an antecedent (Janssen, 2003). Specifically, we investigated cross-lagged relationships among the variables, contributing to the field of job crafting and employee innovation. We collected data on all the variables across three-measurement occasions, with a time lag of three-months between each measurement point. The sample included employees working in public and private banks, and varied in terms of gender, job position, tenure, and age. Although paper 1 examined work engagement and job crafting, which have also been studied in paper 2, in paper 1 we focused on the components of work engagement, examining their direct and interactive effect on the relationship between job crafting and employee innovation. job crafting was also examined in aggregate form in paper 1, but in paper 2, we focused on a component of job crafting, that social job crafting. Therefore, while we admit the existence of some similarities, paper 1 and 2 make different, but significant contribution to literature. This paper is submitted to *the Journal of Occupational and Organizational Psychology*.

The Relationship Between Job Crafting and Employee Innovation:

The Role of Work Engagement

Eric Delle

Ben J. Searle

Monique Crane

Department of Psychology
Macquarie University

The Relationship Between Job Crafting and Employee Innovation:

The Role of Work Engagement

Abstract

Job crafting, a self-initiated strategy employee utilise to revise and make their jobs more meaningful is associated with important individual and organizational outcomes. However, an important individual outcome variable, which has the potential to sustain the competitive advantage of organizations, employee innovation has received less attention in the job crafting literature. Building on this limited evidence, the present study examined a cross-lagged model and the extent to which facets of work engagement moderate the relationship between job crafting and employee innovation overtime. Our study involved employees working in banking organizations in Ghana, who completed the survey at three different measurement points with three-months interval separating each wave of data collection. Our path analytic model indicates that innovative employees were more likely to craft their jobs, but the converse is not true. In addition to this, we found that innovation was associated with more job crafting for absorbed employees. Finally, dedicated employees appear to be more likely to craft their jobs. We have presented the theoretical and practical implications as well as the limitations of the study.

Keywords: job crafting, work engagement, employee innovation

The Relationship Between Job Crafting and Employee Innovation:

The Role of Work Engagement

Employees in modern organizations should not be fixated on their job description, as adapting to the job and job tasks is vital for individual performance. Job crafting, where employees engage proactively in the reinterpretation (Wrzesniewski & Dutton, 2001), reconstruction (Grant & Ashford, 2008) or revitalization of their jobs (Grant & Parker, 2009), has emerged as a useful self-directed strategy for managing job demands and resources (Tims, Bakker, & Derks, 2012). Past research has reported the beneficial aspects of job crafting efforts to include work engagement (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012; Tims et al., 2012; Vogt, Hakanen, Brauchli, Jenny, & Bauer, 2016). Job crafting has the potential to make employees more effective in a competitive work context (e.g., Bakker, Tims, & Derks, 2012; Tims et al., 2012; Van den Heuvel, Demerouti, & Peeters, 2012). From this research, one might conclude that employees who undertake more job crafting should become more engaged and more productive.

One aspect of work performance that job crafting has recently been seen to influence is employee innovation, those actions taken by employees to develop or improve processes, products, or services (e.g., Bindl, Unsworth, Gibson, & Stride, 2019; Demerouti, Bakker, & Gevers, 2015; Mattarelli & Tagliaventi, 2015). This would suggest that organizations seeking to encourage employees to innovate could begin by encouraging job crafting behaviors. Such an intervention seems plausible because both job crafting and employee innovation are proactive work behaviors (Parker, Bindl, & Strauss, 2010) associated with organizational benefits (e.g. Janssen, 2003; Scott & Bruce, 1994). Furthermore, both job crafting (e.g., Tims et al., 2012) and employee innovation (e.g., Choi, Tran, & Park, 2015) are associated with work engagement. However, given the scarce research on their relationship, the direction of effect is not clear. The

present study investigates the pattern of associations between these three phenomena over time to verify whether job crafting leads to innovation or whether innovation leads to job crafting, as well as the extent to which any such relationship is mediated by work engagement.

Although job crafting and employee innovation are typically directed towards resource-enhancement, the anticipation, planning and execution of proactive behaviors all involve cognitive and energetic costs (e.g., Zhang, Zhang, Forest, & Chen, 2019). This means that a boundary condition governing the effectiveness of such behaviors may be availability of resources (Parker et al., 2010). Although work engagement is typically conceptualized as an outcome variable, we propose that high levels of work engagement is a necessary precondition for any job crafting efforts to be undertaken in ways that result in more innovation, and vice versa, as shown in Figure 1. Thus, we examine work engagement both as a mediator and as a moderator.

Our study contributes to literature in several ways. First, by using a robust design to test the relationship between job crafting and employee innovation, we broaden our understanding of relationships between different forms of proactive behaviors. Our longitudinal design will allow us explore potential resource-gain spirals involving job crafting, engagement, and innovation. In doing so we extend previous studies on relations between job crafting and work engagement (Hakanen, Perhoniemi, & Toppinen-Tanner, 2008; Llorens, Schaufeli, Bakker, & Salanova, 2007; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009) as well as work engagement and employee innovation (Aryee, Walumbwa, Zhou, & Hartnell, 2012) by examining work engagement in terms of its separate components. Further, the inclusion of work engagement as a boundary condition in job crafting-employee innovation relationship addresses the need for more studies on boundary conditions affecting job crafting (Wang et al., 2018), as well as calls for examining work engagement in different ways (Bakker, Schaufeli, Leiter, & Taris, 2008).

Finally, most studies of job crafting or innovation have been conducted within wealthy western countries, with less attention being paid to areas with different work cultures and priorities. The present study extends knowledge by investigating workers from the African nation of Ghana.

Insert Figure 1 about here
………………………….

Theory and Hypothesis Development

Job Crafting

According to the job demands-resources (JD-R) model, important job characteristics can be characterized as job demands or as job resources. Job demands are work characteristics that require sustained physical and/or psychological effort and are therefore associated with some physiological and/or psychological costs; and job resources are those work characteristics that facilitate the attainment of work goals, and are capable of reducing work demands (Bakker & Demerouti, 2017; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Job demands are associated with greater exhaustion, distress and absence (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), whereas job resources are associated with greater work engagement and in-role performance (Bakker et al., 2004; Hakanen et al., 2008). In this way, the JD-R model is consistent with traditional approaches to job design (also described as manager driven or top-down), in that, it assumes employees experience their jobs passively; in precisely the manner, the jobs were designed or redesigned by their managers.

By contrast, job crafting assumes that individual employees are proactive as they take deliberate steps to shape their job over time (Tims, Derks, & Bakker, 2015). Job crafting refers to the self-initiated actions employees undertake to reconstruct and redefine their jobs with the aim to achieving a fit between their jobs and preferences, motives and passion, and making their jobs

36

meaningful (Berg et al., 2008; Wrzesniewski & Dutton, 2001). The changes people make to their

jobs may include taking on extra assignments, performing tasks differently, expanding the

network of people with whom they interact, and changing the scope of their job (Tims et al.,

2015). Early qualitative research on job crafting focused on how employees crafted their jobs to

increase meaningfulness, well-being, and person-job fit (Berg, Dutton, & Wrzesniewski, 2013;

Wrzesniewski & Dutton, 2001).

Although job crafting work initially utilized qualitative methodologies, the most common

quantitative method for operationalizing job crafting draws upon the JD-R model (Bakker &

Demerouti, 2017; Demerouti et al., 2001; Tims et al., 2012). Following this approach, job

crafting represents the proactive efforts that employees make to redesign their jobs in ways that

improve the balance between demands and resources (Tims et al., 2012). Studies using this

approach have, as with qualitative studies, shown that employees who craft their jobs improve

their well-being at work (Bakker & Demerouti, 2017; Tims et al., 2012). Studies have also linked

job crafting to in-role performance and organizational citizenship behavior (Rudolph et al, 2017),

highlighting the value of job crafting for employers.

Job Crafting and Employee Innovation

Job crafting is not the only way that employees can show initiative and perform

productive extra-role behaviors. Employee innovation represents a self-initiated process of

identifying problems and issues, generating possible novel solutions, and attempting to

implement such solutions (Carmeli, Meita, & Weisberg, 2006; Scott & Bruce, 1994). As a goal-

directed and proactive behavior (Parker et al., 2010), employee innovation involves efforts

directed towards developing or adapting work processes, products, or services to suit current

market demands (Aldrich, 1999; Anderson, Potocnik, & Zhou, 2014; Farr & Ford, 1990).

Consequently, organizations whose employees innovate are more likely to maintain flexibility

and develop competitive advantage (e.g. Axtell, Holman, & Wall, 2006; Janssen, 2003; Kang, Solomon, & Choi, 2015; Scott & Bruce, 1994).

These benefits have encouraged researchers to identify the antecedents of innovation, such as job crafting and work engagement (Aryee, Walumbwa, Zhou, & Hartnell, 2012; Bindl et al., 2019). In addition, some studies have shown job crafting influences employee innovation. Recently, Bindl and colleagues (2019) in three independent studies involving employees from a variety of occupations and industries (study 1), employees from a large metropolitan area in the UK (study 2), and professionals from a leading UK university (study 3), found that promotion-oriented job crafting relates positively to innovative performance. Thus, employees who craft their jobs (e.g., seek out relationships with working colleagues who have more experience and are creative, seek to be part of a new and challenging tasks, or thinking about how to change some aspects of the job) are likely to pay greater attention to activities that constitute innovation (Bindl et al., 2019). Mattarelli and Tagliaventi (2015) showed that job crafting could lead to identification of new businesses/markets, changes in products and services, and improvement in work processes. Job crafting exposes employees to new people, tasks, and processes, giving them more opportunities to contribute new ideas (Wrzesniewski & Dutton, 2001). Therefore, job crafting efforts such as starting a new project or volunteering to be part of an action group could also prompt innovative thoughts such as proposing original or novel solutions to solve work problems, and/or trying out new things. By shaping and expanding their own role, employees may develop a greater sense of responsibility for change (Parker & Axtell, 2001), an awareness of the broader work situation, and a need for process efficiencies (Parker, 2001).

However, researchers are beginning to view innovation as a valuable antecedent rather than just an outcome (Janssen, 2003; Harrison & Wagner, 2016). It is possible that by engaging in innovation, employees are likely to engage in job crafting behaviors. West and Anderson

(1996) posit that employee innovation is likely to facilitate the transformation of individual work roles, including the enlargement of those roles to incorporate responsibility for implementing the new ideas (i.e. increasing challenge demands). Recent evidence shows that innovative behavior is associated with greater in-role performance. For example, Harari, Reaves, and Viswesvaran (2016) showed in a meta-analysis that innovative behavior relates positively to task performance ($\rho = .55$) and organizational citizenship behavior ($\rho = .56$). Furthermore, in a recent survey, involving employees and their immediate supervisors in companies in China, the authors found that innovative behavior is associated positively with in-role performance and relationship conflict (Zhang, Zhang, Forest, & Chen, 2018). As innovative behavior is a useful way to solving work related problems (Yuan & Woodman, 2010), we argue that such efforts enable the performance of job crafting behaviors. Consequently, we hypothesize that:

H_{1a} Job crafting relates positively to innovation

H_{1b} Innovation relates positively to job crafting

Job Crafting and Work Engagement

Work engagement represents a "positive, fulfilling and work-related state of mind" (Schaufeli & Bakker, 2004, p. 295), one that is highly activated and energizing. Work engagement differs from job satisfaction in that work engagement depicts activation (enthusiasm, energy, excitement, concentration, and immersion), whereas satisfaction denotes satiation (contentment, calmness, serenity, and relaxation; Schaufeli, 2012). Work engagement is regularly operationalized as a multidimensional construct, comprising *vigor* (energy and mental resilience at work), *dedication* (enthusiasm and job significance while being involved in work), and *absorption* (concentration on and immersion in work; Schaufeli & Bakker, 2010). Sonnentag (2017), posits that whereas both vigour and absorption arise from the task process, the experience of dedication may occur even during non-working hours (e.g., when talking to others about your

work). Therefore, components of work engagement may have different antecedents. Feedback skill variety, and autonomy are associated with greater experience of vigour, absorption, and dedication, respectively (Sonnentag, 2017).

Work engagement is associated with important individual and organizational outcomes including job performance (Bakker & Bal, 2010), customer loyalty (Salanova, Agut, & Peiro, 2005), employee health (Airila, Hakanen, Schaufeli, Luukkonen, Punakallio, & Lusa, 2014), increased productivity (Hakanen & Koivumaki, 2014), and decreased sickness absenteeism (Schaufeli, Bakker, & Van Rhenen, 2009). Furthermore, engaged employees are more likely to outperform satisfied employees (Rich, LePine, & Crawford, 2010). These findings confirm the relevance of work engagement in organizations and highlight the value of understanding the antecedents of work engagement.

Job crafting is important for sustaining or enhancing work engagement levels (Tims et al., 2012; Tims et al., 2015; van Wingerden & Poell, 2017; van Wingerden, Derks, & Bakker, 2017; Vogt, Hakanen, Brauchli et al., 2016;). Job crafting, by adjusting role requirements to better balance demands with resources, enables employees to more effectively accumulate, retain, and protect resources that may be helpful in coping with threats to well-being (Hobfoll, 1989). Consequently, just as conventional job design can influence engagement, so too can job crafting.

However, according to the conservation of resources theory (Hobfoll, 1989), resources evolve in cycles or so-called "caravans". Those who possess substantial resources are more likely to be able to invest resources effectively to add more resources, expanding their resource reservoir (Hobfoll, 2002). Engaged employees have surplus resources to invest, and therefore have the potential to increase their resource stock through job crafting (Vogt, Hakanen, Brauchli et al., 2016). Consistent with Frederickson's (2001) broaden-and-build theory, engaged employees are more likely to experience affective states that facilitate creative thinking, helping

them to take initiatives and proactively change aspects of their jobs (Parker et al., 2010).

Sonnentag (2003) found that on days when they felt more engaged, employees reporting more

proactive behaviors such as improving present working conditions and searching for learning

opportunities. Similarly, Harju, Hakanen, and Schaufeli (2016) found that engaged employees

were more likely to craft their jobs. Drawing on these findings, we hypothesize that:

H2$_a$ More job crafting relates to greater work engagement.

H$_{2b}$ Greater work engagement relates to more job crafting

Work Engagement and Employee Innovation

Theoretical and empirical evidence shows that work engagement could facilitate

employee innovation. The positive feelings experienced by engaged employees might stimulate

them to see alternative courses of action (Frederickson, 2001), which are important for

innovation. Aryee and colleagues (2012), in a study of employees in a large telecommunication

company in a northeastern province of the People's Republic of China found that work

engagement relates more positively to employee innovation. However, proactive behaviors

including innovation are capable of making employees experience high levels of work

engagement.

Because employee innovation is a self-initiating behavior that is usually directed towards

a goal of change, proactivity researchers categorize it as a proactive behavior (Bindl & Parker

(2012). This is why we drew on the proactivity literature to support the relationship between

innovation and work engagement. In addition to this. We supported our hypothesized relationship

with a study showing relationship between proactive behavior and work engagement. For

example, Cooper-Thomas, Paterson, Stadler, and Saks (2014), showed in a study of 12 temporary

work agencies in New Zealand that proactive behaviors relate positively to work engagement.

Finally, Wang, Zhang, Thomas, Yu, and Spitzmueller (2017), in a study across a wide variety of

industries (including education, healthcare, food, and entertainment) found that proactive personality relates more positively to employee work engagement. Therefore, building on Cooper-Thomas and colleagues' (2014) study, we argue that innovative behavior will be associated with greater levels of work engagement. Furthermore, as innovative efforts are geared toward improving work processes, such efforts are capable of improving employee well-being. Consequently, we hypothesize that:

H_{3a} Work engagement relates positively to employee innovation

H_{3b}: Employee innovation relates positively to work engagement

Work Engagement as a Mediator

Studies relate job crafting to work engagement (Bakker & Demerouti, 2017; Tims et al., 2013; Vogt, Hakanen, Brauchli et al., 2016), and work engagement to innovation (Aryee et al., 2012; Hakanen et al., 2008). Therefore, we argue that engagement may likely explain the job crafting-innovation relationship. Engaged employees approach their work with a positive mentality as they demonstrate vigour, dedication, and absorption at work (Bakker, Albrecht, & Leiter, 2011). In addition, engagement facilitates one's capacity to overcome work obstacles and accomplish challenging goals (Bakker et al., 2011; Leiter & Bakker, 2010). Accordingly, Leiter and Bakker (2010) contends that engaged employees bring their full capacity to bear on their ability to solve problems, connect with people, and thereby develop innovations.

According to COR (Hobfoll, 2001), engaged employees are more likely to experience positive affect. Broaden and build theory stipulates that the positive feelings work engagement generates can encourage employees to try new things and experiment with different work processes and procedures (Frederickson, 2001). Such experimentations may lead to the generation of new ideas, novel solutions, and greater performance (Gomes, Curral, & Caetano, 2015). Previous studies appear to support this reasoning. For example, research shows that work

engagement relates positively to subsequent work-unit innovativeness (Hakanen et al., 2008). In addition, Aryee and colleagues (2012) showed that work engagement relates positively to innovative behavior.

Some studies show that proactive behaviors including innovation are potential drivers of greater levels of work engagement. For example, Cooper-Thomas and colleagues (2014) showed that proactive behavior relates positively to work engagement, showing that proactive forms of behavior including innovation could be associated with increasing levels of work engagement. these studies, we suggest that job crafting will make employees more engaged, which in turn, will lead to more innovation. Consequently, we hypothesize that:

H_{4a} *Work engagement mediates the relationship between job crafting and innovation*

H_{4b} *Work engagement mediates the relationship between innovation and job crafting*

Work Engagement as a Moderator

Although work engagement could function as a mediator, it could potentially play other roles. In the present study, we suggest that the relationship between job crafting and employee innovation has boundary conditions, and that the strength of this relationship is likely to vary according to employee level of work engagement. The COR theory (Hobfoll, 2001) explains how resources such as engagement can act as boundary conditions in relation to utilization of opportunities. According to the Hobfoll (2001) model, "those with greater resources are less vulnerable to resource loss and more capable of orchestrating resource gain. Conversely, those with fewer resources are more vulnerable to resource loss and less capable of resource gain" (p. 349). Engaged employees, who have the capacity to generate more job resources, may be more capable of making more of opportunities associated with job crafting or innovation. Because they can draw from larger resource reservoirs, engaged employees are capable of remaining motivated and functioning effectively in the face of dwindling resources (Hobfoll, 2001; Kim et al., 2018).

Furthermore, according to Parker and colleagues (2010) model of proactive motivation, engagement may not only provide the energetic resources to support proactive behavior, it may provide the reason pursuing proactive goals in the face of obstacles.

As indicated earlier, job crafting is likely to facilitate innovation (Bindl et al., 2019). We suggest that this effect will be stronger for more engaged rather than less engaged employees. Innovation is typically defined in terms of improving tasks and work processes (Janssen, 2003). The extent to which one is willing to achieve this goal may vary depending on the extent to which employees feel engaged. For all its purported benefits, job crafting was initially described by Wrzesniewski and Dutton (2001) as a means by which employees could exert control over their own work experiences to enhance their own sense of personal enjoyment and meaning at work, regardless of the benefit to the employer. Where disengaged employees might direct job crafting towards effort minimization and avoidance of unpleasant tasks, engaged employees may be more likely to invest the resources gained through job crafting into making changes that help achieve the organization's goals.

Effects of innovation on job crafting are also likely to depend on work engagement. It has been suggested that innovative employees strive to ensure that their novel ideas are relevant and implementable (De Dreu & West, 2001). To achieve the most from this innovation and see it implemented more widely (consistent with common goals of innovation; Scott & Bruce, 1994), the innovative banker may seek feedback and support from colleagues, supervisors, and other contacts in the organization (Van de Walle & Cummings, 1997) and volunteer to be part of a process improvement group. However, such follow-up activity assumes a relatively high level of engagement; disengaged employees might implement the process change only at their own work stations.

Therefore, we contend that under conditions of high engagement, time-lagged

relationships between job crafting and innovation will be stronger, compared to conditions of low engagement. We hypothesize that:

H_5 Work engagement moderates the relationship between (a) job crafting and innovation and between (b) innovation and job crafting such that the relationship is positive and strong at high rather than low levels of work engagement.

Method

Research Context

The Ghanaian banking sector, which comprises indigenous and international banks, is a major driver of gross domestic product of the Ghanaian economy. The sector is highly competitive and unpredictable, which means that banks need to adopt efficient banking systems, better customer service approaches, and improve upon productivity to survive (Obeng & Boachie, 2018). Currently, Ghanaian banks are leveraging on technological innovation to enhance their efficiency and service delivery (Obeng & Boachie, 2018). Employees play a crucial role in ensuring the competitiveness and effectiveness of their organizations. In the Ghanaian banking environment, technological, product, and process innovation at the organization level is generally the focus of research. Behavioral innovation has received less attention, despite the potential for customer-facing employees to identify better ways of providing banking services, and the potential for all employees to identify ways of improving efficiency and productivity (Axtell et al., 2000). Beyond anecdotes, no information has been reported on the extent of or support for job crafting in such workplaces.

Sample and Procedure

We collected data via paper-based surveys distributed to employees of banks in Ghana. All the surveys were in English. Apart from the demographic information, we measured all variables each at three measurement periods, with each measurement period separated by three

months. We obtained approval from the Macquarie University's Institutional Review Board as well as from the human resource department of participating banks. The study involved four commercial banks, two public and two private. The human resource managers of participating banks sent an email to various branch/operation managers regarding their organizations' approval of the study, and the need for support in collecting data at the branch level. To facilitate data collection, each branch nominated an officer who facilitated the distribution and collection of completed surveys.

Completion of the surveys was voluntary. Each respondent was given a specially designed pen as compensation for participating. To match across the three waves, respondents were asked to provide a code made up of the first three letters of their mother's maiden name and the last three digits of their telephone number. We distributed the surveys to multiple branches of the participating banks. For multi-wave research to yield useful information, time lags must be spaced sufficiently far apart for measured phenomena to vary over time. As longitudinal surveys of workplace phenomena are rare in Ghanaian workplaces (or indeed in any non-medical context in Africa outside of South Africa), we lacked data with which to make empirical judgments about time lags. The types of job crafting activities described by Wrzesniewski and Dutton (2001) seem relatively unusual and revolutionary changes that would not be enacted on the scale of days or even weeks, even in cultures where employees are actively encouraged to deviate from the status quo – such activities seem unlikely to happen regularly in Ghanaian workplaces. Similarly, social and supervisory support resources were considered likely to change very little over short timescales. However, researchers have warned against using long time lags (e.g., a year or more), as these may prevent detection of changes in psychological outcomes (Dormann & Gruffin, 2015). As some previous studies have observed effects using time lags of 2-3 months (Vogt, Hakanen, Brauchli, Jenny, & Bauer, 2016; Wang, Demerouti, Le Blanc, & Lu, 2018), we utilised

a three months-time lag to be consistent with those.

We sent the initial (T_1) surveys to 500 full-time employees, of which 415 surveys were completed and returned, a response rate of 83%. Three months later (T_2), the second survey was completed by 93% ($N = 385$) of the T_1 participants. Three months after T_2 (T_3), the third survey was completed by 88% ($N = 340$) of T_2 participants. The initial sample was 51% male and the average organizational tenure was 6.5 years. Participants' mean age was 31.9 years old. Most participants (86%) were in the non-managerial bracket and had at least an undergraduate degree (51%). **Measures**

We framed all scales in terms of experiences in the last month.

Job Crafting. Individual job crafting was assessed with Tims et al. (2012) 21-item measure of four domains of job crafting: structural job resources (e.g., "I try to develop my capabilities"); social job resources (e.g., "I ask colleagues for advice"); hindering job demands (e.g., "I make sure that my work is mentally less intense"); and challenging job demands (e.g., "When an interesting project comes along, I offer myself proactively as project co-worker") respectively. Responses were made on a 7-point scale (1 = *"Never"* to 7 = *"Always"*). Due to the high correlations between components of job crafting ($r > .70$), we aggregated them into a single measure of job crafting. The internal consistency for overall job crafting (α) in the present study was .92, .89, and .94 for T_1, T_2, and T_3 respectively.

Work engagement. Using the short version of the Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006), employees reported their experience of work engagement on a scale ranging from 0 (*never)* to 6 (*always*). The scale has nine items assessing three dimensions: vigour (e.g., "At my work, I feel bursting with energy"), dedication (e.g., "I am enthusiastic about my job"), and absorption (e.g., "I am immersed in my work"). Although scale typically works across multiple cultures and occupations (Schaufeli et al., 2006; Hu et al., 2014),

the vigour item "When I get up in the morning, I feel like going to work" and the absorption item "I get carried away when I'm working intensely" were removed due to poor factor loadings, out of concern that they may not have been culturally appropriate. The resulting Cronbach alpha values for the subscales were then: vigour (α_{T1} = .58; α_{T2} = .49; & α_{T3} = .51), dedication (α_{T1} = .72; α_{T2} = .73; & α_{T3} = .75), and absorption (α_{T1} = .50; α_{T2} = .55; & α_{T3} = .59). Although the Cronbach alpha values for vigour and absorption were below the acceptable threshold of 0.7, factor loadings of their items were all significant (factor loading > 0.3, p < .001), confirming the validity of these subscales.

Innovation. We used Scott and Bruce's (1994) 6-item scale (α_{T1} = .94; α_{T2} = .78; & α_{T3} = .95) to assess the extent to which employees engaged in innovative behavior. A sample item is "I generated original solutions for problems". Respondents indicated their level of innovativeness on a 5-point scale, ranging from (1 = *"not at all"* to 5 = *"to a great extent"*).

Results

Preliminary Analysis

Given the scarcity of research on the Ghanaian population, there was concern that unusual or otherwise outlying responses would distort the findings. We therefore identified outliers using the median absolute deviation method (Leys, Ley, Klein, Bernard, & Licata, 2013), and replaced them with the nearest non-outlying value from the remaining data (Barnett & Lewis, 1994).

Results in **Table 1** shows that the correlation between components of work engagement, job crafting and innovation across the measurement points. More specifically, while dedication and absorption correlated with innovation, vigour did not correlate with innovation at T_1. In addition to this, none of the components of work engagement correlated with job crafting at T_1. Further, work engagement correlated with job crafting and innovation at T_2 and T_3 respectively.

Hypothesis Testing

To examine whether work engagement (i.e., vigour, dedication, and absorption) moderates the relationship between job crafting and employee innovation, a path model was tested using full maximum likelihood estimation in Mplus version 7.4 (Muthen & Muthen, 1998-2015). This method allowed the analysis to model data that were missed through attrition (no data was missing within completed surveys). Given the limited sample size or the complexity of the longitudinal model and the use of six interactions terms, we used scale means to model the variables as exogenous rather than endogenous variables. Both models included autoregressive effects (T_1-T_2 and T_2-T_3) and autoregressive covariances (T_1 with T_3) as well as time-lagged paths between job crafting, innovation, and engagement variables. For Model 2, we also added hypothesized interactive effects.

Model 1: Main Effects

Model 1 fit the data well: χ^2 = 90.49, df =. 33, p <. 001, $RMSEA$ =. 07, CFI =. 99, TLI =. 97, and $SRMR$ =. 04. Results show that job crafting was unrelated to employee innovation at either T_2, β = .03, SE = .03, p = .408 or T_3, β = .07, SE = .04, p = .054. Thus, our evidence did not support hypothesis 1a. However, employees who engaged in innovation were more likely to craft their jobs in future, T_2, β = .11, SE = .05, p = .022, and T_3, β = .16, SE = .04, p < .001, providing support for hypothesis 1b.

Job crafting was unrelated to work engagement, and work engagement was not associated with subsequent job crafting behavior. Thus, our findings did not support hypothesis 2a or 2b.

Vigour at T_2 related positively to employee innovation at T_3, β = .09, SE = .04, p = .034,

but dedication and absorption did not predict employee innovation over time.

Model 2: Interaction Effects

Our interactive model fit the data well (χ^2 = 1064.51, df = 290, p <. 001; *CFI* =. 93; *TLI* =. 89; *RMSEA* =. 08; *SRMR* =. 08). Results show job crafting was not associated with innovative behavior, but innovation was associated with subsequent job crafting behavior, T_2, β = .11, *SE* = .04, p = .004 and T_3, β = .14, *SE* = .04, p = .002.

Job crafting was not associated with work engagement, and vigour was unrelated to job crafting. However, dedicated employees were more likely to craft their jobs in the future, at T_2, β = .15, *SE* = .05, p = .003. Furthermore, we found that absorption moderated the relationship between innovation and job crafting at both T_2, β = .12, *SE* = .05, p = .008 and T_3, β = .12, *SE* = .06, p = .033.

To understand the nature of the moderation effect, we followed Aikens and West (1991) +1/-1 SD procedure for testing the effect of high vs. low levels of absorption on the relationship between innovation and job crafting. As shown in Figures 2 and 3, innovation was associated with more job crafting for more absorbed employees. Simple main effects tests revealed this was only true for high absorption (T_2 t = 3.80, p < .001; T_3 t = 3.43, p = .001) and not low absorption (T_2 t = -.22, p = .823; T_3 t = .17, p = .869).

Insert Figures 2 & 3 about here

Discussion

Job crafting and innovation are associated with beneficial individual and organizational outcomes. However, we know little about the relationship between the two constructs. Therefore, we investigated the relationship between job crafting and employee innovation with a three-wave longitudinal study of Ghanaian banking employees. Although we found little evidence to suggest

that job crafting encourages employees to engage in more innovation, our results do suggest that engaging in innovation increases an employee's likelihood to subsequently craft his/her job. Work engagement did not appear to mediate this effect, but absorption appeared an important moderator of the effect of innovation on job crafting.

Theoretical Contributions

Inconsistent with previous research, job crafting did not predict employee work engagement (c.f. Bakker et al., 2016; Petrou et al., 2012; Tims et al., 2012; Vogt et al., 2016) or innovation (Bindl et al., 2019; Frederickson, 2001; West, 1990) in the present study. In addition to this, engagement did not make employees more likely to craft their jobs in future (with the exception of a T_1-T_2 effect of dedication that should be interpreted with caution). The job crafting scores obtained in the present study were similar in size to those obtained in previous studies utilizing these scales (e.g., Tims et al., 2012), suggesting job crafting was no less frequent in our sample compared to those in previous studies. However, the scale of job crafting may be relatively small when undertaken by low level employees in a relatively conservative, procedure-focused environment like Ghanaian banks, particularly as less senior employees tend to receive less support for proactive behaviors (Berg, Grant, & Johnson, 2010). Evidence from daily and weekly studies (Petrou, Bakker, van den Heuvel, 2016; Tims et al., 2014) seems to suggest that job crafting involves relatively minor adjustments that occur regularly, a contrast from early perspectives that describe job crafting as infrequent but substantial changes (Wrzesniewski & Dutton, 2001). Therefore, it is possible that the effects of job crafting are relatively small and manifest much earlier, such that a three-month time lag might be too great to detect them. Qualitative investigations may be required in order to better understand this phenomenon.

Although engagement was not associated with job crafting, there was an indication that engagement is important for innovation. Firstly, in our main effects model there was a pattern

whereby employees who felt more vigourous were more likely to engage in subsequent innovations. This supports the argument by Parker and colleagues (2010) that being energized is an important predictor of proactive behavior. Unlike job crafting, which can potentially be undertaken to meet personal needs and goals, innovation is typically undertaken to improve organizational outcomes. Therefore, vigour may be more necessary as a precondition to engaging in innovation, whereas job crafting may be undertaken even when vigour is relatively low provided the actions seem to meet personal needs.

Engagement also played an interactive role. Our study showed that innovation has the potential to increase future job crafting behavior, confirming that innovation can play a valuable antecedent role (Janssen, 2003; Kang et al., 2003). This outcome shows innovation is not just a productive form of work behavior, but it can also encourage people to expand their work scope and relationships. However, this was true only for absorbed employees. This finding is consistent with conservation of resources theory (Hobfoll, 2002), which suggests that resources are salient in the context of resource loss (i.e., demanding and challenging situations). Innovation consumes resources (Zhang et al., 2019), and because job resources are beneficial in situations of resource loss (Hobfoll, 2002), the effects of innovation may be resource-dependent. Engaged employees strive to generate job resources (Hobfoll, 2002), and it may be that resources generated through absorption in work have the potential to enhance the relationship between innovation and job crafting. Absorbed employees are highly focused, concentrated, and engrossed in their work (Bakker et al., 2008), which suggests that innovation prompts crafting when employees become focused on the their novel idea, motivating them to mobilize support for it, and enlarge their role to achieve greater impact. By contrast, vigour and dedication to work may be valuable resources, but they may have fewer implications for following through on the implementation of innovations. This reasoning provides opportunity for future research in the field of innovation,

examining how the components of work engagement may interact to influence innovation-outcomes relationship. The present result adds to the relatively few studies that have examined work engagement as a boundary condition, highlighting the value of a specific element of the work engagement variable in facilitating relations between variables.

Managerial and Practical Implications

Our findings have the potential to facilitate organizational practices. Similar to technological, product, and process innovation, which banking organizations have embraced, our study suggests the need for managers to encourage behavioral innovation. Thus, managers should be interested in stimulating employees to be more innovative as innovation has beneficial effects on organizations. The study shows that innovation relates to more job crafting behavior in future for absorbed employees. This interactive effect result is very important for practice as it suggests that innovation might lead to beneficial outcomes under certain circumstances. This indicates that encouraging employees to be innovative may not necessarily yield positive results. Similarly, making employees feel absorbed may not create the desired outcome managers need. However, when an innovative employee is absorbed in his or her work, then, he/she would be more likely to perform more job crafting behavior.

Limitations and Suggestions for Future Research

While our study has reported some unique outcomes, we highlight some limitations that future researchers should consider. First, common method bias could be a potential limitation because data on all the variables were self-reported (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, longitudinal design reduces the level of common method bias (Doty & Glick, 1998). Furthermore, most of our key findings were interactive rather than main effects, which are less likely to be attributed to common method bias (Evans, 1985; Siemsen, Roth, & Oliveira, 2009). In addition to this, job crafting and work engagement appears to be private in nature

(Conway & Lance, 2010), which makes them less visible to observers (Wrzesniewski & Dutton, 2001). The low reliability coefficients for vigour and absorption aspects of the work engagement scale is another potential limitation of the study. We think that some of the items may have limited utility in some contexts. For example, "I get carried away when I'm working" utilizes a metaphor that may transfer poorly to some countries, and/or may appear inappropriately worded for a procedural work environment such as a bank. This has implications on validation of the work engagement items across occupations.

The homogeneity of our sample (Ghanaian banking employees) may restrict the generalizability of our findings in the Ghanaian context. Future research should attempt to replicate our findings across occupations in Ghana to enhance the possibility of generalization across occupations and sectors in the Ghanaian working context. However, the overwhelming majority of workplace research is undertaken in wealthy western nations, and assumptions about the universality of effects may be flawed if large parts of the world go unstudied. We believe that it is important that regions such as Africa receive greater attention in this literature.

Conclusion

Contemporary organizations including banking are encouraging their workforce to be self-initiating as initiative taking is important in work performance. Job crafting and innovation are important self-oriented constructs, attracting more attention in research and practice. We found that although job crafting was not associated with more innovation, innovation was associated with subsequent crafting of jobs, albeit only for absorbed employees. We encourage other researchers to investigate these and other phenomena in emerging economies.

References

Aiken, L.S., & West, S.G. (1991). *Multiple Regression: testing and Interpreting Interactions*. London: Sage Publications.

Airila, A., Hakanen, J.J., Schaufeli, W.B., Luukkonen, R., Punakallio, A., & Lusa, S. (2014). Are job and personal resources associated with work ability 10 years later? The mediating role of work engagement. *Work & Stress, 28,* 87-105. Doi:10.1080/02678373.2013.872208

Aldrich, H.E. (1999). *Organizations Evolving.* Thousand Oaks, CA: Sage.

Anderson, N., Potocnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management, 40,* 1297-1333.

Aryee, S., Walumbwa, F.O., Zhou, Q., & Hartnell, C.A. (2012). Transformational leadership, innovative behavior, and task performance: Test of mediation and moderation processes. *Human Performance, 25*(1), 1-25. Doi: 10.1080/08959285.2011.631648

Axtell, C., Holman, D., & Wall, T. (2006). Promoting innovation: A change study. *Journal of Occupational and Organizational Psychology, 79,* 509-516. Doi: 10.1348/096317905X68240.

Bakker, A.B., & Demerouti, E. (2007). The job demands-resources model: state of the art. *Journal of Managerial Psychology, 22,* 309–328.

Bakker, A.B., Schaufeli, W.B., Leiter, M.P., & Taris, T.W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress, 22*(3), 187-200. Doi: 10.1080/02678370802393649

Bakker, A.B., & Bal, M.P. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology, 83,* 189-206. Doi: 10.1348/096317909X402596

Bakker, A.B., Albrecht, S.L., & Leiter, M.P. (2011). Work engagement: Further reflections on the state of play. *European Journal of Work and Organizational Psychology, 20*(1), 74-88.

Bakker, A. B., Rodriguez-Munoz, A., & Sanz-Vergel, A. I. (2016). Modelling of job crafting behaviors: Implications for work engagement. *Human Relations, 69,* 169-189.

Bakker, A.B., & Demerouti, E. (2017). Job demands-resources model: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273-285. http://dx.doi.org/10.1037/ocp0000056

Barnett, V., & Lewis, T. (1994). *Outliers in statistical data* (3rd Ed.). New York: Wiley.

Beal, D. J., Weiss, H. M., Barros, E., & MacDermid, S. M. (2005). An episodic process model of affective influences on performance. *Journal of Applied Psychology, 90,* 1054–1068. http://dx.doi.org/10.1037/0021- 9010.90.6.1054

Berg, J. M., Dutton, J. E., & Wrzesniewski, A. (2013). Job crafting and meaningful work. In B. J. Dik, Z. S. Byrne & M. F. Steger (Eds.), Purpose and meaning in the workplace (pp. 81-104). Washington, DC: American Psychological Association.

Berg, J.M., Grant, A.M., & Johnson, V. (2010). When callings are calling crafting work and leisure in pursuit of unanswered occupational callings. *Organization Science, 215*(5), 973-994. Doi: 10.1287/orsc.1090.0497

Conway, J.M., & Lance, C.E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology, 25,* 325-334. Doi: 10.1007/s10869-010-9181-6

Cooper-Thomas, H.D., Paterson, N.L., Stadler, M.J., & Saks, A.M. (2014). The relative importance of proactive behaviors and outcomes for predicting newcomer learning, well-being, and work engagement. *Journal of Vocational Behavior, 84,* 318-331. http://dx.doi.org/10.1016/j.jvb.2014.02.007

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86,* 499–512.

Demerouti, E., Bakker, A. B., & Gevers, J. M. (2015). Job crafting and extra-role behavior: The role of work engagement and flourishing. *Journal of Vocational Behavior*, *91*, 87-96.

Frederickson, B.L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56,* 218-226.

Gomes, C., Curral, L., & Caetano, A. (2015). The mediating effect of work engagement on the relationship between self-leadership and individual innovation. *International Journal of Innovation Management, 19*(1), 1-18. Doi: 10.1142/S1363919615500097

Grant, A. M., & Ashford, S. J. (2008). The dynamics of proactivity at work. *Research in Organizational Behavior, 28,* 3–34.

Grant, A. M., & Parker, S. K. (2009). Redesigning work design theories: The rise of relational and proactive perspectives. *Academy of Management Annals, 3,* 273–331. Doi: 10.1080/19416520903047327

Hakanen, J.J., & Koivumaki, J. (2014). Engaged or exhausted-How does it affect dentists' clinical productivity? *Burnout Research, 1,* 12-18. Doi: 10.1023/A: 1025007614869

Hakanen, J.J., Perhoniemi, R., & Toppinen-Tanner, S. (2008). Positive gain spirals at work: From job resources to work engagement. *Journal of Vocational Behavior, 73,* 78-91. Doi:10.1016/j.jvb.2008.01.003

Harju, L.K., Hakanen, J.J., & Schaufeli, W.B. (2016). Can job crafting reduce boredom and increase work engagement? A three-year cross-lagged panel study. *Journal of Vocational Behavior, 95, 11*-20, http://dx.doi.org/10.1016/j.jvb.2016.07.001

Kang, J.H., Solomon, G.T., & Choi, D.Y. (2015). CEOs' leadership styles and managers' innovative behavior: investigation of intervening effects in an entrepreneurial context. *Journal of Management Studies, 52*, 531–554.

Kim, S., Park, Y.A., & Headrick, L. (2018). Daily micro-breaks and job performance: general work engagement as a cross-level moderator. *Journal of Applied Psychology, 103*(7), 772-786. http://dx.doi.org/10.1037/ap10000308

Leiter, M.R., & Bakker, A. (2010). Work engagement: Introduction. In *Work Engagement: A Handbook of Essential Theory and Research,* A Bakker and MP Leiter (eds.), pp. 1-9. East Sussex, UK: Psychology Press.

Leys, C., Ley, C., Klein, O., Bernard, P., Licata, L. (2013). Detecting outliers: Do not use standard deviation around the mean, use absolute deviation around the median. *Journal of Experimental Social Psychology, 49,* 764-766.

Mattarelli, E., & Tagliaventi, M. R. (2015). How offshore professionals' job dissatisfaction can promote further offshoring organizational outcomes of job crafting. *Journal of Management Studies, 52,* 585–620. doi:10.1111/j.1467-6486.2012. 01088. X

Petrou, P., Bakker, A.B., van den Heuvel, M. (2016). Weekly job crafting and leisure crafting: Implications for meaning-making and work engagement. *Journal of Occupational and Organizational Psychology,* 1-24. Doi: 10.1111/joop.12160

Salanova, M., Agut, S., & Peiro´, J. M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: The mediation of service climate. *Journal of Applied Psychology, 90,* 1217–1227.

Schaufeli, W.B., & Bakker, A.B. (2004). Job demands, job resources, and their relationship with burnout and work engagement: A multi-sample study. *Journal of Organizational Behavior,* 25, 293-315. Doi: 10.1002/job.248

Schaufeli, W.B., Bakker, A.B., & Salanova, M. (2006). The measurement of work engagement with a brief questionnaire: A cross-national study. *Educational and Psychological Measurement, 66,* 701-716. Doi: 10.1177/0013164405282471

Schaufeli, W.B., Bakker, A.B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior, 30,* 893-917. Doi: 10.1002/job.595

Schaufeli, W. B., & Bakker, A. B. (2010). The conceptualization and measurement of work engagement: a review in Work Engagement: *A Handbook of Essential Theory and Research*, eds A. B. Bakker and M. P. Leiter (New York, NY: Psychology Press).

Scott, S.G., & Bruce, R.A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal, 37*(3), 580-607.

Sonnentag, S. (2017). A task-level perspective on work engagement: A new approach that helps differentiate the concepts of engagement and burnout. *Burnout Research, 5,* 12-20. http://dx.doi.org/10.1016/j.burn.2017.04.001

Tims, M., & Bakker, A.B. (2010). Job crafting: Towards a new model of individual job redesign. *South African Journal of Industrial Psychology, 36,* 1-9. Doi: 10.4102/sajip.v36i2.841

Tims, M., Bakker, A.B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior, 80,* 173-186. doi: 10.1016/j.jvb.2011.05.009

Tims, M., Bakker, A.B., & Derks, D. (2013a). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology, 18*(2), 230-240. Doi: 10.10.1037/a0032141

Tims, M., Bakker, A.B., & Derks, D. (2014). Daily job crafting and the self-efficacy-performance relationship. *Journal of Managerial Psychology, 29,* 490-507.

Tims, M., Bakker, A.B., & Derks, D. (2015). Job crafting and performance: A longitudinal study. *European Journal of Work and Organizational Psychology, 24,* 914-928. Doi: 10.1080/1359432X.2014.969245

van den Heuvel, M., Demerouti, E., & Peeters, M. C. W. (2012). Succesvol job craften door middel van een groepstraining [Succesful job crafting through group training]. In J. De Jonge, M. C. W. Peeters, S. Sjollema, & H. De Zeeuw (Eds.), *Scherp in Werk: Vijf routes naar optimale inzetbaarheid* (pp. 7–20). Assen: Van Gorcum.

van Wingerden, J., Bakker, A.B., & Derks, D. (2017). The longitudinal impact of job crafting intervention. *European Journal of Work and Organizational Psychology, 26* (1), 107-119. doi: 10.1080/1359432x.2016.1224233

van Wingerden, J., & Poell, R.F. (2017). Employees' perceived opportunities to craft and in-role performance: The mediating role of job crafting and work engagement. *Frontiers in Psychology, 8,* 1-9. Doi: 10.3389/fpsyg.2017.01876

Wang, H.J., Demerouti, E., Le Blanc, P., & Lu, C.Q. (2018). Crafting a job in 'tough times': When being proactive is positively related to work attachment. *Journal of Occupational and Organizational Psychology, 91*, 569–590. DOI:10.1111/joop.12218

Wang, Z., Zhang, J., Thomas, C.L., Yu, J., & Spitzmueller, C. (2017). Explaining benefits of employee proactive personality: The role of engagement, team proactivity composition and perceived organizational support. *Journal of Vocational Behavior, 101,* 90-103. http://dx.doi.org/10.1016/j.jvb.2017.04.002

West, M.A., & Anderson, N.R. (1996). Innovation in top management teams. *Journal of Applied Psychology*, *81*, 680–693.

Wrzesniewski, A., & Dutton, J.E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review, 26,* 179-201. Doi: 10.5465/AMR.2001.4378011

Figure 2. Hypothesized model of relations among variables

Table 1: Descriptive statistics and bivariate correlation coefficients

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Job Crafting T1	4.16	1.27	-													
2. Job Crafting T2	4.67	1.09	.16**	-												
3. Job Crafting T3	3.80	1.36	.61***	.32***	-											
4. Innovation T1	2.96	0.91	.15**	.14**	.12*	-										
5. Innovation T2	3.29	0.46	.15**	.38***	.20***	.80***	-									
6. Innovation T3	2.79	0.90	.11*	.35***	.39***	.62***	.69***	-								
7. Vigour T1	3.59	0.82	.03	.04	-.01	.03	.07	.12*	-							
8. Vigour T2	3.45	0.93	.03	.27***	.09	.06	.15**	.20***	.79***	-						
9. Vigour T3	3.33	0.92	.02	.23***	.25***	.10*	.15**	.34***	.57***	.70***	-					
10. Dedication T1	4.21	0.97	.09	.08	.08	.11*	.09	.05	.28***	.28***	.21***	-				
11. Dedication T2	4.05	1.17	.11*	.40***	.19***	.05	.17**	.16**	.19***	.53***	.37***	.72***	-			
12. Dedication T3	3.83	1.20	.12*	.30***	.41***	.04	.13**	.35***	.13**	.34***	.60***	.50***	.67***	-		
13. Absorption T1	4.02	0.94	.09	.06	.05	.10*	.07	.03	.27***	.29***	.26***	.62***	.44***	.31***	-	
14. Absorption T2	3.88	1.11	.10*	.36***	.17**	.02	.13**	.13**	.22***	.53***	.43***	.45***	.77***	.52***	.72***	-
15. Absorption T3	3.71	1.13	.09	.28***	.38***	.05	.14**	.34***	.19***	.40***	.65***	.37***	.54***	.81***	.52***	.68***

***. Correlation is significant at .001 (2-tailed)

**. Correlation is significant at .01 (2-tailed)

*. Correlation is significant at .05 (2-tailed)

Table 2: Standardized effects of predictor variables (at T1 or T2) on outcome variables (at T2 or T3), model 1 and 2

Variables (T1/T2)	Vigour		Dedication		Absorption		Job crafting		Innovation	
Model 1	T2	T3	T2	T3	T2	T3	T2	T3	T2	T3
Innovation	.03	.06	-.03	.03	-.06	.07†	.11*	.09†	.80***	.43***
Job crafting (JC)	.00	-.01	.05	-.01	.05	-.03	.14**	.16***	.03	.07†
Vigour	.79***	.65***	--	--	--	--	.02	.01	.05†	.09*
Dedication	--	--	.70***	.61***	--	--	.02	.10	-.01	.01
Absorption	--	--	--	--	.71***	.64***	.01	.02	-.02	-.01
R2	.63***	.47***	.50***	.40***	.51***	.42***	.04*	.06**	.64***	.43***
Model 2										
Innovation (IN)	.03	.05	-.02	.01	-.06	.06	.11**	.14**	.81***	.36***
Job crafting (JC)	.00	.04	.05	.06	.04	.05	.08*	.16***	.00	.09†
Vigour	.79***	.61***	--	--	--	--	.02	.00	0.04	.04
Dedication	--	--	.69***	.57***	--	--	.15**	.02	.02	.02
Absorption	--	--	--	--	.70***	.58***	.00	.03	-.02	.02
IN x Vigour	--	--	--	--	--	--	.04	-.04	--	--
IN x Dedication	--	--	--	--	--	--	-.09†	-.09	--	--
IN x Absorption	--	--	--	--	--	--	.12*	.12*	--	--
JC x Vigour	--	--	--	--	--	--	--	--	-.02	.08
JC x Dedication	--	--	--	--	--	--	--	--	.06	-.14
JC x Absorption	--	--	--	--	--	--	--	--	-.04	.03
R2	.62***	.44***	.48***	.38***	.49***	.39***	.06**	.10***	.65***	.41***

Note. *** $p < .001$, ** $p < .01$, * $p < .05$
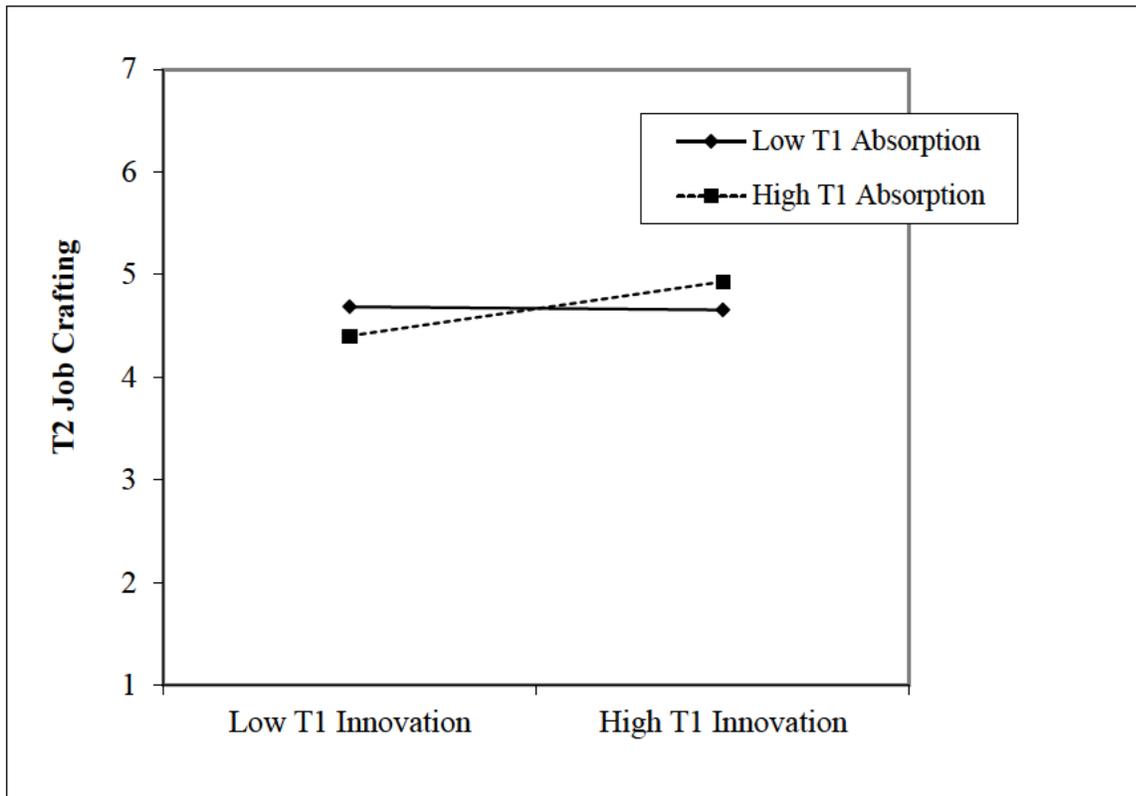
Figure 3. Absorption moderates innovation-job crafting relationship
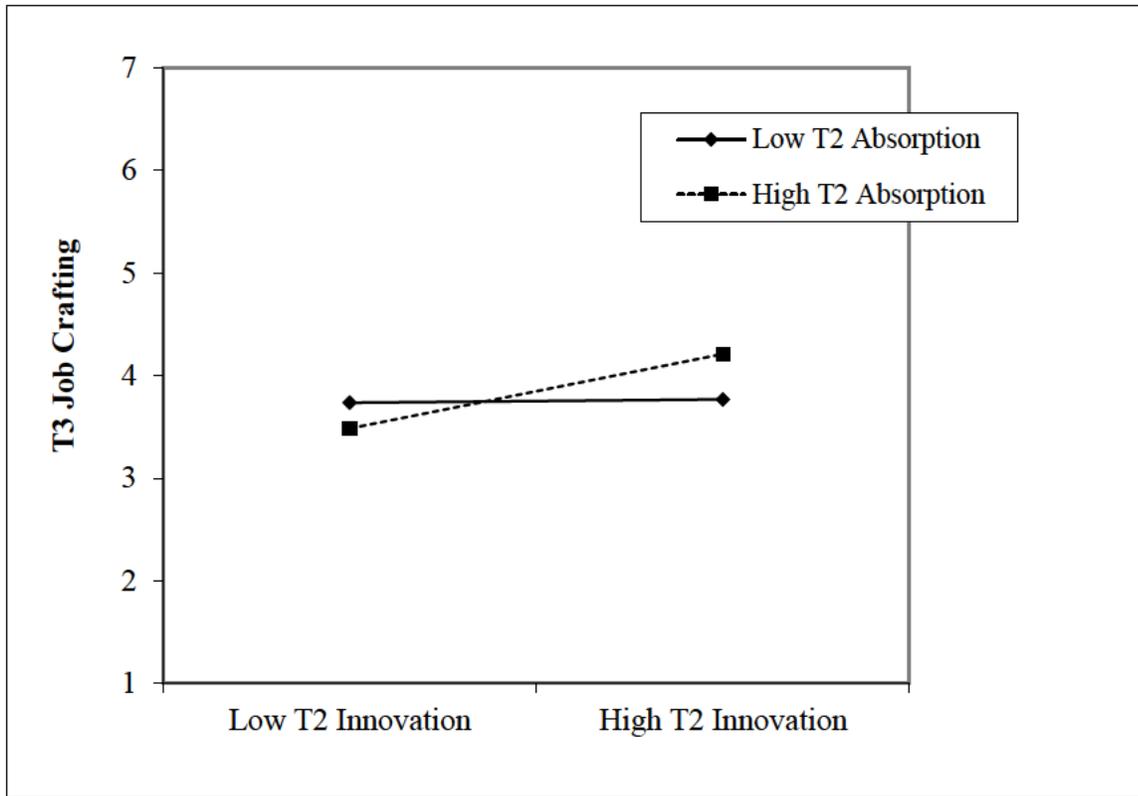
Figure 4. Absorption moderates the relationship between innovation and job crafting

In paper 2, we aimed to examine relations between supervisor support, cognitive demands, employee well-being (i.e., work engagement and exhaustion) and performance (i.e., proficiency, adaptivity, and proactivity), and the extent to which these relations are influenced by social job crafting. Paper 2 is similar to Paper 1 to the extent that both utilized the same sample (i.e., banking employees) and a three-wave longitudinal design, and in both papers, we studied work engagement and job crafting. However, both papers differ significantly in terms of hypothesized relationships and contribution to literature. For example, in paper 2, we examined supervisor support, cognitive demands, employee performance and exhaustion, which were not studied in paper 1. Furthermore, we examined two-way and three-way interactions involving supervisor, cognitive demands, and social job crafting, and how such interactions influence exhaustion, and performance. Finally, we examined the aggregate form of work engagement and social job crafting (i.e., a component of job crafting), investigating their roles from a perspective different from what pertains in paper 1. Generally, paper 2 makes different and significant contribution to literature, and this paper is under review with *Journal of Vocational Behavior.*

Supervisor Support, Cognitive Demands, Employee Well-Being, and Performance: The Moderating Role of Social Job Crafting

Eric Delle

Ben J. Searle

Department of Psychology

Macquarie University

Supervisor Support, Cognitive Demands, Employee Well-Being, and Performance: The Moderating Role of Social Job Crafting

Abstract

Although studies have examined, separately, relations of managerial-driven versus employee-driven work design, employee well-being, and performance, few studies looked at how the two approaches interact. We employed a three-wave longitudinal design to investigate the extent to which work characteristics (e.g., supervisor support and cognitive demand) relate to employee well-being and performance, and the potential moderating role of social job crafting among banking employees in Ghana. Results show that cognitive demands were associated positively with subsequent work engagement for employees experiencing high supervisor support, but negatively with engagement for experiencing low supervisory support. Furthermore, although supervisor support and social job crafting did not positively influence performance, employee proficiency and adaptivity seemed to each benefit from a particular combination of cognitive demands, supervisor support, and social job crafting. We have discussed the implications for theory and practice.

Supervisor Support, Cognitive Demands, Employee Well-Being, and Performance: The Moderating Role of Social Job Crafting

Traditional approaches to job design and redesign, where managers reshape jobs for employees according to their skills and competences, have been used to direct interventions for improving individual and organizational outcomes (Parker, 2014). For example, the job demands-resources model (JDR; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) which seeks to explain the influence of work characteristics on employee well-being and performance capabilities. Job resources are those work characteristics that facilitate goal attainment, learning, and coping with job demands (Bakker, 2011; Bakker & Demerouti, 2007). Job demands are work characteristics that require attention and/or deplete energy (Demerouti et al., 2001). Studies show consistently that better outcomes are achieved when demands are reduced and resources are increased (Bakker & Demerouti, 2017).

However, in the present knowledge and service economy, individuals are encouraged to show responsibility and proactivity by redesigning their own jobs (Grant & Parker, 2009; Nielsen, Randall, Holten, & Rial-Gonzales, 2010). This behavior, known as job crafting, can be valuable for employee well-being and performance (Demerouti & Bakker, 2014; Grant & Parker, 2009; Parker & Ohly, 2008). Using the JDR framework, employees have been reported to engage in acts that change their job to adjust their resources and demands, which has been found to increase work engagement and job satisfaction, and decrease burnout (Tims, Bakker, & Derks, 2012; 2013). These forms of job crafting have also been linked to employee proactivity (Bindl, Unsworth, Gibson, & Stride, 2019).

While studies have utilized the JDR framework to examine the influence of work characteristics and job crafting on employee well-being and performance, existing evidence

reveals inconsistent relationship between work characteristics (including supervisor support and cognitive demands), employee well-being and behavior at work (Biggs, Brough & Barbour, 2014; Holland, Cooper, & Sheehan, 2016; Karasek, 1979; Nahrgang, Morgeson, & Hofmann, 2011; Sawang, 2012). However, the importance of job characteristics and the effectiveness of job crafting is something that may not be consistent across all cultures (Grant, Fried, Parker, & Frese, 2010). Furthermore, Hakanen, Seppala, and Peeters (2017) demonstrated that job crafting might be a useful boundary condition governing the effects of work characteristics on employee outcomes. Given the little focus on the interplay between managers' and employee' influences on work design, and the little attention to work design effects outside of western nations, we aim to examine this important issue among banking employees in Ghana.

Figure 1 illustrates the relationships and likely contributions our study aims to make to existing knowledge. Specifically, the present study furthers existing literature in three unique ways. First, we integrate two streams of literature (work characteristics and job crafting) to advance our understanding of the effect of work design on employee well-being and performance. Second, we contend that the social job resources employees generate through job crafting might be helpful in understanding work characteristics, well-being and performance relationships. Finally, we contribute uniquely to existing knowledge by examining how specific combination of cognitive demands, supervisor support, and social job crafting might influence employee proficiency, adaptivity, and proactivity.

Insert Figure 1 about here

Theory and Hypothesis Development

Supervisor Support, Well-Being and Performance

Organizations are more likely to succeed when employees experience positive well-being and exhibit organization-enhancing behaviors. The job demands-resources framework explains how job resources might contribute to improving positive well-being (e.g., work engagement), and performance; and decreasing negative well-being (e.g., burnout). Drawing on the job demands-resources model, Bakker and Demerouti (2008) argued that as a job resource, supervisor support is capable of influencing employee well-being either through its intrinsic function (fostering growth, learning, and development) or via the extrinsic route (facilitating the accomplishment of work goals) or both. More specifically, Demerouti and colleagues (2001) showed that while job resources improved employee work engagement, it is associated with decreased burnout. Therefore, supervisor support may help improve employee well-being (i.e., work engagement), performance, and prevent poor well-being (i.e., exhaustion).

As representatives of organizations, supervisors play an important role in creating work situations/environments that enhance employee well-being and behavior (Levinson, 1965; Rousseau, 1995). Supervisor support represents the perceived positive care employees receive from their immediate supervisor, in terms of creating a favorable immediate work environment, and providing care (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002). Supervisory behaviors such as praise and reward for good work done, positive response to honest mistakes, provision of fair salary and the design of meaningful and enrich jobs (Eisenberger et al., 1986) are likely to be generalized as organizational support and thus, motivate employees to demonstrate high levels of work engagement and innovative behavior.

Occupational health psychology researchers categorize well-being into two: positive and negative. While work engagement is positive, burnout is negative (Demerouti et al., 2001). Work engagement is a positive, fulfilling, and work-related state of mind comprising vigour, dedication, and absorption (Schaufeli, Bakker, & Salanova, 2006). Conversely, burnout is a syndrome characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment, which is common with service-oriented jobs (Maslach & Jackson, 1981). Engaged employees are full of energy, happily engrossed in their work, and fully concentrated on their work, but the converse is true of burnout employees (Hakanen, Seppala, & Peeters, 2017). Work engagement and burnout contribute differently to work outcomes. Work engagement is associated with both in-role and extra-role performance, and with supervisor evaluations of client satisfaction (Bakker & Bal, 2010; Halbesleben & Wheeler, 2008; Salanova, Agut, & Peiro, 2005). In contrast, burnout interferes with both job performance and employee health (Taris, 2006).

Because support is multidimensional in character, it does not uniformly influence outcomes (Brough & Pears, 2004). Therefore, examining support as a multidimensional construct contributes significantly to literature by revealing the nature, source, and type of support, and their effect on outcomes (Cooper, Dewe, & O'Driscoll, 2001, p. 147). Support could be emotional (i.e., show empathy, care and acceptance), informative (i.e., guide and give performance feedback to employees), and material support (i.e., work resources, training and development opportunities; Bhanthumnavian, 2003); and work culture support (Biggs et al., 2014). In the context of work, the immediate source of support comes from supervisors and colleagues (Biggs et al., 2014). In this study, we focus on supervisor support, as supervisors provide emotional, informative, and material support (Bhanthumnavian, 2003) to employees.

Bakker, Demerouti, and Verbeke (2004), suggest that, as an important work-related resource, supervisor support is associated with greater levels of work engagement.

Studies show that supervisor support relates positively to work engagement (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Hakanen et al., 2006; Holland, Cooper, & Sheehan, 2016; Jin & McDonald, 2017; Othman & Nasurdin, 2012). Some few longitudinal and cross-cultural (Biggs et al., 2014; Brough, Timms, Siu, Kalliath, O'Driscoll, & Sit, 2013) studies show that supervisor support relates to work engagement (Brough & Pears, 2004). Furthermore, the JD-R model suggests that job resources including supervisor are associated increased positive well-being and performance but associated with decreased negative well-being including exhaustion (Demerouti et al., 2001; Bakker & Demerouti, 2017). In line with the JD-R model and previous studies, we expect supervisor support to relate differently to work engagement and exhaustion. Thus, we hypothesize that:

H_1 Supervisor support relates positively to (a) work engagement and (b) negatively to exhaustion

Organizations depend on performance for survival. However, due to uncertainties and complexities characterizing modern organizations (Howard, 1995), simple approaches to operationalizing performance fail to capture the breadth of work-related behaviors that support organizational goals (Arvey & Murphy, 1998; Motowidlo & Van Scotter, 1994). Therefore, researchers have conceptualized and developed new performance constructs such as citizenship performance (Smith, Organ, & Near, 1983), contextual performance (Borman & Motowidlo, 1993), adaptive performance (Hesketh & Neal, 1999; Pulakos, Arad, Donovan, & Plamondon, 2000), and proactivity (Crant, 2000; Frese & Fay, 2001; Parker, Williams, & Turner, 2006) to reflect contemporary work situations; and to capture what might appear to be an appropriate measure of work roles.

Murphy and Jackson (1999) defines work roles as the "total set of performance responsibilities associated with one's employment" (p. 335). To function well in dynamic and interdependent settings, an employee should be proficient, adaptive, and proactive (Griffin, Neal, & Parker, 2007). Consequently, Griffin and colleagues (2007) conceptualized, developed, and validated a performance measure comprising task proficiency, adaptivity, and proactivity. Task proficiency measures the extent to which employees fulfil the expectations in their job description. Related constructs include "task performance" (Borman & Motowidlo, 1993) and "job role behavior" (Welbourne et al., 1998). Task adaptivity reflects the extent to which employees cope with, respond to, and/or support changes that affect their work roles. Task proactivity reflects the self-initiated and future-oriented efforts employees take to change their work situation, roles, or themselves. Similar concepts include "proactive behavior" (Crant, 2000; Parker et al., 2006), "taking charge" (Morrison & Phelps, 1999), "personal initiative" (Frese, Kring, Soose, & Zempel, 1996), and "innovator role behavior" Welbourne et al., 1996).

According to the job demands-resources model (Bakker & Demerouti, 2017; Demerouti et al., 2001), job resources are motivating, and therefore more likely to be associated with employee performance. Evidence suggests that such resources as role clarity, openness to change, and role breadth self-efficacy, are critical antecedents of work proficiency, adaptivity, and proactivity respectively (Griffin et al., 2007). Griffin et al. (2007) also found evidence to suggest that effects of resources on work behavior depended on their relevance, with team-level support associated with forms of proficiency, adaptivity, and proactivity directed towards the team, but not with equivalent behaviors directed towards the organization. This indicates that suitable work resources might enable employees demonstrate productive work capabilities in dynamic work contexts.

Supervisory support creates an environment that encourages, gives confidence to, and challenges employees to initiate positive changes (Eisenberger et al., 1986; Eisenberger et al., 2002). More supportive leaders are more likely to assist subordinates in developing a wide range of work capabilities, from simple proficient task completion through to proactive problem solving (e.g., Ohly, Sonnentag, & Pluntke, 2006; Shalley & Gilson, 2004). Thus, we hypothesize that:

H₂ Supervisor support relates positively to (a) work proficiency, (b) work adaptivity, and (c) work proactivity

Cognitive Demands, Employee Well-Being, and Performance

Job demands are an integral part of the work situation. Within the job demands-resources framework, job demands are viewed as those job characteristics that tend to inhibit growth, learning and development (Bakker & Demerouti, 2017; Demerouti et al., 2001), portraying job demands as inhibitors of individual behavior and well-being. However, meta-analytic evidence shows that not all demands pose a threat to employee well-being and performance (Crawford, LePine, & Rich, 2010). Employee outcomes are better predicted when differentiating job demands into hindrances and challenges (Cavanaugh et al., 2000; Crawford et al., 2010). Whereas hindrance demands (those that obstruct goal attainment, such as administrative hassles and role conflict) pose a threat to employee well-being and performance, challenge demands (which facilitate attainment of bigger goals and greater achievements) are stressful, but have the potential to facilitate growth and success (Cavanaugh et al., 2000; Breevaart & Bakker, 2017; Tuckey et al., 2015). For example, research shows that work engagement is related positively to challenge demands, but negatively to hindrance demands (Crawford et al., 2010).

In the present study, we assess the effect of cognitive demands (i.e., a type of challenge

demand) on employee well-being and performance overtime in the Ghanaian context. We find

cognitive demands useful for our research setting, as banking work is characterized by the

presence of complex tasks and a high need for vigilance and attention to detail, all which involve

cognitive demands to the employee or organization (i.e., bank). Cognitive demands require

employees to be highly concentrated on their work (Bakker, Demerouti, Taris, Schaufeli, &

Schreurs, 2003). Cognitive demands have the potential to enhance employee wellbeing and

capabilities (LePine, Podsakoff, & LePine, 2005).

A recent daily diary shows that daily challenge demands (including cognitive demands)

relate positively to daily work engagement (Breevaart & Bakker ,2017; Tadic, Bakker, &

Oerlemans, 2013). Furthermore, meta-analytic evidence (Crawford et al., 2010) supports this

positive association. We therefore hypothesize that:

H_2 Cognitive demands relate positively to (a) work engagement and (b) negatively to exhaustion

Challenging work contexts may provoke new thinking regarding how employees should

perform their tasks. Today, banking organizations in Ghana have embraced technology and other

innovative ways to provide banking services (Obeng & Boachie, 2018). To succeed in the

current dynamic banking environment, merely completing scheduled tasks and work activities

may not be enough (Griffin et al., 2007), as adapting to and coping with work demands, and

proactively suggesting change and future-oriented ideas are crucial.

Research shows that challenge demands are associated positively with employee

motivation and performance (LePine et al., 2005); and relate to goal accomplishment and

problem solving (Frese & Zapf, 1994). Further, cognitively demanding jobs may trigger the

adoption of a problem-focused coping approach such as increased efforts, attention, new

behaviors, knowledge, and thinking (Cavanaugh et al., 2000; LePine et al., 2004; Holman,

Totterdell, Axtell et al., 2011), and in turn, enhance performance capabilities. This may be why increases in job demands have been associated with increases in proactive behavior (e.g., Fay & Sonnentag, 2002; Li, Fay, Frese, Harms, & Gao, 2014; Ohly & Fritz, 2010). Therefore, we hypothesize that:

H₃ Cognitive demands relates positively to (a) work proficiency, (b) adaptivity, and (c) proactivity

Social Job Crafting, Employee Well-Being, and Performance

Job crafting is an important performance driver in the modern workplace because it involves the utilization of self-initiated strategies to change job characteristics with the view to enhancing performance (Wrzesniewski & Dutton, 2001). Wrzesniewski and Dutton (2001) introduced the concept of job crafting to mean "the proactive actions employees take to shape, mold, and redefine their jobs" (p. 180). While acknowledging the definition of job crafting by Wrzesniewski and Dutton (2001), in the present study, we adopt a definition that is consistent with the job demands-resources model for ease of measurement and alignment of theory. Using such an approach, job crafting is conceptualized as the proactive changes (i.e., increasing or decreasing) an employee make to his/her job demands and resources (Tims & Bakker, 2010).

Job crafting is valuable for organizations because it is associated with positive outcomes such as job satisfaction, work engagement, performance, and organizational commitment (Bakker et al., 2012; Geldenhuys, taba, & Venter, 2014; Lyons, 2008; Peral & Geldenhuys, 2016; Petrou et al., 2012; Tims et al., 2013a). However, although some research has examined how job crafting might influence burnout (Hakanen et al., 2017), there is less known about how job crafting influences other work behaviors. In this study, we focus on job crafting to increase social job resources, which involves the proactive seeking of such resources as supervisory

assistance, coaching or performance feedback (Tims et al., 2012).

As managers/supervisors now expect employees to both adapt and initiate changes in their work tasks (Frese & Fay, 2001; Griffin et al., 2007; Morrison & Phelps, 1999; Searle & Parker, 2013), feedback seeking has become a crucial approach to personal growth and performance improvement. When employees actively seek feedback, rather than waiting passively for such feedback, the timing and specificity of that feedback it might help not only with task performance but also better knowledge of performance expectations, improved relationships with supervisors and colleagues (Ashford, Blatt, & VandeWalle, 2003; Ashford & Cummings, 1983, 1985). Evidence shows that the crafting of social resources is likely to increase employee work engagement (Bakker, 2011; Bakker et al., 2016; Tims et al., 2012). Drawing on theoretical and empirical evidence, we hypothesized that:

H_4 Increasing social job resources relates positively to (a) work engagement and (b) negatively to exhaustion

H_5 Increasing social job resources relates positively to (a) work proficiency, (b) adaptivity, and (c) proactivity

Social Job Crafting as a Moderator

As stated earlier, work characteristics relate inconsistently to employee well-being and behavior (Biggs et al., 2014; Holland et al., 2016; Karasek, 1979; Nahrgang et al., 2011), suggesting the possibility of underlying boundary conditions. It has long been suggested that resources play a key role in determining the effects of job demands. According to the job demands-resources model, job resources are more salient when job demands are high (Bakker & Demerouti, 2017; Demerouti et al., 2001). Empirical evidence supports this interactive or buffering hypothesis, where job resources appear to reduce the negative impact of job demands

on well-being and employee behavior. For example, job resources related more positively to

work engagement when job demands were high (Bakker, Demerouti, & Xanthopoulou, 2007;

Hakanen, Bakker, & Demerouti, 2005). Job resources also buffered the relationship between job

demands and burnout (Xanthopoulou, Bakker, Dollard, Demerouti, Schaufeli, Taris, & Schreurs,

2007). Such results are not restricted to fixed organizational resources. As a source of job

resource, job crafting also has the capacity to influence the effects of job demands (cf. Bakker,

Hakanen, Demerouti, & Xanthopoulou, 2007; Xanthopoulou et al., 2007). For example, Hakanen

and colleagues (2017) found that job crafting buffered the effects of job demands on burnout.

The JD-R model characterize job crafting as the crafting of structural and social job

resources and challenging and hindering job demands (Tims et al., 2012). In this study, we focus

on social job crafting as a moderating variable in the relationship between supervisor support,

cognitive demands and outcomes. Through social job crafting, employees create supportive work

relations with their supervisors and colleagues, enabling them to seek performance feedback

from them. This type of job crafting may be easy to perform in the context of banking, as

supervisors may be willing to encourage feedback seeking behavior, and not behaviors such as

autonomy seeking, and those geared towards adding extra tasks or reducing hindrances at work

Therefore, we studied social job crafting, contending that it should boost the effect job resources

would have on job demands-outcome relationships. By crafting their social roles, employees

would clarify performance expectations from their supervisors, improve relations with

supervisors and colleagues, leading to a better understanding and knowledge of how the system

works (Ashford & Cummings, 1985). Such proactive feedback seeking behavior is likely to lead

to the utilization of available job resources (including supervisor support), and therefore provide

more resources for performance in cognitively demanding work environment. Tuckey, Bakker,

and Dollard (2012) showed in a study of brigades from the South Australian Country Fire Service that empowering leadership behavior facilitated greater experience of work engagement in context characterized by high levels of cognitive demands and cognitive resources. Although all our variables were measured at the individual level, we draw on Tuckey and colleagues (2012) to test a three-way interaction involving cognitive demands, supervisor support, and social job crafting. Based on this evidence, we hypothesize that:

H6: At higher levels of supervisor support, the relationship between cognitive demands and work engagement is strengthened (a), and the relationship between cognitive demands and exhaustion is weakened (b).

H7: At higher levels of cognitive demands, supervisor support and social job crafting combine to yield greater work engagement (a), and the relationship between cognitive demands and exhaustion is weakened (b)

H7: At higher levels of social job crafting, the relationship between cognitive demands and work engagement is strengthened (c), and the relationship between cognitive demands and exhaustion is weakened (d).

Furthermore, this interaction between demands and resources may exist for outcomes other than wellbeing. If resources influence the extent to which demands influence employee wellbeing, they are likely to have similar influences on behavior. A study of teachers showed that the benefits of work complexity for proactive work behavior were greater for those teachers who had more resources (Ghitulescu, 2012). The same study showed that adaptivity was more strongly influenced by team interdependence for those teachers who had more ties that are social. We therefore also hypothesized that:

H$_{8a}$ Job resources are more likely to combine to facilitate performance outcomes (e.g., work

proficiency, adaptivity, and proactivity).

H_{8b}: At higher levels of cognitive demands, job resources combine to facilitate performance

outcomes (e.g., work proficiency, adaptivity, and proactivity)

Method

Participant and Procedure

Our study focused on the service sector, specifically, the banking sector of Ghana.

Employee innovation is relevant to the service sector (e.g., banking) the service sector rather

than the manufacturing sector is now the driver of growth in both developed and emerging

economies. As Ghana is an emerging economy, the study of employee innovation is vital to

sustaining and improving the gains recorded in the service sector.

We utilised a three months-time lag because of the rarity of longitudinal studies in

the Ghanaian work context and because some previous studies in wealthy nations used three or

two-months-time lag (Vogt, Hakanen, Brauchli, Jenny, & Bauer, 2016; Wang, Demerouti, Le

Blanc, & Lu, 2018) and found some effects. We measured variables (including supervisor

support, cognitive demands, well-being, increasing social job resources, and work role

performance) across all the three measurement occasions. A three-month interval separated each

measurement occasion. In wave 1, the survey was sent to 500 employees at the various branches

of the banks, and 415 were completed and returned, producing a response rate of 83%. In wave

2, we administered surveys to these 415 respondents, and retrieved 385, a response rate of 93%.

Finally, in wave 3, out of 385 surveys sent out, a response rate of 88% was obtained ($N = 340$).

Demographically, 51% of the respondents were male, 86% were in the non-managerial bracket,

and the average organizational tenure was 6.5 years. The mean age of respondents was 31.9

years, and 51% had a bachelor's degree as their highest educational qualification.

Measures

Unless otherwise indicated, all variables were measured using a 7-point Likert rating

format (1 = *"Never"* to 7 *"Always"*) across the three measurement periods.

Supervisor Support. We assessed supervisor support with 5-items developed by Bakker,

Demerouti, and Verbeke (2004). Example item was, "my supervisor informs me whether he/she

is satisfied with my work". Responses ranged from 1 (Never) to 5 (Very often). In the present

study, the average reliability coefficient for the three waves was (α = .80).

Cognitive Demands. We assessed cognitive demands with the 4-item scale developed by

Bakker et al. (2004). Sample item was, "Does your work require a lot of concentration?" The

responses ranged from 1 (never) to 5 (very often). The average reliability coefficient for the

cognitive demands scale for the three-waves was (α = .77).

Social Job Crafting. We measured increasing social job resources with the 5-items

(Tims et al., 2012). The scale, which measures an aspect of job crafting, assesses the frequency

with which employees generate resources by themselves at the workplace. Example item was, "I

ask colleagues for advice". The average reliability coefficient for the three-waves was (α = .85).

Work Engagement. We assessed work engagement with the 9-item Utrecht Work

Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). This scale measures the three

components of engagement. Example items are, "I feel bursting with energy" (vigor), "I am

inspired by my job" (dedication), and "I am immersed in my work" (absorption). Responses to

the items ranged from 0 (never) to 6 (always). Consistent with previous studies, we combined the

subscales into an aggregate measure of work engagement (Halbesleben, Harvey, & Bolino,

2009). The average reliability coefficient across the three-waves was (α = .88).

Exhaustion. We measured exhaustion, a component of burnout with 4-items (Schaufeli, Leiter, Maslach, & Jackson, 1996). Example item was, "There are days I feel tired before I arrive at work". Answers to the questions ranged from 1 = *"strongly disagree" to* 5 = *"strongly agree"*. For the three measurement occasions, the average reliability coefficient for exhaustion was ($\alpha = .71$).

Work Role Performance. We assessed three different forms of work performance: proficiency (3-items), adaptivity (3-items), and proactivity (3-items) with the 9-item scale developed and validated by Griffins and colleagues (2007). Sample item includes, "Carried out the core parts of your job well", "Adapted well to changes in my core tasks", and "Initiated better ways of doing your core tasks" for proficiency, adaptivity, and proactivity respectively. Responses ranged from 1 = *"very little"* to *"a great deal"*. Average reliability coefficient (α) across the three measurement occasions was as follows: .82, .74, and .79 for proficiency, adaptivity, and proactivity respectively.

<div align="center">

Results

</div>

Preliminary Analysis

Prior to testing our hypotheses, we checked the reliability and factor loadings of the main variables (i.e., supervisor support, cognitive demands, role conflict, increasing social job resources, work engagement, burnout, and performance). All the variables had reliability coefficients, as average Cronbach alpha for each variable across the three measurement occasions was above 0.70. Table 1 shows the descriptive statistics and bivariate correlation between the main variables for the three-waves.

Insert Table 1 about here

……………………………………………

Testing the Hypothesized Model

We employed Mplus version 7.8 (Muthen & Muthen, 1998-2015) to facilitate the

analysis. To control for the previous effects of a variable on itself, in our path analytic model, we

adopted the autogressive approach, where each variable was regress on itself across the three

measurement periods such that T_1 -T_2 and T_2 - T_3. More specifically, we predicted all latent

variables based on their respective baseline values. Two models were tested. The first model

(model 1) involved direct and the second model (model 2) included interactive effects. Fit

statistics for model 1 did not fit the data well: χ^2 = 2751.20, df = 351, p < .001, CFI =. 71, TLI =

.55, $RMSEA$ = .13, $SRMR$ = .11 However, the full hypothesized model which included

interactive terms in model 2 yielded a fitting model: χ^2 = 303.27, df = 219, p < .001, CFI = .99,

TLI = .98, $RMSEA$ = .03, $SRMR$ = .03.

Model testing with a three-wave longitudinal design required that models include

autoregressive effects (where the predictors included for each variable include the score on that

variable from the previous time point). As indicated from the correlations, there was an

unusually high level of consistency in survey responses from T1 to T2. This resulted in very high

autoregressive effects (standardized beta coefficients ranged from .96 to .99, with the exception

of supervisor support at β = .89), and similarly high R^2 estimates. No data entry errors could be

identified. As little variance in T2 variables was left unexplained after controlling for

autoregression, observed effects at T1-T2 should be interpreted with caution.

As a preliminary test of hypotheses, we conducted a path analysis in which we modelled effects of demands and resources on subsequent wellbeing and performance, as well as the reciprocal effects of wellbeing and performance on subsequent demands and resources, controlling for participant sex, age, and tenure (Model 1). An examination of this model's results showed no significant main effects of these variables. Results did suggest a non-significant trend whereby crafting one's role to increase social job resources at T2 seemed to be associated with higher levels of both adaptive behavior ($\beta = .07$, $p = .070$) and proactive behavior ($\beta = .06$, $p = .057$) at T3.

For a more complete test of hypotheses, we extended the model by including interactions between demand and resource variables (Model 2). For the T2-T3 relationships, results again showed no significant main effects. In terms of T1-T2 effects, results suggested more cognitive demands was associated with less engagement ($\beta = -.01$, $p = .041$), that males reported more burnout ($\beta = -.02$, $p = .033$) and more proactive behavior ($\beta = -.02$, $p = .012$); and that both younger workers and workers with more years working in their organization were more engaged in their work ($\beta = -.04$, $p = .030$ and $\beta = .03$, $p = .032$ respectively). These results should be interpreted cautiously given the small effect sizes and strong autoregressive effects.

We did, however, observe significant interactions, which we plotted using model coefficients consistent with Dawson and Richter (2006). In terms of T1-T2 effects, results suggested possible interactions between cognitive demands and either supervisor support or social job crafting for both engagement and exhaustion (all $\beta = -.01$, with p values between .015 and .090). Larger and more meaningful interaction effects were also seen for T2-T3 relationships, as shown in Table 2. The first of these revealed that effects of cognitive demands on subsequent work engagement depended on levels of supervisor support ($\beta = .08$, $p = .029$). As

shown in Figure 2, higher levels of cognitive demands were associated with less engagement for those experiencing low supervisor support, but the reverse was true for those experiencing high supervisor support.

Results also revealed some significant three-way interactions. As shown in Figure 3, the presence of high supervisory support combined with a high level of social job crafting appear to synergize to influence subsequent work proficiency, with greater proficiency seen at higher levels of cognitive demands ($\beta = .08$, $p = .031$). Notably, however, the combination of these resources appeared to disrupt subsequent work proficiency at low levels of cognitive demands. Additional testing revealed that high supervisor support and high social job crafting was the only combination of resource levels that yielded a significant slope of association between demands and proficiency ($t = 2.76$, $p = .006$), one that was different to the slopes of the other three combinations ($t > 2.04$, $p < .05$).

In addition, as shown in Figure 4, it was the presence of low supervisory support combined with a high level of social job crafting to influence subsequent work proactivity, with greater proactivity seen where the cognitive demands were low ($\beta = .08$, $p = .038$). Although job crafting without close attention from a supervisor appeared to enhance proactivity at low levels of cognitive demands, engaging in social job crafting without supervisor support appeared to disrupt subsequent proactivity where demands were high. Additional testing revealed that low supervisor support with high social job crafting was the only resource combination yielding a significant slope of association between demands and proactivity ($t = 2.49$, $p = .013$), although this was only significantly different from the slope for high supervisor support with high social job crafting ($t = 2.08$, $p = .038$). A similar result for adaptivity fell short of significance.

Insert Figures 2, 3, & 4 about here

…………………………………

Discussion

While most studies in the job design field focus on the separate effect of managerial-driven and employee-driven job re/design on well-being and performance, our aim was to examine the combine effect of these two strategies on well-being (i.e., work engagement and burnout) and performance (i.e., proficiency, adaptivity, and proactivity) in the Ghanaian banking environment. Focusing on the synergy between the two approaches is important because it would help us understand when the employee-driven approach might be helpful. We conducted a three-wave longitudinal study, with three-months separating each measurement occasion to the effect of supervisor support, cognitive demands, and social job crafting on work engagement, burnout, and performance. We found that the effect of cognitive demands on work engagement depended on levels of supervisory support; and employee proficiency and adaptivity seems to benefit from a particular combination of cognitive demands, supervisor support, and social job crafting.

Theoretical Contribution

All three T2-T3 interaction results reported in the present study suggest that when work is cognitively demanding, it is helpful to have more supervisory support (Bakker & Demerouti, 2017; cf. Bakker et al., 2007; Hakanen et al., 2005; Xanthopoulou et al., 2007). A key finding was that the benefits attributed to challenge demands were only seen for cognitive demands at high levels of supervisory support. Without such support, higher levels of cognitive demands were associated with lower levels of subsequent engagement. This suggests that cognitive

demands have the potential to be beneficial or harmful depending on the availability of resources. Supportive supervisors may be able to assist workers dealing with complex work demands by providing them with guidance on effective methods to use, by clarifying priorities that may seem to conflict, or simply by recognizing the need to focus on complex tasks and therefore sheltering staff working on these tasks from more routine assignments.

Results for employee behaviors highlighted additional considerations. Firstly, they revealed circumstances under which supervisor support was associated with lower (proficient) performance. It may be that when work is relatively low in cognitive demands, a closely involved supervisor may seem to be micro-managing staff and taking away their independence, reducing their confidence or motivation to be proficient (cf. Feldman & Brett, 1983; King, 2006; Riordan, 2010).

Secondly, social job crafting appears to be beneficial only under very specific circumstances. When people have engaged in social job crafting, then if they also experience high supervisory support and face high cognitive demands, this appears to benefit completion of basic task requirements (cf. Tuckey et al., 2012). This may indicate that the complexities of such demanding work require the highest level of resources for one to enhance one's proficiency – simply extending one's personal network, or asking advice from one's supervisor, may not be enough to handle complex work effectively. Indeed, relying on one's supervisor only may make one feel dependent, whereas simply enhancing one's interpersonal connections at work could add to the sense of ambiguity about priorities (Brook, Garcia, & Fleming, 2008; Don, Girme, & Hammond, 2019; Murray, Holmes, & Griffin, 2000). And when cognitive demands are low, it may be that proficiency can be achieved without either a helpful supervisor or a growing social network.

When it comes to proactive performance, social job crafting appears to be useful, reflecting the value of discussing different needs and viewpoints within the organization for identifying, or developing support for, proactive solutions to ongoing challenges (Caesens, Marique, Hanin, & Stinglhamber, 2016; Nelson & Quick, 1991). Yet that usefulness is again only apparent at low levels of both cognitive demands and supervisory support. This may indicate that in order to break away from the status quo and adopt proactive methods and solutions, one cannot be overly influenced by a supervisor, especially given that supervisors have the potential to have quite negative influences on proactivity (Crant, 1995; Fuller, Jr., Hester, & Cox, 2010; Wang & Kim, 2013). Moreover, the time and effort required to consider, plan and implement proactive approaches makes proactivity difficult at the best of times, and may be prohibitively so when demands are high.

Unexpectedly, supervisor support and social job crafting did not contribute to employee well-being and performance in the banking field. This evidence contradicts previous findings (Bakker & Demerouti, 2017; Brough et al., 2013; Griffin et al., 2007; Holland, Cooper, & Sheehan, 2017). Griffin and colleagues (2007), found no main effect for team support on individual level performance outcomes. This indicates that team or supervisor support may have bigger effects on behavior directed towards higher-level goals of the team or the organization. Although the present study was at the task/job level, we associate these null effects and possible reasons to previous studies (Griffin et al., 2007). Notwithstanding, our results show that these resources could yield some benefits under specific conditions.

Also contrary to our predictions, cognitive job demands did not have direct positive influences on employee engagement or performance capability. Although the challenge-hindrance model suggests that challenges, while they can contribute to burnout, should enhance

engagement (Crawford et al., 2010), much of the research supporting that pattern utilizes cross-sectional designs. A two-stage longitudinal study by Liu and Li (2018) found job complexity (construct very similar to cognitive demands) to be unrelated to work motivation, although a positive association was observed under certain conditions (task efficacy beliefs). This is consistent with our observation: that any benefits of cognitive demands are conditional on the availability of certain resources.

Practical Implications

The findings in this study have important implication for organizations interested in enhancing employee performance and positive well-being. First, it may be worthwhile for organizations to encourage the coexistence of managerial and employee-driven job re/design approaches, as the synergy between supervisor support and social job crafting was found to enhance work proficiency under conditions of high demands. Furthermore, challenge demands could undermine employee work engagement in the presence of inadequate resources. Therefore, during challenging periods, managers should make resources, as such measures would help keep employees engage.

Limitations and Suggestions for Future Research

Although our study reports some important findings, it is not without some limitations. Firstly, the study was conducted in a specific and under-studied working population: banking employees in the African country of Ghana. This may go some way to explaining some of the differences between our findings and those of previous studies. We focused on banking employees in Ghana. This limits the generalizability of our findings in the Ghanaian context. Replicating our study across sectors, a range of jobs, and organizations would facilitate the possibility of generalizability, and foster comparison across sectors, jobs, and organizations.

Work characteristics and proactivity are part of organizational life.

The high degree of association between T1 and T2 scores on study variables obscured other effects over this period. It is not clear why responses were so similar in this period, although contextual factors (such as the rarity of such research in Ghanaian workplaces) may be involved. Another reason for high stability across time points may be the three-month time lag separating each measurement occasion. While relatively common in longitudinal research (e.g., Liu & Lee, 2018), researchers are beginning to question whether such time lags are sufficiently short to capture changes in psychological phenomena (e.g., Dormann & Griffin, 2015). Nevertheless, we found some significant effects that were broadly consistent with our predictions, an indication that the observed relationships are relevant (Vogt, Hakanen, Brauchli, Jenny, & Bauer, 2016).

The study relied upon self-report measures, so there is a risk that results may contain common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The impact of common method bias is reduced, although not eliminated, in longitudinal designs (Doty & Glick, 1998). However, our key findings were interactive rather than main effects. The nature of interaction effects is such that they are not inflated by, and therefore cannot be attributed to, common method bias (Evans, 1985; Siemsen, Roth, & Oliveira, 2009). Nevertheless, it would be useful to replicate these effects in studies that include more independent measures of situational and behavioral phenomena. As performance was self-rated, future studies should consider objective measures including supervisor ratings.

The crafting of social job resources appeared to result in greater proactivity under conditions of low supervisory support, as well as low demands. This suggests that proactivity may benefit not simply from a greater quantity of resources in general, but a particular set of

circumstances that facilitate independence. Given these findings, it is prudent that future research investigates the most effective combination of social resources to support different kinds of employee behavior.

Conclusion

Our study makes unique contribution to the job design literature, demonstrating that managerial and employee-driven job re/design strategies could interact to predict employee well-being and performance. Managerial and employee-driven approaches did not yield main effects but were beneficial under specific circumstances. Clearly, more research is needed in non-Western countries, particularly, Ghana to pilot interventions involving managerial or employee-driven redesign initiatives.

References

Ashford, S. J., Blatt, R., & VandeWalle, D. V. (2003). Reflections on the looking glass: A

review of research on feedback-seeking behavior in organizations. *Journal of*

Management, 29, 773-799. http://dx.doi.org/10.1016/S0149-2063 (03)00079-5

Ashford, S.J., & Cummings, L.L. (1983). Feedback as an individual resource. Personal strategies

of creating information. *Organizational Behavior and Human Performance, 32,* 370-398.

Ashford, S.J., & Cummings, L.L. (1985). Proactive feedback seeking: The instrumental use of

the information environment. *Journal of Occupational Psychology, 58,* 67-79.

Arvey, R. D., & Murphy, K. R. (1998). Performance evaluation in work settings. *Annual review*

of psychology, 49(1), 141-168.

Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in*

Psychological Science, 20, 265-269. http://dx.doi.org/10.1177/0963721411414534

Bakker, A. B., & Demerouti, E. (2017). Job demands-resources model: Taking stock and looking

forward. *Journal of Occupational Health Psychology, 22*(3), 273-285.

http://dx.doi.org/10.1037/ocp0000056

Bakker, A. B., Demerouti, E., Taris, T. W., Schaufeli, W. B., & Schreurs, P.J.G. (2003). A

multigroup analysis of the job demands-resources model in four home care organizations.

International Journal of Stress Management, 10, 16-38. Doi: 10.1037/1072-5245.10.1.16

Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost

work engagement, particularly when job demands are high. *Journal of Educational*

Psychology, 99, 274-284.

Bakker, A. B., Rodrıguez-Munoz, A., & Sanz-Vergel, A. I. (2016). Modelling job crafting

    behaviors: Implications for work engagement. *Human Relations, 69,* 169-189. Doi:

    10.1177/0018726715581690

Biggs, A., Brough, P., & Barbour, J.P. (2014). Enhancing work-related attitudes and work

    engagement: A quasi-experimental study of the impact of a leadership development

    intervention. *International Journal of Stress Management, 21*(1), 43-68. Doi:

    10.1037/a0034508

Bindl, U.K., Unsworth, K.L., Gibson, C.B., & Stride, C.B. (2019). Job crafting revisited.

    Implications of an extended framework for active change at work. *Journal of Applied*

    Psychology, 104(5), 605-628. http://dx.doi.org/10.1037/ap10000362

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements

    of contextual performance. In N. Schmitt, W. C. Borman, and associates (Eds.), *Personnel*

    selection in organizations: 71–98. San Francisco: Jossey-Bass.

Breevaart, K., & Bakker, A.B. (2017). Daily job demands and employee work engagement: The

    role of daily transformational leadership behavior. *Journal of Occupational Health*

    Psychology, 1-41. Doi: 10.1037/ocp0000082

Brook, A.T., Garcia, J., & Fleming, M. (2008). The effects of multiple identities on

    psychological well-being. *Personality and Social Psychology Bulletin, 34*(12), 1588-1600

    DOI: 10.1177/0146167208324629

Brough, P., & Pears, J. (2004). Evaluating the influence of the type of social support on job

    satisfaction and work related psychological well-being. *International Journal of*

    Organizational Behavior, 8, 472-485.

Brough, P., Timms, C., Siu, O.I., Kalliath, T., O'Driscoll, M.P., Sit, C.H.P. (2013). Validation of

the job demands-resources model in cross-national samples: Cross-sectional and

longitudinal predictions of psychological strain and work engagement. *Human Relations,*

66(10), 1311-1335. Doi: 10.1177/0018726712472915

Caesens, G., Marique, G., Hanin, D., & Stinglhamber, F. (2016). The relationship between

perceived organizational support and proactive behavior directed towards the organization.

European Journal of Work and Organizational Psychology, 25(3), 398-411, DOI:

10.1080/1359432X.2015.1092960

Cavanaugh, M.A., Boswell, W.R., Roehling, M.V., & Boudreau, J.W. (2000). An empirical

examination of self-reported work stress among U.S. managers. *Journal of Applied*

Psychology, 85, 65-74.

Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management, 26*, 435–462.

Crawford, E. R., LePine, J. A., & Rich, B. L. (2010). Linking job demands and resources to

employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal*

of Applied Psychology, 95, 834–848. Doi: 10.1037/a0019364

Dawson, J.F., & Richter, A.W. (2006). Probing three-way interaction in moderated multiple

regression. Development and application of a slope difference test. *Journal of Applied*

Psychology, 91, 917-926.

Demerouti, E., Bakker, A.B., Nachreiner, F., & Schaufeli, W.B. (2001). The job demands-

resources model of burnout. *Journal of Applied Psychology, 86,* 499–512.

Demerouti, E., & Bakker, A.B. (2014). Job crafting. In M.C.W. Peeters, J.de Jonge, & T.W.

Taris (Eds.), *An Introduction to Contemporary Work Psychology.* London, UK: Wiley.

Don, B.P., Girme, Y.U., & Hammond, M.D. (2019). Low self-esteem predicts indirect support

seeking and its relationship consequences in intimate relationships. *Personality and Social

Psychology Bulletin 2019, 45*(7) 1028–1041. DOI: 10.1177/0146167218802837

Dormann, C., & Griffin, M. A. (2015). Optimal time lags in panel studies. *Psychological

Methods, 20*(4), 489-505.http://dx.doi.org/10.1037/met0000041

Doty, D.H., & Glick, W.H. (1998). Common methods bias: Does common methods variance

really bias results. *Organizational Research Methods, 1*(4), 378-406.

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational

support. *Journal of Applied Psychology, 71,* 500-507. Doi: 10. 1037/0021-9010.71.3.500

Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I.L., & Rhoades, L. (2002).

Perceived supervisor support: Contributions to perceived organizational support and

employee retention. *Journal of Applied Psychology, 87,* 565-573. Doi: 10. 1037/0021-

9010.87.3.565

Evans, M.G. (1985). A Monte Carlo study of the effects of correlated method variance in

moderated multiple regression analysis. *Organizational Behavior and Human Decision

Processes, 36*(3), 305-323. http://doi.org/10.1016/0749-5978 (85)90002-0

Feldman, D.C., & Brett, J. M. (1983). Coping with new jobs: A comparative study of new hires

and job changers. *Academy of Management Journal, 26*, 258-272.

Frese, M., & Zapf, D. (1994). Action as the core of work psychology: A German approach. In

H.C. Triandis, M.D. Dunnette, & L.M. Hough (Eds.), *Handbook of Industrial and

Organizational Psychology* (Vol. 4, pp. 271-340). Palo Alto, CA: Consulting Psychologists

Press.

Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the 21st century. *Research in Organizational Behavior, 23,* 133–187. San Diego, CA: JAI.

Frese, M., Kring, W., Soose, A., & Zempel, J. (1996). Personal initiative at work: Differences between East and West Germany. *Academy of Management Journal, 39*, 37-63.

Geldenhuys, M., taba, K., & Venter, C.M. (2014). Meaningful work, work engagement, and organizational commitment. *South African Journal of Industrial Psychology, 40*(1), 1-10. http:// dx.doi.org/10.4102/sajip.v40i1.1098

Grant, A. M., Fried, Y., Parker, S. K., & Frese, M. (2010). Putting job design in context: Introduction to the special issue. *Journal of Organizational Behavior*, *31*(2-3), 145-157. Doi: 10.1002/job.679

Grant, A.M., & Parker, S.K. (2009). Redesigning work design theories: The rise of relational and proactive perspectives. In A.P. Brief & J.P. Walsh (Eds.), *Academy of Management Annals,* vol. 3: 317-375. Essex, UK: Routledge.

Griffin, M.A., Neal, A., & Parker, S.K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. *Academy of Management Journal, 50*, 327–347.

Ghitulescu, B. E. (2013). Making change happen: The impact of work context on adaptive and proactive behaviors. *The Journal of Applied Behavioral Science*, *49*(2), 206-245.

Hakanen, J.J., Bakker, A.B., & Demerouti, E. (2005). How dentist cope with their job demands and stay engaged: the moderating role of job resources. *European Journal of Oral Science, 113,* 479-487.

Hakanen, J., Bakker, A.B., & Schaufeli, W.B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology, 43,* 495-513. Doi:10.1016/j.jsp.2005.11.001

Hakanen, J.J., Seppala, P., & Peeters, M.C.W. (2017). High job demands, still engaged and not burned out? The role of job crafting. *International Journal of Behavioral Medicine.* Doi: 10.1007/s12529-017-9638-3

Hesketh, B., & Neal, A. (1999). Technology and performance. In D. R. Ilgen & E. D. Pulakos (Eds.), *The changing Nature of Performance: Implications For Staffing, Motivation, and Development,* pp. 21–55. San Francisco: Jossey-Bass.

Howard, A. (1995). *The changing nature of work.* San Francisco: Jossey-Bass.

Holland, P., Cooper, B., & Sheehan, C. (2016). Employee voice, supervisor support, and engagement: The mediating role of trust. *Human Resource Management, 56*(6), 915-929. https://doi.org/10.1002/hrm.21809

Holman, D., Totterdell, P., Axtell, C., Stride, C., Port, R., Svensson, R., & Zibarras, L. (2011). Job design and the employee innovation process: The mediating role of learning strategies. *Journal of Business Psychology*. doi:10.1007/s10869-011-9242-5

Inoue, A., Kawakami, N., Tsutsumi, A., Shimazu, A., Miyaki, K., Takahashi, M., Kurioka, S., Eguchi, H., Tsuchiya, M., Enta, K., Kosugi, Y., Sakata, T., & Totsuzaki, T. (2014). Association of job demands with work engagement of Japanese employees: comparison of challenges and hindrances (J-HOPE). PLoS ONE, 9(3), e91583. doi: 10.1371/journal.pone.0091583

Jin, M.H., & McDonald, B. (2017). Understanding employee engagement in the public sector: The role of immediate supervisor, perceived organizational support and learning opportunities. *American Review of Public Administration, 47*(8), 881-897. Doi: 10.1177/0275074016643817

King, S. (2006). It is OK to Micromanage Sometimes. http://www.2-speed.com/2006/12/its-ok-
    to-micromanage-sometimes.

LePine, J.A., LePine, M.A., & Jackson, C. (2004). Challenge and hindrance stress: Relationship
    with exhaustion, motivation to learn, and learning performance. *Journal of Applied
    Psychology, 89,* 883-891.

LePine, J. A., Podsakoff, N. P., & LePine, M. A. (2005). A meta-analytic test of the challenge
    stressor–hindrance stressor framework: An explanation for inconsistent relationships
    among stressors and performance. *Academy of Management Journal, 48,* 764–775. Doi:
    10.5465/AMJ.2005.18803921

Li, W. D., Fay, D., Frese, M., Harms, P. D., & Gao, X. Y. (2014). Reciprocal relationship
    between proactive personality and work characteristics: A latent change score approach.
    Journal of Applied Psychology, 99(5), 948-965. Doi: 10.1037/a0036169

Liu, C., & Li, H. (2018). Stressors and stressor appraisal: the moderating effect of task efficacy.
    Journal of Business Psychology, 33, 141-154. Doi: 10.1007/s10869-016-9483-4

Lyons, P. (2008). The crafting of jobs and individual differences. *Journal of Business
    Psychology, 23*(1–2), 25–36.

Maslach, C., & Jackson, S.E. (1981). The measurement of experienced burnout. *Journal of
    Occupational Behavior, 2,* 99-113.

Morrison EW, Phelps C. (1999). Taking charge: Extra-role efforts to initiate workplace change.
    Academy of Management Journal, 42, 403–419.

Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be
    distinguished from contextual performance. *Journal of Applied psychology, 79*(4), 475-
    480.

Murray, S.L., Holmes, J.G., & Griffin, D.W. (2000). Self-esteem and the quest for felt security. How perceived regard regulates attachment processes. *Journal of Personality and Social Psychology, 78*(3), 478-498. Doi: 10.1037//0022-3514.78.3.478

Murphy, P. R., & Jackson, S. E. (1999). Managing work-role performance: Challenges for 21st century organizations and employees. In D. R. Ilgen & E. D. Pulakos (Eds.). *The changing nature of work performance:* 325–365. San Francisco: Jossey-Bass.

Nelson, D.L., & Quick, J.C. (1991). Social support and newcomer adjustment in organizations: Adjustment theory at work. *Journal of Organizational Behavior, 12*(6), 543-554.

Nielsen, K., Randall, R., Holten, A.L., & Rial-Gonzales, E. (2010). Conducting organizational-level occupational health interventions: what works? *Work & Stress, 22,* 16-32. Doi: 10.1080/02678373.2010.515393

Obeng, A.Y., & Boachie, E. (2018). The impact of IT technological innovation on the productivity of bank's employee. Cogent Business & Management, 5, 1-19. https://doi.org/10.1080/23311975.2018.1470449

Okpara, O.L. (2017). Micro managing: Between management styles and environmental realities. *International Journal of Business and Management Intervention, 6*(8), 64-72.

Parker, S. K. (1998). Role breadth self-efficacy: Relationship with work enrichment and other organizational practices. *Journal of Applied Psychology, 83,* 835–852.

Parker, S. K. (2000). From passive to proactive motivation: The importance of flexible role orientations and role breadth self-efficacy. *Applied Psychology: An International Review, 49*, 447–469.

Parker, S.K., Williams, H.M., & Turner, N. (2006). Modeling the antecedents of proactive behavior at work. *Journal of Applied Psychology, 91*, 636–652.

Parker, S.K., & Ohly, S. (2008). Designing motivating work. In R. Kanfer, G. Ghen, & R. D.

Pritchard (Eds.). *Work Motivation: Past, Present, and Future* (pp. 233-384). New York,

NY: Routledge.

Parker, S.K., Johnson, A., & Nguyen, H. (2013). Making the most of structural support:

moderating influence of employees' clarity and negative affect. *Academy of Management*

Journal, 56(3), 867-892. http://dx.doi.org/10.5465/qmj.2010.0927

Parker, S. K. (2014). Beyond Motivation: Job and Work Design for Development, Health,

Ambidexterity, and More. *Annual Review of Psychology, 65*, 661-691.

Peral, S., & Geldenhuys, M. (2016). The effects of job crafting on subjective well-being amongst

South African high school teachers. *South African Journal of Industrial Psychology, 42*(1),

1-13. http://dx.doi.org/10.4102/sajip.v42i1.1378

Petrou, P., Demerouti, E., & Peeters, M.C.W., Schaufeli, W.B., & Hetland, J. (2012). Crafting a

job on a daily basis: Contextual correlates and the link to work engagement. *Journal of*

Organizational Behavior, 33(8), 1120–1141.

Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the

workplace: Development of a taxonomy of adaptive performance. *Journal of Applied*

Psychology, 85, 612–624.

Riordan, C.M. (2010). Sometimes Micromanaging is good…..and necessary. Dean, Daniel

College of Business, University of Denver, USA.

Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson, S. E. (1996). The Maslach Burnout

Inventory—General Survey. In C. Maslach, S. E. Jackson, & M. P. Leiter (Eds.), *Maslach*

Burnout Inventory: Manual (3rd ed., pp. 19 –26). Palo Alto, CA: Consulting Psychologists

Press

Schaufeli, W.B., Bakker, A.B., & Salanova, M. (2006). The measurement of work engagement with a brief questionnaire: A cross-national study. *Educational and Psychological Measurement, 66,* 701-716.

Schwartz, S. H., & Bilsky, W. (1990). Toward a theory of the universal content and structure of values: Extensions and cross-cultural replications. *Journal of Personality and Social Psychology, 58,* 878–891.

Searle, B. J., & Parker, S. K. (2013). Work design and happiness: An active, reciprocal perspective. In S. A. David, I. Boniwell, & A. Conley Ayers (Eds) *Oxford Handbook of Happiness,* pp. 711-732. Oxford: Oxford University Press. Doi: 10.1093/oxfordhb/9780199557257.013.0053

Siemsen, E., Roth, A., & Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational Research Methods, 13*(3), 456-476. Doi: 10.1177/1094428109351241

Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology, 68,* 653–663.

Tadic, M., Bakker, A.B., & Oerlemans, W.G.M. (2013). Work happiness among teachers: A day reconstruction study on the role of self-concordance. *Journal of School Psychology, 51,* 735-750. Doi: 10.1016/j.jsp.2013.07.002

Taris, T.W. (2006). Is there a relationship between burnout and objective performance? A critical review of 16 studies. *Work Stress, 20,* 316-334.

Tims, M., & Bakker, A. B. (2010). Job crafting: Towards a new model of individual job redesign. *South African Journal of Industrial Psychology, 36,* 1–9. Doi: 10.4102/sajip. v36i2.841

Tims, M., Bakker, A.B., & Derks, D. (2012). Development and validation of job crafting scale. *Journal of Vocational Behavior, 80,* 173-186. Doi: 10.1016/j.jvb.2011.05.009

Tims, M., Bakker, A.B., & Derks, D. (2013a). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology, 18, 230-*240. Doi: 10.1037/a0032141

Tuckey, M.R., Bakker, A.B., & Dollard, M.F. (2012). Empowering leaders optimize working conditions for engagement: A multilevel study. *Journal of Occupational Health Psychology, 17*(1), 15-27. Doi: 10.1037/a0025942

Tuckey, M.R., Searle, B.J., Boyd, C.M., Winefield, A.H., & Winefield, H.R. (2015). Hindrances are not threats: Advancing the multidimensionality of work stress. *Journal of Occupational Health Psychology, 20*(2), 131-147, http://dx.doi.org/10.1037/a0038380

Welbourne, T. M., Johnson, D. E., & Erez, A. (1998). The role-based performance scale: Validity analysis of a theory-based measure. *Academy of Management Journal, 41*, 540–555.

Wrzesniewski, A., & Dutton, J.E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review, 26*(2), 179–201.

Xanthopoulou, D., Bakker, A.B., Dollard, M.F., Demerouti, E., Schaufeli, W.B., Taris, T.W., & Schreuers, P.J. (2007). When do job demands particularly predict burnout? The moderating role of job resources. *Journal of Managerial Psychology, 22,* 766-786.
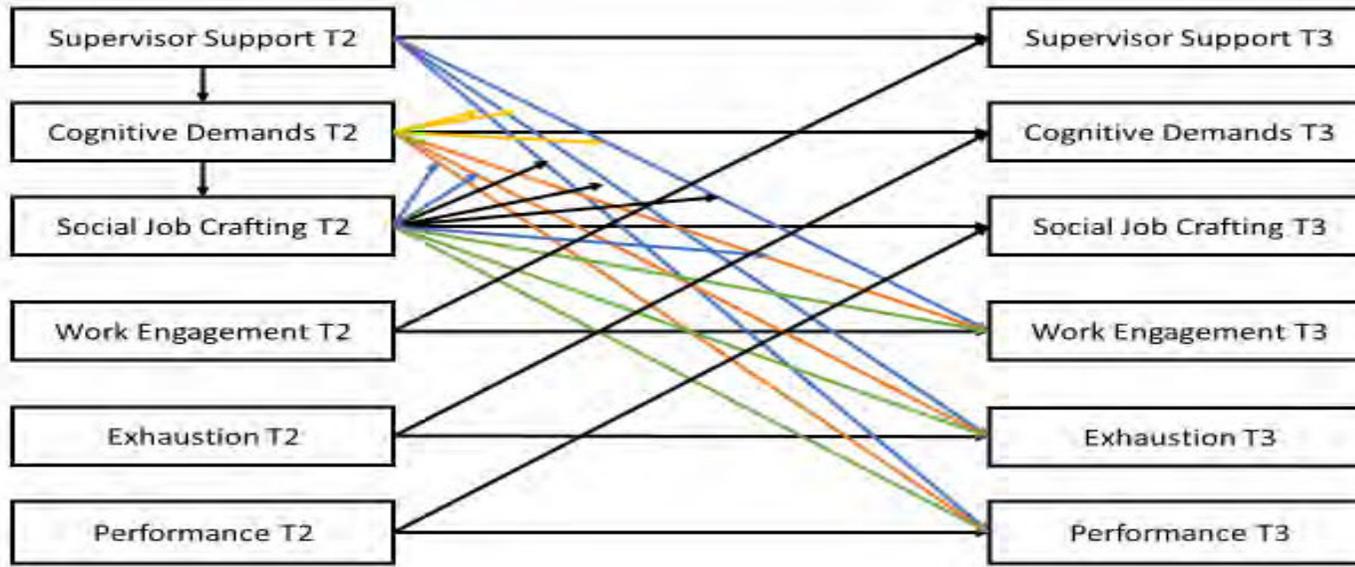
Figure 5. Hypothesized Relationships Between Study Variables

Table 3: Descriptive Statistics and Zero-order Correlations Among Key Variables.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1. Sex	1.49	0.50																										
2. Age	31.86	8.74	.08																									
3. Tenure	6.49	7.56	.13**	.82**																								
4. Supervisor support T1	3.41	0.91	-.08	-.10*	-.05																							
5. Supervisor support T2	3.38	0.50	-.08	-.07	-.01	.90**																						
6. Supervisor support T3	3.32	0.56	-.08	-.06	-.01	.62**	.66**																					
7. Cognitive demands T1	4.09	0.81	-.01	.05	.05	.33**	.28**	.12*																				
8. Cognitive demands T2	4.07	0.81	-.01	.07	.07	.31**	.29**	.14**	.99**																			
9. Cognitive demands T3	4.02	0.82	-.03	.08	.09	.19**	.15**	.27**	.77**	.79**																		
10 Social job crafting T1	4.66	1.12	-.04	-.22**	-.20**	.41**	.34**	.26**	.22**	.21**	.23**																	
11 Social job crafting T2	4.65	1.10	-.05	-.20**	-.19**	.39**	.34**	.26**	.20**	.20**	.22**	.99**																
12 Social job crafting T3	4.69	1.14	-.06	-.18**	-.17**	.35**	.29**	.41**	.18**	.20**	.29**	.81**	.81**															
13 Work engagement T1	4.34	0.98	.06	.15**	.16**	.33**	.30**	.22**	.32**	.30**	.26**	.29**	.27**	.24**														
14 Work engagement T2	4.36	0.97	.05	.14**	.17**	.35**	.31**	.22**	.30**	.30**	.26**	.27**	.27**	.24**	.99**													
15 Work engagement T3	4.38	0.99	.06	.08	.13*	.21**	.19**	.41**	.15**	.16**	.32**	.21**	.20**	.29**	.73**	.72**												
16. Exhaustion T1	3.35	0.79	.02	-.11*	-.09	.01	.01	-.01	.23**	.23**	.22**	.07	.07	.10	-.15**	-.14**	-.08											
17. Exhaustion T2	3.37	0.79	-.03	-.12*	-.10	.02	.02	.00	.23**	.23**	.24**	.09	.09	.10	-.14**	-.13**	-.07	.97**										
18. Exhaustion T3	3.41	0.76	-.04	-.06	-.10	-.05	-.04	-.03	.17**	.18**	.20**	.08	.08	.10	-.10	-.11	-.15**	.80**	.80**									
19. Proficiency T1	4.28	0.64	.07	.15**	.12*	.27**	.24**	.17**	.33**	.33**	.25**	.13**	.12*	.14**	.39**	.37**	.27**	.08	.07	.04								
20. Proficiency T2	4.29	0.62	.07	.16**	.12*	.27**	.25**	.17**	.34**	.33**	.25**	.13*	.13*	.14**	.38**	.38**	.29**	.06	.06	.04	.99**							
21. Proficiency T3	4.22	0.61	.03	.12*	.13*	.15**	.13*	.24**	.22**	.24**	.32**	.14**	.14**	.15**	.32**	.32**	.40**	-.03	-.01	-.05	.70**	.71**						
22. Adaptivity T1	4.15	0.63	.04	.18**	.18**	.25**	.25**	.12*	.33**	.34**	.21**	.19**	.18**	.15**	.36**	.36**	.25**	-.05	-.05	-.08	.58**	.54**	.31**					
23. Adaptivity T2	4.17	0.60	.06	.19**	.17**	.23**	.23**	.12*	.31**	.32**	.21**	.16**	.17**	.14**	.34**	.34**	.26**	-.07	-.06	-.08	.54**	.55**	.34**	.96**				
24. Adaptivity T3	4.11	0.61	.10	.08	.13*	.17**	.13*	.19**	.20**	.20**	.32**	.20**	.20**	.22**	.33**	.34**	.40**	-.09	-.08	-.11*	.38**	.38**	.53**	.68**	.71**			
25. Proactivity T1	3.93	0.70	.07	.05	-.01	.21**	.22**	.10	.22**	.22**	.14**	.24**	.25**	.26**	.37**	.36**	.23**	-.05	-.03	-.01	.36**	.33**	.21**	.52**	.48**	.35**		
26. Proactivity T2	3.96	0.69	.06	.03	-.02	.21**	.22**	.10	.22**	.22**	.13*	.24**	.23**	.24**	.35**	.35**	.23**	-.04	-.04	-.02	.33**	.34**	.22**	.50**	.49**	.35**	.98**	
27. Proactivity T3	3.91	0.70	.11*	-.02	-.03	.17**	.15**	.21**	.09	.10	.21**	.26**	.25**	.29**	.30**	.31**	.39**	-.04	-.02	-.01	.25**	.26**	.40**	.34**	.35**	.50**	.75**	.77**

Note * p < .05, ** p < .01.

Table 4: Standardized Effects of T2 Variables on T3 Variables, Model 2.

Variables	Engagement	Exhaustion	Proficiency	Adaptivity	Proactivity	Cognitive demands	Supervisor support	Social job crafting
(Autoregression)	.51**	.53***	.58***	.67***	.72***	.96***	.64***	.76***
Sex	.02	.01	.00	.05	.06	-.01	.00	-.01
Age	-.05	.09	-.02	-.10†	-.05	.01	.00	-.03
Organization tenure	.09†	-.12†	.07	.09†	.02	.03	.00	.01
Cognitive demands (CD)	.00	.04	.05	-.03	-.08	--	--	--
Supervisor support (SS)	.03	-.03	-.02	-.02	.01	--	--	--
Social job crafting (JC)	.03	.02	.01	.05	.03	--	--	--
CD x SS	.08*	.01	.09†	.03	.04	--	--	--
CD x JC	-.03	-.04	.02	-.02	-.04	--	--	--
SS x JC	.01	.02	.02	.00	.03	--	--	--
CD x SS x JC	.02	.00	.08*	.09†	.08*	--	--	--
Engagement	--	--	--	--	--	-.03	-.01	.02
Exhaustion	--	--	--	--	--	.00	.01	.04
Proficiency	--	--	--	--	--	-.07	.00	.01
Adaptivity	--	--	--	--	--	-.07	-.06	-.03
Proactivity	--	--	--	--	--	-.05†	-.06†	.06
R^2	.47***	.58***	.50***	.51***	.58***	.60***	.46***	.65***

Note: † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.
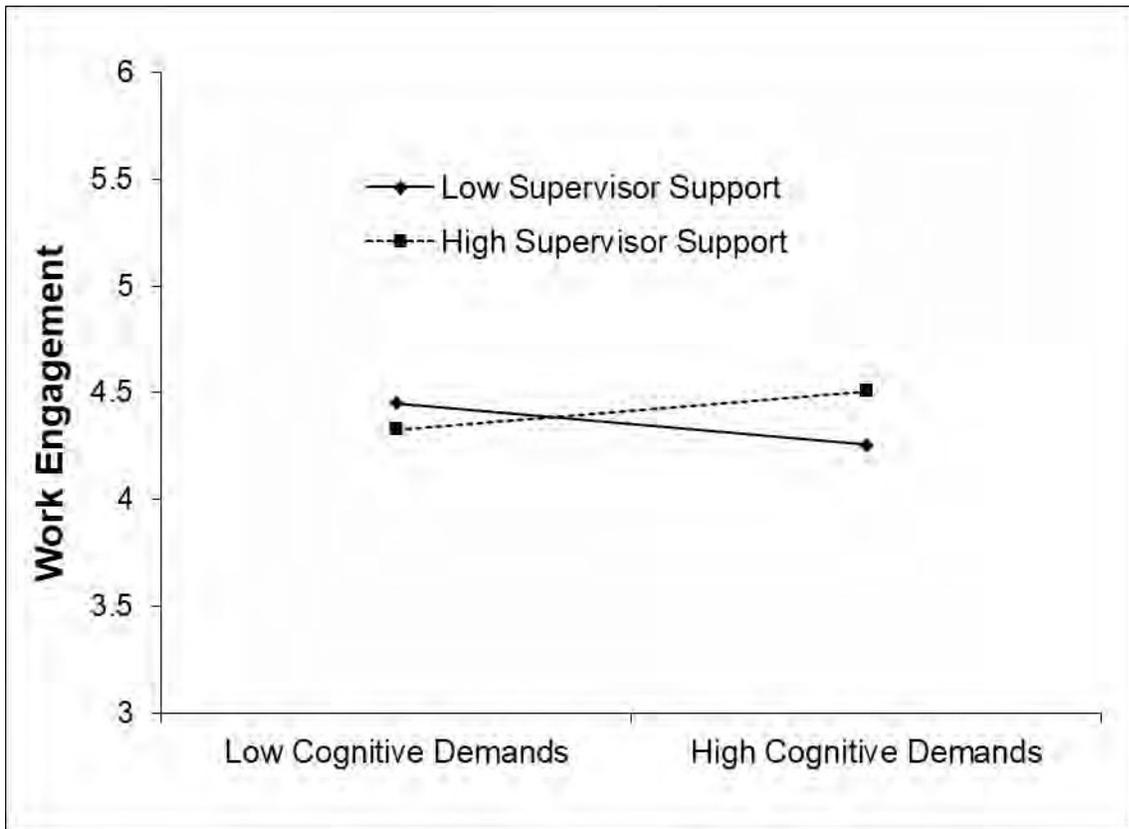
Figure 6: Supervisor Support moderates Cognitive Demands-Work Engagement Relationship
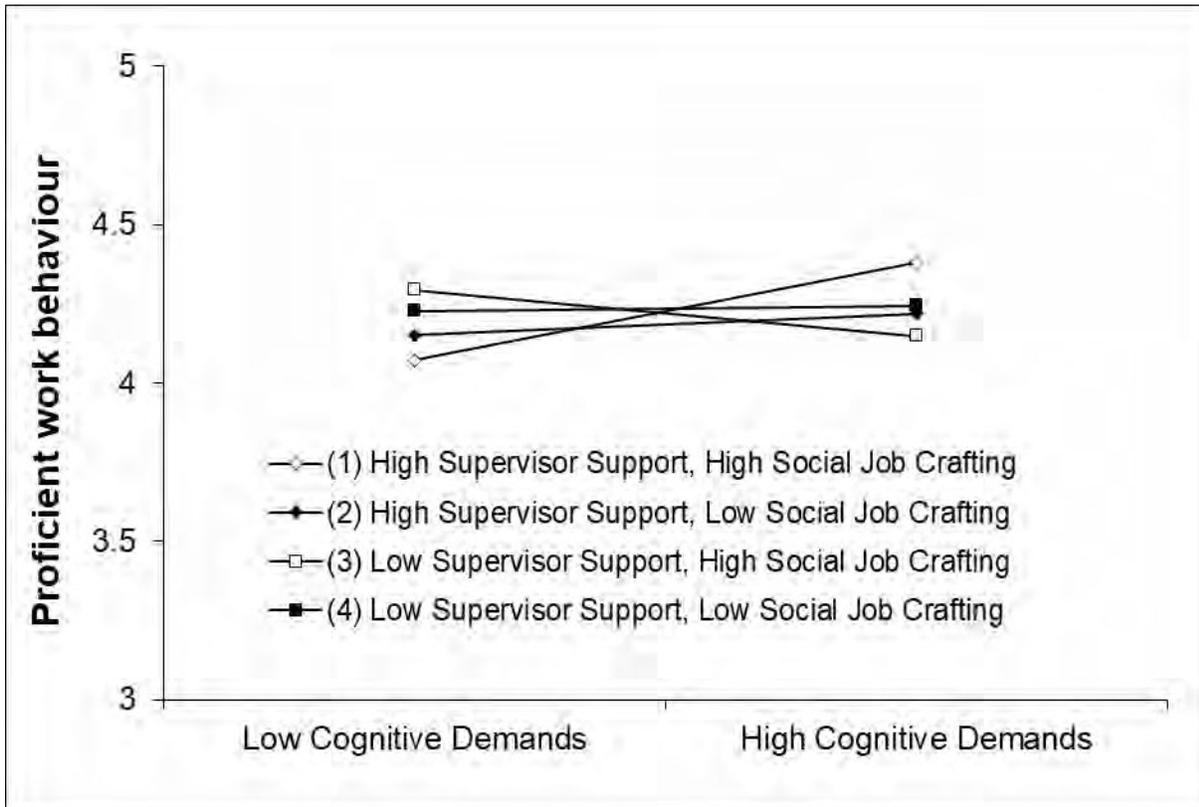
Figure 7: Supervisor Support and Social Job Crafting moderates Cognitive Demands-Work Proficiency relationship
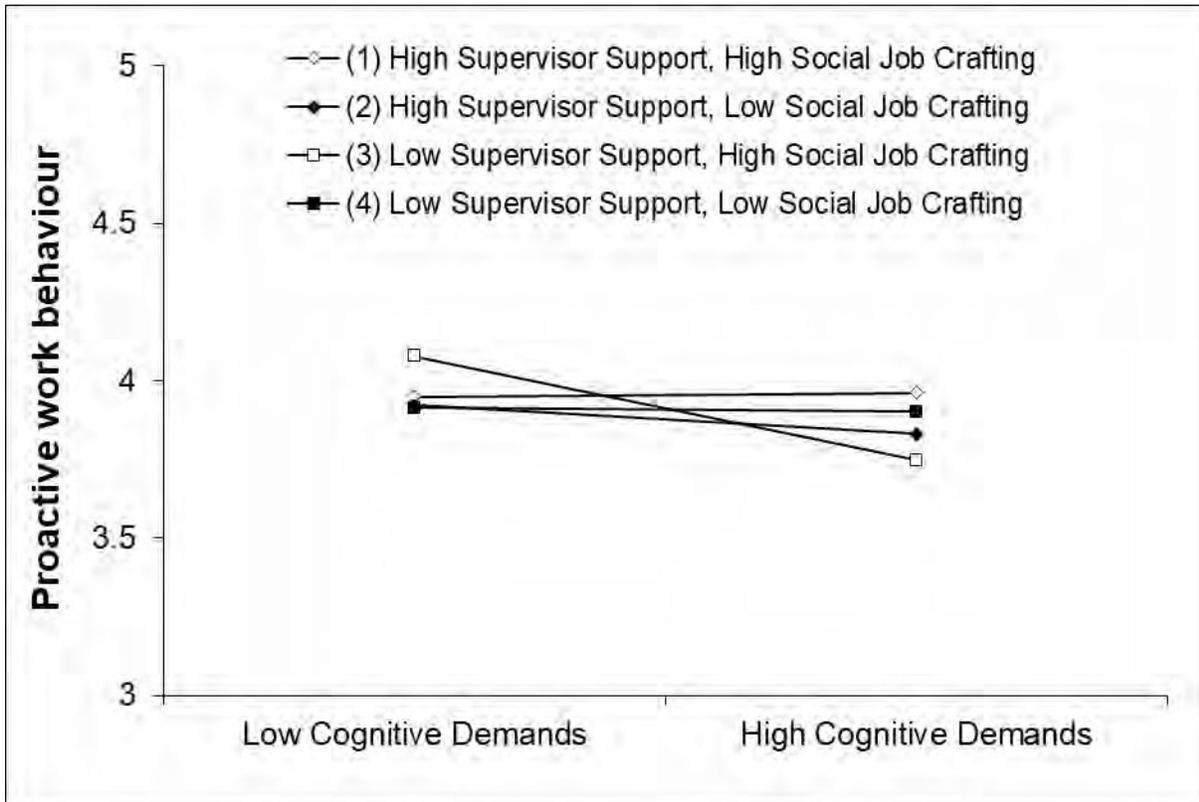
Figure 8: Supervisor Support and Social Job Crafting moderates Cognitive Demands-Proactive Work Behavior Relationship

While paper 1 & 2 focused on banking employees, investigating longitudinal relations between work characteristics, job crafting, employee well-being and performance, paper 3 utilised workers pursuing Master of Business Administration degree in a public university in Ghana, investigating the influence of developmental leadership and career optimism on career adaptability, and the extent to which career optimism moderated the relationship between developmental leadership and career adaptability. We utilized a cross-sectional methodology to study the relations in paper 3. Although not originally part of this program of research, we included paper 3 because the variables: developmental leadership, career optimism, and career adaptability could be integrated into the main program of research. For example, viewing developmental leadership, career optimism, and career adaptability as a work resource, personal resource, and proactive behavior facilitated the incorporation of paper 3 into this program of research. Paper 3 is under review with *Career Development Quarterly.*

Career Adaptability: The Role of Developmental Leadership and Career Optimism

Eric Delle

Ben J. Searle

Department of Psychology

Macquarie University

Career Adaptability: The Role of Developmental Leadership and Career Optimism

Abstract

Researchers suggest contextual and personal factors may interact to predict career adaptability, and that antecedents of career adaptability have received less research attention. In responding to this call, we examined the influence of developmental leadership and career optimism on career adaptability; and the potential moderating effect of career optimism on the relationship between developmental leadership and career adaptability. Data were collected from workers ($N = 210$) enrolled in an MBA programme, pursuing leadership and business courses in a Ghanaian University. Our results showed that developmental leadership relates positively to career adaptability. Additionally, career optimism relates positively to career adaptability. Finally, we observed that career optimism moderates the relationship between developmental leadership and career adaptability such that at low level of developmental leadership, career adaptability was high for employees who are high on career optimism. Together, the results suggest that although both developmental leadership (i.e., build adaptive resources in employees) and career optimism (i.e., optimists are by nature adaptive) are beneficial for career adaptability, developmental leadership is particularly important, for less optimistic employees. We have discussed implications and limitations of our findings.

Keywords: career adaptability, developmental leadership, career optimism, Ghana

Career Adaptability: The Role of Developmental Leadership and Career Optimism

Computerization of jobs, along with constantly changing job demands and labor markets (Bimrose & Hearne, 2012; Fleigh-Palmer, Luthans, & Mandernach, 2009; Slyva, Mol, Den Hartog, & Dorenbosch, 2019), have contributed to creating a dynamic and decentralized work environment in modern organizations (Frese & Fay, 2001; Grant & Parker, 2009). These developments have created work settings requiring employees to deal with changing responsibilities and novel situations (Den Hartog & Belschak, 2007; Frese & Fay, 2001; Grant & Parker, 2009). To meet shifting career requirements and seize opportunities to excel, employees need to be adaptive, capable not only of coping with change but also of taking initiative in enhancing their fit to the changing work environment (Grant & Parker, 2009; Parker and Collins, 2010).

Proactive person-environment fit is a phenomenon that describes a wide range of work behaviors, including feedback inquiry (proactively obtaining information about their behavior from supervisors; Ashford & Black, 1996; Ashford, Blatt, & Van de Walle, 2003), feedback monitoring (proactively observing what performance behaviors the supervisor rewards; Parker & Collins, 2010), and career initiative (proactively promoting one's career rather than a passive response to the job environment; Seibert, Kraimer, & Crant, 2000). Career-focused proactive person-environment fit can also involve proactively planning one's career, extending one's competences and skills, and consulting with one's supervisor in order to maximize fit between oneself and one's work environment (e.g., Tharenou & Terry, 1998). A psychological construct encompassing these important capabilities is career adaptability, a psychosocial resource that enables people to align themselves to their work (Savickas, 2013; Tolentino, Garcia, Lu, Restubog, Bordia, & Plewa, 2014).

As global work environments have become more dynamic, research in career adaptability has also grown. Career adaptability has been linked with career satisfaction and self-rated career performance (Zacher, 2014), entrepreneurial intentions (Tolentino, Sedoglavich, Lu, Garcia, & Restubog, 2014), and job search self-efficacy (Guan, Deng, Sun, Wang, Cai et al., 2013). By adapting to their work environment, employees are able to contribute substantially to the effectiveness of their organizations. Nevertheless, although we know much about the benefits of career adaptability, we know relatively little about its antecedents.

In particular, contextual and personal factors may operate in concert to predict career adaptability (Tolentino et al., 2014). We focused on developmental leadership because of the shift in the vocational psychology literature from fitting the individual to the job to developing career competencies, making employees adaptive ready, and therefore, enhancing their career adaptability potential (Savickas, 2005). Developmental leadership behaviors (i.e., performance feedback, mentoring, coaching, and training and development) are likely to act growth resources for employees, and therefore they should not simply increase career competencies of followers (Rafferty & Griffin, 2006), they also have the potential to act as adaptability resources that enhance career adaptability.

However, the effect of leadership on individual career outcomes may depend on follower characteristics (Howell, Bowen, Dorman, Kerr, & Podsakoff, 1997; Shamir & Howell, 1999). Career optimism, an important follower characteristic and personal resource (Bakker & Demerouti, 2017; Tolentino et al., 2014) may determine whether developmental leadership has an effect on career adaptability. Optimism is recognized as a form of personal (Hobfoll, 2002) or adaptability (Garcia et al., 2015; Savickas & Porfeli, 2012; Tolentino et al., 2014) resource that has the capacity to enhance employee wellbeing (Xanthopoulou, Bakker, Demerouti, &

Schaufeli, 2007). If optimism is a sufficiently powerful form of adaptability resource, with potential to influence career adaptability, then it could potentially moderate the influence of developmental leadership. We know little about how developmental leadership might interact with adaptability or personal resource (e.g., optimism) to predict career adaptability. **Figure 1** depicts our hypothesized model, demonstrating the direct and interactive effects the study aims to test.

Insert Figure 9 about here

……………………………………

Theory and Hypotheses Development

Career Adaptability and Developmental Leadership

Career adaptability represents a vital psychosocial capability that enables employees to anticipate, prepare for and cope with changing work contexts (Savickas, 1997). Career adaptability facilitates self-preparation and proactive adjustment to changing work contexts (Chan & Mai, 2015). According to Savickas (1997), career adaptability is "the readiness to cope with predictable tasks of preparing for and participating in work role and with the unpredictable adjustments prompted by changes in work and working conditions" (p. 254). Career adaptability encapsulates three vital elements: "planful attitudes (i.e., developing values, skills, and abilities that fits one into relevant careers), self- and environmental exploration (i.e., searching for or aligning to a career or environment that fits one's personal characteristics), and informed decision-making" about careers (Savickas, 1997, p. 254). Therefore, career adaptability comprises behaviors, competencies, and attitudes that might enable employees to fit well into changing work environments (Savickas, 2013). This conceptualization reveals that career

adaptability could also be considered a form of proactive person-environment fit behavior (Parker & Collins, 2010), whereby employees anticipate, plan, and take actions independently to better adapt themselves to their work environments.

Zacher (2014), in a survey of Australian employees, found that career adaptability relates positively to career satisfaction and self-rated career performance. Further, Tolentino and colleagues (2014) found that career adaptability enhances entrepreneurial intentions. This may occur because being able to adapt to changing demands while planning ways to maximise opportunities inculcates in people the motivation and skills to succeed in changing environments (Savickas, 2013) and cope with emerging career concerns (Creed, Fallon, & Hood, 2009). Given these benefits, it is worthwhile to investigate ways to facilitate career adaptability.

Leadership might help employees to function more effectively in changing work environments. Research shows that empowering and contingent reward leadership behaviors relate more positively to resilient behaviors at work (Nguyen, Kuntz, Näswall, & Malinen, 2016), and change-related outcomes (Ahearne, Mathieu, & Rapp, 2005; Pearce & Sims, 2002). Empowering leaders enhances the potential of employees to perform in changing work environment by delegating authority, encouraging participation in decision-making, providing them with meaningful work, having confidence in them, and by being supportive (Ahearne et al., 2005; Dierendonck & Dijkstra, 2012; Mills & Ungson, 2003; Scott, Hui, & Elizabeth, 2013; Seibert, Wang, & Courtright, 2011). Similarly, contingent leaders recognize the efforts and achievements of employees through performance feedback, which is crucial for employee resilient behavior (Nguyen et al., 2016).

Some types of leadership may be particularly suited to facilitate career adaptability. Teachers and parents perform leadership functions in their respective domain, as they offer

advice, coach, and provide feedback on children's performance with the goal to building capability and adaptability (Garcia et al., 2015). In a similar way, many leaders have opportunities to coach, encourage learning, and provide performance-enhancing feedback to employees at work. Leadership behaviors that focus on the personal development and growth of employees, clarify work goals and expectations to employees, provide support, and encourage participation at work, are more likely to enhance career adaptability and related phenomena (Bardoel, Pettit, De Cieri, & McMillan, 2014; Harland, Harrison, Jones, & Reiter-Palmon, 2004; King & Rothstein, 2010; Luthans & Avolio, 2003). This study therefore focuses on developmental leadership behaviors as a predictor of career adaptability.

Developmental leadership represents a style of leadership, or a set of leader behaviors, that is/are aimed at developing and enhancing employees' work-related knowledge, skills, and competences as well as facilitating their personal and career development (Zhang & Chen, 2013). Developmental leadership behaviors, such as mentoring, coaching, guiding, counselling, providing performance feedback and developmental opportunities (House, 1996), might help employees to function effectively in the work environment. Apart from focusing on the individual, developmental leaders are development oriented as they pay attention to differences among followers and discover what motivates them through careful observation, career counselling, performance feedback, delegation, and training (Bass, 1985) to enable them to perform in changing work environment.

While developmental leadership behavior taps into some aspects of transactional leadership (i.e., performance feedback) and transformational (i.e., individualized consideration) behavior, it differs from them. Transactional leadership represents leadership behavior that emphasizes an exchange relationship, where followers receive reward following performance

(Burns, 1978). Transactional leaders monitor and direct followers to focus on organizational goals (Burns, 1978); and emphasizes performance-reward relationship (Bass, 1985; Burns, 1978). Conversely, developmental leaders focus on empowering employees with adaptive competencies, skills, and knowledge to succeed in performing their tasks; and do not emphasize monetary reward for performance. Thus, while developmental leaders may have empowerment of their employees as their priority (House, 1996; Zhang & Chen, 2013), a transactional leader may have task accomplishment as a priority (Burns, 1978).

Transformational leadership represents leadership behaviors that motivate and encourage followers to achieve greater performance by helping followers' embrace organization and work-enhancing attitudes, beliefs, and values (Bass, 1985). Transformational leaders hold high moral, ethical, and personal standards (i.e., idealized influence), provide a strong vision for the future (i.e., inspirational motivation), challenge organizational norms and encourage creative thinking (i.e., intellectual stimulation), and identify and meet their followers' developmental needs (i.e., individualized consideration; Bass, 1985, 1990). In this way, developmental leadership is similar to the individualized consideration dimension of transformational leadership. It is noteworthy, that individualized consideration has been seen to contribute more to relationships between leaders and followers than the other elements of transformational leadership (Rafferty & Griffin, 2006). However, rather than developing subordinates in order to better fit the leader's vision. Developmental leaders focus on enhancing work-related competencies of followers through the offering of advice, carefully observing and recording career progress, encouraging attendance at technical courses, and delegating work activities (Rafferty & Griffin, 2006), which might have greater impact on the performance of their followers than transformational leaders (Rafferty & Griffin, 2006).

Previous studies show that leadership behaviors are likely to help followers succeed in changing work environments. For example, Nguyen and colleagues (2016) showed that empowering and contingent reward leadership behaviors are associated with greater resilient behaviors (i.e., change adaptability, learning, and networking). Furthermore, Wang, Demerouti, and Le Blanc (2017), in a survey of employees in the Netherlands, found that transformational leadership relates positively to adaptability Together, these empirical evidence suggests that through behaviors such as providing performance feedback and coaching to increase the adaptive resources of followers, developmental leaders would make their followers feel self-efficacious (Higgins, Dobrow, & Roloff, 2010; Lawler, 1986) and therefore, more capable of handling tasks in dynamic work environments. Thus, we hypothesize that

H_1 Developmental leadership relates positively to career adaptability

Career Adaptability and Career Optimism

Optimism is an inherent human tendency as people generally expect to experience positive rather than negative events in future (Sharot, 2011; Varki, 2009). Accordingly, Scheier and Carver (1985) defined generalized optimism as the inclination to expect positive outcomes in the future despite perceived obstacles and difficulties. Optimism is helpful in work contexts as it can stimulate the determination to pursue career goals (Brown & Marshall, 2001), and to adjust well to changing work environment (Carver, Scheier, & Segerstrom, 2010). In the context of careers, we define *career optimism* as the positive expectations about one's impending career growth (Rottinghaus et al., 2005) as well as the confidence about one's ability to overcome work demands in changing work environment (Hennessey, Rumrill, Fitzgerald, & Roessler, 2008).

According to the social cognitive theory (Bandura, 1986), expectations about the future determine whether an individual will perform well in a given situation. Positive expectations

facilitate goal accomplishment because they increase the confidence, and therefore effort (Bowlby, 1988). In the context of careers, positive expectations (i.e., career optimism) have been associated with job satisfaction, organizational commitment, and performance (Kluemper, Little, & DeGroot, 2009; Youssef & Luthans, 2007). Furthermore, they have been associated with elements of adaptability, such as adjustment to college (Aspinwall & Taylor, 1992) and coping with unemployment (Wanberg, 1997), and more likely to facilitate the sale of insurance products and services (Seligman, 1998). This suggests that career optimism is likely to facilitate career adaptability.

Although some studies relate optimism to career adaptability, these come from non-work contexts. For example, Aspinwall, Richter and Hoffman (2001), in a survey of 555 Australian university students, showed that trait optimism relates to career adaptability. Similarly, Rottinghaus and colleagues (2005) found that optimistic students were likely to experience greater career adaptability. However, recent evidence shows that optimism has the potential to influence career adaptability in work contexts. For example, Nguyen and colleagues (2016) showed that optimism relates more positively to resilient behaviors (i.e., a form of adaptability in the face of change) at work. Furthermore, optimism is more likely to stimulate employees to show commitment to change, cope with dynamic work contexts, and display positive behaviors at work (Kool & Dierendonck, 2001; Youssef & Luthans, 2007). Therefore, we hypothesize that:

H_2 Career optimism relates positively to career adaptability

Career Optimism as a Moderator

Although we have argued that developmental leadership is likely to support career adaptability, it may not do so for everyone. The effect of leadership behavior on followers may depend on follower characteristics (Howell et al., 1997; Shamir & Howell, 1999). Researchers

have suggested that individual characteristics (Tolentino et al., 2014) such as adaptive readiness (Savickas, 2013); self-esteem, achievement orientation, and risk-taking propensity (Ehrhart & Klein, 2001); and proactive personality and optimism (Nguyen et al., 2016) might interact with leadership to influence employee outcomes. In view of this, we suggest that the adaptive resources that developmental leaders provide may be beneficial to some than other followers. Therefore, it is worthwhile to investigate follower characteristics that may predispose followers to benefit from developmental leadership.

Developmental supports have been seen to enhance optimism, including career optimism (Garcia, Restubog, Bordia, Bordia, & Roxas, 2015), but few studies have examined how the two interact. Nguyen and colleagues (2016) argued that optimism acts as a resource that can helps employees succeed regardless of leader assistance. Optimistic individuals possess adaptive resources because they are flexible, have a positive view of the future, and more inclined to see career difficulties as challenges rather than threats (Chang, 1998; Smith, Haynes, Lazarus, & Pope, 1993). With this level of confidence about their ability to handle potential work obstacles and threats, optimists are more likely to underestimate the value of performance feedback and developmental opportunities from their supervisors. For example, research shows that optimists, rather than pessimists, are more likely to continue gambling after unsuccessful attempts (Gibson & Sanbonmatsu, 2004). Conversely, pessimists are more likely to take performance feedback and developmental opportunities from their supervisors more seriously (Sackett & Armor, 2009; Sweeny & Shepperd, 2010), leading them to experience less disappointments and negative affect in future. Sweeny and Shepperd (2010) demonstrates that pessimists rather than optimists were more likely to experience less negative emotions and disappointment after performance feedback. This suggests that leaders may be able to make more of a difference when providing

developmental support to the more pessimistic members of their team. Nguyen and colleagues (2016) found that contingent reward leadership was more strongly associated with resilient behavior for pessimistic employees more than for optimistic employees.

Considering evidence of previous studies (Nguyen et al., 2016; Sackett & Amor, 2009; Sweeny & Shepperd, 2010), we contend that optimistic employees are less likely to take advantage of the resources developmental leaders offer (e.g., performance feedback, coaching, and training opportunities). We therefore hypothesize that:

H_3 Career optimism moderates the positive relationship between developmental leadership and career adaptability such that the relationship is stronger for employees who are low rather than high on career optimism.

Method

Participants and Sample

Most African economies are categorized as emerging economies. In emerging economies, technology and competition have made work contexts dynamic more recently than was the case in western economies. Thus, research into organizational behavior phenomena such as leadership, optimism and adaptability are important to discovering best practices for organizations in Africa, particularly adaptability as employees would have to adapt to changes in the career landscape. The presence of multinational organizations and other private businesses; the increasing use of technology to facilitate work; and heightened competition in Ghanaian organizations have contributed to creating a constantly changing work environment. Adaptability is important, as it is a useful employable skill, associated with greater sense of control, and self-esteem (Buyukgoze-Kavas, 2016). Therefore, adaptability could help Ghanaian employees perform well in a Ghanaian work context that is technologically driven. Given these potential

gains of adaptability, we examined the effect of developmental leadership and career optimism on career adaptability among workers enrolled in a Master of Business Administration (MBA) programme in a Ghanaian university.

Our study comprised 210 workers enrolled in an MBA program pursuing courses in leadership and business, who voluntarily completed a paper-based survey on developmental leadership, career adaptability, and career optimism. We did not offer participants compensation and they could withdraw from the study without a consequence. The sample comprised 64% males and 75% non-managers. Regarding education, 40% had a postgraduate degree, 53% had an undergraduate degree, and 6% had a diploma. The distribution of participants across the various industries was: public service (53%), banking (38%), consultancy (3%), health (2%) and 1% or less from NGO, hospitality, construction media, and oil and gas. The mean age of participants was 32.49 years old ($SD = 7.15$), and mean tenure was 4.85 years ($SD = 4.73$).

Measures

Unless otherwise specified, all the scales used response options from 1 (strongly disagree) to 5 (strongly agree).

Developmental leadership. We assessed developmental leadership with the 7-item developed by House (1998). A sample item include "My supervisor helps with my career development". Confirmatory factor analysis of the scale's items revealed a good fit ($\chi^2 = 31.23$, $df = 13$, $p = .003$, CFI $= .97$, TLI $= 96$, GFI $= .98$, RMSEA$= .08$).

Career adaptability. We assessed the extent to which respondents adapt to their new work settings with the 11-item career adaptability scale developed and validated by Rottinghaus and colleagues (2005). A sample item includes "I am good at adapting to new work settings".

Confirmatory factor analysis result showed a good fit ($\chi^2 = 61.81$, $df = 41$, $p < .05$, CFI = .91, GFI = .95, TLI =.88, RMSEA=.05).

Career optimism. We assessed career optimism with the 11-items scaled by Rottinghaus and colleagues (2005). A sample item include: "I get excited when I think about my career". Confirmatory factor analysis revealed a good fit ($\chi^2 = 63.19$, $df = 38$, $p < .05$, CFI =.95, GFI =.95, TLI =.92, RMSEA =.06).

Results

Descriptive Statistics

As shown in **Table 5,** the sample is moderately/relatively optimistic ($M = 3.81$, $SD = .50$), as their responses averaged around the midpoint of the five-point scale. Career adaptability is positively associated with developmental leadership ($r = .22$, $p = .002$); and career optimism ($r = .16$, $p = .021$). Finally, career optimism related positively to developmental leadership ($r = .14$, $p = .046$). However, none of the demographic factors (e.g., sex, age, and tenure) related to the main variables.

Insert Table 5 about here

Because we collected data from a single source, common method bias is a possibility (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). To reduce this problem, we performed the Harman's one-factor test. In this test, we performed exploratory factor analysis (EFA) with unrotated principal axis factoring method using all the items measuring the key variables in the study. The extraction of one factor suggests the presence of common method variance (CMV) or an indication that one-factor accounts for much of the covariance in the variables. We observed 8

factors with eigenvalues greater than 1. Together, the 8 factors accounted for 60% of the total variance, with variances ranging from a low of 4% to a high of 18% for each factor. This suggests at most a relatively small influence of common method bias.

Testing Hypotheses

Prior to testing the hypotheses, we assessed the measurement model involving three latent constructs: developmental leadership, career adaptability, and career optimism. All the factors loaded onto their respective latent construct. For example, all the 7-items measuring developmental leadership loaded significantly onto the latent developmental leadership factor. Confirmatory factor analysis showed that the model fits the data to an acceptable level: $\chi^2 =$ 675.19, $df = 368$, $p < .001$, $CFI = .81$, $TLI = .79$, $RMSEA = .06$.

We tested the hypotheses using path analysis in IBM SPSS AMOS version 24. Prior to testing the model, the predictor (developmental leadership) and moderator (career optimism) were centered (Aiken & West, 1991). In the first model, we entered the main effects of developmental leadership and career optimism, and the covariates (e.g., sex, age, and organizational tenure), with the interactive term added in model 2. Results in **Model 1** shows that career adaptability is fostered by developmental leadership, $\beta = .20$, $SE = .03$, $p = .003$; and career optimism, $\beta = .13$, $SE = .05$, $p = .046$. We found similar results in **Model 2**. Thus, our results support hypothesis 1 and 2 respectively. Model 2 also showed that developmental leadership and career optimism interacted to predict career adaptability, $\beta = -.14$, $SE = .07$, $p = .043$.

To understand the effect of developmental leadership on career adaptability at the level of the moderator (i.e., career optimism), we followed the procedure suggested by Aiken and West (1991) using regression lines and effect variances to plot effects at standard deviation above and

below the mean. As illustrated in **Figure 10**, developmental leadership related more to career adaptability particularly for respondents moderate on career optimism, (simple slope, β = .33, *SE* = .09, *p* < .001), but was unrelated to career adaptability for respondents high on career optimism, (simple slope, β = .04, *SE* = .10, *p* = .701).

Insert Table 2 and Figure 2 about here

Discussion

Employees are more likely to succeed in their work if they can adapt to changes associated with their careers. To understand the antecedents of career adaptability, we argued that leadership behaviors, particularly developmental leadership, should be helpful in stimulating such adaptability in most employees; that optimism should influence adaptability; and developmental leadership and career optimism should interact to predict career adaptability. The results of our study showed that both developmental leadership and career optimism facilitate career adaptability, and that under conditions of low developmental leadership, career optimism leads to increased career adaptability. Our results have important implications for research in the field of vocational psychology and practice in organizations.

Theoretical Contribution

Our expectation that developmental leadership relates positively to career adaptability was also supported. This result aligns with the view that developmental leadership increases employees' career self-efficacy, thereby emboldening employees to manage career demands well (Lawler, 1986). Indeed, through performance feedback, training and development, counselling, and advice, developmental leaders help to build adaptive resources in employees, which in turn,

increase feelings of competence and confidence (Higgins et al., 2010), which are necessary for confronting career-related changes.

Developmental leadership appears to be useful for moderately/relatively optimistic employees. Moderately optimistic employees are individuals who are positive about future success but believe that other factors could facilitate or hinder the achievement of their future goals. Therefore, such individuals rather than optimists are more likely to take their performance information serious (Spirrison & Gordy, 1993), and to be realistic in assessing their future success (Gibson & Sanbonmatsu, 2004). Developmental leaders could provide the support that moderately optimistic individuals need to achieve their future goals. Our results showed that developmental leadership was associated with greater career adaptability for moderately optimistic individuals, but for highly optimistic employees, developmental leadership had no effect. This outcome is consistent with previous findings in the field of health and entrepreneurship (Hansen, Shimbo, Shaffer, Hong, Borda, Ventura, Schwartz et al., 2010; Hmieleski & Baron, 2009). Moderate levels of optimism is associated with positive business and health outcomes. Hansen and colleagues (2010) showed that compared to individuals high or low on optimism, moderately optimistic patients were less likely to develop coronary heart disease. Hmieleski and Baron (2009) found entrepreneurs with relatively high experience performed better in new ventures under conditions of moderate optimism. It is possible that because moderately optimistic individuals have a balance view of the future, less easily persuaded by discrepancies and positive information (Geers, Handley, & McLarney, 2003; Spencer & Norem, 1996; Spirrison & Gordy, 1993), they would need support to enable them understand their work environment better, and to achieve their work goals.

However, we note that the absence of developmental leadership did not ensure low career adaptability for all employees, as optimistic employees showed consistently high levels of career adaptability. Our findings are consistent with previous studies (Rottinghaus et al., 2005; Tolentino, Garcia, Lu et al., 2014) which suggest that optimism is important for adaptability. Our results also suggest that optimism is a strategic personal resource, which potentially enables people to cope effectively with career demands (Aspinwall et al., 2001). We reasoned that optimists leverage on the positive feelings and unshakable sense of confidence they generate by utilizing effectively their competences (i.e., social and intellectual) when confronted with work-related changes (Frederickson, 2008). In short, the result aligns with social cognitive theory's assumption that positive expectations about the future is important for adaptability (Bandura, 1986).

Limitations and Suggestions for Future Research

We acknowledge that there are limitations associated with our study. First, we utilized cross-sectional data, which prevents us from drawing causal conclusions. To ascertain the validity of the path model, longitudinal studies are preferred. While common method bias may be a problem, the Harman's one-factor test results show that common method bias may play a relatively small role in our findings. Furthermore, we note that common method error tends to suppress moderation effects in cross-sectional data (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), suggesting our effects may be stronger than reported. Notwithstanding this, we recommend the use of longitudinal designs and multi-source data to rule out this effect in future research.

Further, this study was limited to workers in Ghana. There is the need for a cross-cultural study or samples from different sectors of the business environment to establish the differential

effect of leadership and other factors on career adaptability because adaptability is bounded by social, institutional, and cultural context (Savickas & Porfeli, 2012). However, we feel this is a strength given the paucity of research on management phenomena in Africa.

Finally, as Africa has the lowest levels of human development in the world (United Nations Development Program, UNDP, 2014:33), studies on leadership, particularly developmental leadership would greatly help develop, upgrade, and enhance the skills set of employees to perform well in the current dynamic African work context.

Implications for Practice

Our findings may have relevant implications for organizational leaders and consultants who aim to maintain and increase employee career adaptability. Given that dynamic and technological nature of work in modern organizations, employers should see adaptability as an important recruitment and retention issue for employees. Our results indicate that developmental leadership helps employees to adapt to their careers. Developmental leadership behavior seems particularly helpful for moderately optimistic employees, as the resources leaders provide may have more of an impact on the confidence such employees than optimists. Conversely, our results suggest that optimistic employees require less developmental leadership, perhaps because they already feel confident that they can manage their own career issues.

Our study also has implications for employees. Employees who elicit optimism are more adaptable than those who are moderately optimistic; and developmental leadership is beneficial for helping moderately optimistic employees adapt to their work environment. Therefore, employers should exercise caution with regard to optimism-enhancing interventions, as these could result in unrealistic positive expectations and overconfidence (Icekson, Roskes, & Moran,

2014), leading optimistic employees to not benefit from the support developmental leaders provide, and hence affecting their adaptation to the work environment.

In addition, organizations can design work environments in ways that increase optimism, and leaders can adapt their leadership style to communicate their positive vision to followers, since we know that supportive contexts have the potential to benefit moderately optimistic employees (Garcia et al., 2015).

Conclusion

As the first to study the circumstances under which developmental leadership influences career adaptability in the African context, the findings have considerable management implications. Based on the outcome of our study, we suggest that organizations (especially those based in Africa) may benefit when leaders strive to empower their teams, especially the less optimistic members, because this has the potential to enhance adaptive and proactive forms of person-environment fit, such as career adaptability. However, further research is needed to confirm these findings in other settings, ideally utilizing more robust designs such as a longitudinal or a daily diary approach.

References

Ahearne, M., Mathieu, J., & Rapp, A. (2005). To empower or not to empower your sales force? An empirical examination of the influence of leadership empowerment behavior on customer satisfaction and performance. *Journal of Applied Psychology, 90*(5), 945- 955. Doi: 10.1037/0021-9010.90.5.945

Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions.* Newbury Park: Sage.

Ashford, S. J., & Black, J. S. (1996). Proactivity during organizational entry: The role of desire for control. *Journal of Applied Psychology*, *81,* 199-214.

Ashford, S. J., Blatt, R., & Van de Walle, D. (2003). Reflections on the looking glass: A review of research on feedback- seeking behavior in organizations. *Journal of Management*, *29,* 769-799.

Aspinwall, L.G., & Taylor, S.E. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal of Personality and Social Psychology, 63,* 989, http://dx.doi.org/10.1037/0022-3514.63.6.989.

Aspinwall, L.G., Richter, L., & Hoffman, R.R. (2001). Understanding how optimism works: An examination of optimists' adaptive moderation of belief and behavior. In E.C. Chang (Ed.), *Optimism and pessimism: Implications for Theory, Research, and Practice* (pp. 217-238). Washington, D.C: American Psychological Association.

Bakker, A.B., & Demerouti, E. (2017). Job demands-resources model: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273-285. http://dx.doi.org/10.1037/ocp0000056

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory.* Englewoods Cliff, NJ: Prentice Hall.

Bardoel, E. A., Pettit, T. M., De Cieri, H., & McMillan, L. (2014). Employee resilience: an emerging challenge for HRM. *Asia Pacific Journal of Management, 52*(3), 279-297. Doi: 10.1111/1744-7941.12033.

Bass, B. M. (1985). *Leadership and Performance Beyond Expectations*. New York: Free Press.

Bass, B. M. (1990). Bass & Stogdill's Handbook of Leadership: *Theory, Research, & Managerial Applications* (3rd Ed.). New York: Free Press.

Bimrose, J., & Hearne, L. (2012). Resilience and career adaptability: Qualitative studies of adult career counselling. *Journal of Vocational Behavior, 81,* 338–344. Doi: 10.1016/j. jvb.2012.08.002

Brown, J.D., & Marshall, M.A. (2001). Great Expectations: Optimism and Pessimism in Achievement Settings, in *Optimism and Pessimism: Implications for Theory, Research, and Practice,* ed. E. C. Chang (Washington, DC: American Psychological Association), 239-255.

Burns, J. M. (1978). *Leadership.* New York, NY: HarperCollins.

Buyukgoze-Kavas, A. (2016). Predicting career adaptability from positive psychological traits. *The Career Development Quarterly, 64*, 114-125. Doi: 10.1002/cdq.12045

Chan, S.H.J., & Mai, X. (2015). The relation of career adaptability to satisfaction and turnover intentions. *Journal of Vocational Behavior, 89,* 130-139. http://dx.doi.org/10.1016/j.jvb.2015.05.005

Carver, C.S., Scheier, M.F., & Segerstrom. (2010). Optimism. *Clinical Psychology Review, 30,*

879-889. http://dx.doi.org/10.1016/j.cpr.2010.01.006

Carver, C.S., Scheier, M.F., & Weintraub, J.K. (1989). Assessing coping strategies: A

theoretically based approach. *Journal of Personality and Social Psychology, 56,* 267-283.

Chang, E.C. (1998). Dispositional optimism and primary and secondary appraisal of a stressor:

controlling for confounding influences and relations to coping and psychological and

physical adjustment. *Journal of Personality and Social Psychology, 74,* 1109-1120.

Creed, P.A., Fallon, T., & Hood, M. (2009). The relationship between career adaptability, person

and situation variables, and career concerns in young adults. *Journal of Vocational*

Behavior, 74, 219-229.

Den Hartog, D. N., & Belschak, F. D. (2007). Personal initiative, commitment and affect at

work. *Journal of Occupational and Organizational Psychology, 80*, 601–622.

Dierendonck, D., & Dijkstra, M. (2012). The role of the follower in the relationship between

empowering leadership and empowerment: A longitudinal investigation. *Journal of*

Applied Social Psychology, 42(1), E1-E20. Doi: 10.1111/j.1559-1816.2012.01022.x

Ehrhart, M. G., & Klein, K. (2001). Predicting followers' preference for charismatic leadership:

The influence of follower value and personality. *Leadership Quarterly, 12*, 153-179.

Fleig-Palmer, M. M., Luthans, K. W., & Mandernach, B. J. (2009). Successful reemployment

through resiliency development. *Journal of Career Development, 35,* 228–247. Doi:

10.1177/0894845308327271

Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the

21st century. *Research in Organizational Behavior, 23*, 133–187.

Garcia, P.R.J.M., Restubog, S.L.D., Bordia, P., Bordia, S., & Roxas, R.E.O. (2015). Career

optimism: The roles of contextual support and career decision-making self-efficacy. *Journal of Vocational Behavior, 88,* 10-18. http://dx.org/10.1016/j.jvb.2015.02.004

Geers, A.L., Handley, I.M., & McLarney, A.R. (2003). Discerning the role of optimism in persuasion: The valance-enhancement hypothesis. *Journal of Personality and Social Psychology, 85,* 554-565.

Gibson, B., & Sanbonmatsu, D.M. (2004). Optimism, pessimism, and gambling: the downside of optimism. *Personality and Social Psychology Bulletin, 30,* 149-160. Doi: 10.1177/0146167203259929

Grant, A. M., & Parker, S. K. (2009). Redesigning work design theories: The rise of relational and proactive perspectives. *The Academy of Management Annals, 3*, 317–375

Guan, Y., Deng, H., Sun, J., Wang, Y., Cai, Z., Ye, L., Fu, R., Wang, Y., Zhang, S., & Li, Y. (2013). Career adaptability, job search self-efficacy and outcomes: A three-wave investigation among Chinese university graduates. *Journal of Vocational Behavior, 83*(3), 561–570.

Hansen, J.D., Shimbo, D., Shaffer, J.A., Hong, S., Borda, T., Ventura, A., Schwartz, J.E., Harlapur, M., & Davidson, K.W. (2010). Finding the glass half full? Optimism is protective of 10-year incident coronary heart disease in a population-based study. *The Canadian Nova Scotia Health Survey. Letters to the Editor.* Doi: 10.1016/j.ijcard.2010.08.059

Harland, L., Harrison, W., Jones, J.R.., & Reiter-Palmon, R. (2004). Leadership behaviors and subordinate resilience. *Journal of Leadership & Organizational Studies, 11*(2), 2.

Hennessey, M.L., Rumrill, P.D., Fitzgerald, S., & Roessler, R. (2008). Disadvantagement-related

correlates of career optimism among college and university students with disabilities.
Work, 30(4), 483-492.

Higgins, M., Dobrow, S.R., & Roloff, K.S. (2010). Optimism and the boundaryless career: The role of developmental relationships. *Journal of Organizational Behavior, 31,* 749-769. http://dx.doi.org/10.1002/job.693

Hirschi, A., Herrmann, A., & Keller, A. C. (2015). Career adaptivity, adaptability, and adapting: A conceptual and empirical investigation. *Journal of Vocational Behavior, 87,* 1–10. http://dx.doi.org/10.1016/j.jvb.2014.11.008.

Hmieleski, K.M., & Baron, R.A. (2009) Entrepreneurs' optimism and new venture performance: a social cognitive perspective. *Academy of Management Journal, 52,* 473–488.

Hobfoll, S.E. (2002). Social and psychological resources and adaptation. *Review of General Psychology, 6*(4), 307-324.

House, R. J. (1996). Path-goal theory of leadership: Lessons, legacy, and a reformulated theory. *The Leadership Quarterly, 7*, 323–352.

Howell, J.P., Bowen, D.E., Dorfman, P.W., Kerr, S., & Podsakoff, P.M. (1997). Substitutes for leadership: Effective alternatives to ineffective leadership. In R.P. Vecchio (Ed.). *Leadership: Understanding the Dynamics of Power and Influence in Organizations* (pp. 381-395). Notre Dame, IN: University of Notre Dome Press.

Icekson, T., Roskes, M., & Moran, S. (2014). Effects of optimism on creativity under approach and avoidance motivation. *Frontiers in Human Neuroscience, 8,* 1-6. Doi: 10.3389/fnhum.2014.00105

King, G.A., & Rothstein, M.G. (2010). *Resilience and Leadership: The Self-management of Failure* (pp. 361-394).

Kluemper, D.H., Little, L.M., & DeGroot, T. (2009). State or trait: effects of state optimism on job-related outcomes. *Journal of Organizational Behavior, 30,* 209-231. Doi: 10.1002/job.591

Kool, M. & Van Dierendonck, D. (2012). Servant leadership and commitment to change, the mediating role of justice and optimism. *Journal of Organizational Change Management, 25* (3), 422-433.

Lawler, E. E. (1986). *High Involvement Management: Participative Strategies for improving Organizational Performance*. San Francisco: Jossey-Bass.

Luthans, F. & Avolio, B. J. (2003). Authentic leadership development. In, K.S. Cameron, J.E. Dutton & R.E. Quinn (Eds.), *Positive Organizational Scholarship: Foundations of a New Discipline.* (pp. 241-258). San Francisco: CA: Berrett- Koehler.

Nguyen, Q., Kuntz, J.R.C., Näswall, K., & Malinen, S. (2016). Employee resilience and leadership styles: The moderating role of proactive personality and optimism. *New Zealand Journal of Psychology, 45*(2), 13-21.

Mills, P. K., & Ungson, G. R. (2003). Reassessing the limits of structural empowerment: Organizational constitution and trust as controls. *Academy of Management Review, 28*(1), 143-153.

Parker, S.K., & Collins, C.G. (2010). Taking stock: Integrating and differentiating multiple proactive behaviors. *Journal of Management, 36*(3), 633-662. Doi: 10.1177/0149206308321554

Pearce, C. L. & Sims, H. P. (2002). Vertical versus shared leadership as predictors of the

   effectiveness of change management teams: An examination of aversive, directive,

   transactional, transformational, and empowering leader behaviors. *Group Dynamics:*

   Theory, Research, and Practice, 6(2), 172-197. Doi: 10.1037/1089-2699.6.2.172

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N.P. (2003). Common method biases

   in behavioral research: A critical review of the literature and recommended remedies.

   Journal of Applied Psychology, 88, 879-903. Doi: 10.1037/0021-9010.88.5.879

Rafferty, A.E., Griffin, M.A. (2006). Refining individualized consideration: distinguishing

   developmental leadership and supportive leadership. *Journal of Occupational and*

   Organizational Psychology, 79, 37-61.

Rottinghaus, P. J., Day, S. X., & Borgen, F. H. (2005). The Career Futures Inventory: A measure

   of career-related adaptability and optimism. *Journal of Career Assessment, 13,* 3–24.

Sackett, A. M., & Armor, D. A. (2009). *Manipulating the Reasons for Optimism (and*

   Pessimism): Reversing Bias by Shifting Consequences. Unpublished manuscript.

Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space

   theory. *The Career Development Quarterly, 45*(3), 247–259.

Savickas, M. L. (2002). Career Construction: A Developmental Theory of Vocational Behavior.

   In D. Brown (Ed.), *Career Choice and Development* (pp. 149–205) (4th Ed.). San

   Francisco: Jossey-Bass.

Savickas, M. L. (2005). The theory and practice of career construction. In S. D. Brown, & R. W.

   Lent (Eds.), *Career Development and Counselling: Putting Theory and Research to Work*

   (pp. 42–70). Hoboken, NJ: Wiley.

Savickas, M. L., & Porfeli, E. J. (2012). Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior, 80,* 661–673. doi:10.1016/j.jvb.2012.01.011

Savickas, M. L. (2013). Career construction theory and practice. In S. D. Brown & R. W. Lent (Eds.), *Career Development and Counselling: Putting Theory and Research to Work* (2nd ed., pp. 147–183). Hoboken, NJ: John Wiley & Sons.

Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: assessment and implications of generalized outcome expectancies. *Health Psychology, 4*(3), 219-247. Doi: 10.1037/0278-6133.4.3.219

Scheier, M.F., Carver, C.S., & Bridges, M.W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A re-evaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 67,* 1063.

Scott, L. M., Hui, L., & Elizabeth, M. C. (2013). Directive versus empowering leadership: A field experiment comparing impacts on task proficiency and proactivity. *Academy of Management Journal, 56*(5), 1372.

Seibert, S. E., Kraimer, M. L., & Crant, J. M. (2001). What do proactive people do? A longitudinal model linking proactive personality and career success. *Personnel Psychology*, *54,* 845-875.

Seibert, S. E., Wang, G., & Courtright, S. H. (2011). Antecedents and consequences of psychological and team empowerment in organizations: a meta-analytic review. *Journal of Applied Psychology, 96*(5), 981. Doi: 10.1037/ a0022676

Seligman, M. E. P. (1998). Building human strength. Psychology's forgotten mission. *American Psychological Association Monitor*, *29*(1), 2.

Shamir, B., & Howell, J.M. (1999). Organizational and contextual influences on the emergence

    and effectiveness of charismatic leadership. *The Leadership Quarterly, 10,* 257-283.

Sharot, T. (2011). The optimism bias. *Current Biology, 21,* R941-R945. Doi:

    10.1016/j.cub.2011.10.030

Smith, C.A., Haynes, K.N., Lazarus, R.S., & Pope, L.K. (1993). In search of the "hot"

    cognitions: attributions, appraisals and their relation to emotion. *Journal of Personality and*

    Social Psychology, 65, 916-029. Doi: 10.1037//0022-3514.65.5.916

Spencer, S.M., & Norem, J.K. (1996). Reflection and distraction: Defensive pessimism, strategic

    optimism, and performance. *Personality and Social Psychological Bulletin, 22,* 354-365.

Spirrison, C.L., & Gordy, C.C. (1993). The constructive thinking inventory and detecting errors

    in proofreading. *Perceptual and Motor Skills, 76,* 631-634.

Sylva, H., Mol, S.T., Den Hartog, D.N., & Dorenbosch, L. (2019). Person-job fit and proactive

    career behavior: a dynamic approach. *European Journal of Work and Organizational*

    Psychology, 1-15. DOI: 10.1080/1359432X.2019.1580309

Sweeny, K., & Shepperd, J.A. (2010). The costs of optimism and the benefits of pessimism.

    Emotion, 10(5), 750-753. Doi: 10.1037/a0019016

Tharenou, P., & Terry, D. J. (1998). Reliability and validity of scores on scales to measure

    managerial aspirations. *Educational and Psychological Measurement*, *58,* 475-492.

Tolentino, L. R., Garcia, P. R. J. M., Restubog, S. L. D., Bordia, P., & Tang, R. L. (2013).

    Validation of the Career Adapt-Abilities Scale and an examination of a model of career

    adaptation in the Philippine context. *Journal of Vocational Behavior, 83*(3), 410–418.

Tolentino, L.R., Sedoglavich, V., Lu, V.N., Garcia, P.R.J.M., & Restubog, S.L.D. (2014). The role of career adaptability in predicting entrepreneurial intentions: A moderated mediation model. *Journal of Vocational Behavior, 85,* 403-412.

Varki, A. (2009). Human uniqueness and the denial of death. *Nature,* 460-684. Doi: 10.1038/460684c

Wanberg, C.R. (1997). Antecedents and outcomes of coping behaviors among unemployed and reemployed individuals. *Journal of Applied Psychology, 82,* 731.

Wang, H.J., Demerouti, E., & Le Blanc, P. (2017). Transformational leadership, adaptability, and job crafting: The moderating role of organizational identification. *Journal of Vocational Behavior, 100,* 185-195. http://dx.doi.org/10.1016/j,jvb.2017.03.009

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International journal of stress management*, *14*(2), 121-141.http://dx.doi.org/10.1037/1072-5245.14.2.121

Youssef, C.M., & Luthans, F. (2007). Positive organizational behavior in the workplace: the impact of hope, optimism, and resilience. *Journal of Management, 33,* 774-800. http://dx.doi.org/10.1177/0149206307305562

Zacher, H. (2014). Career adaptability predicts subjective career success beyond personality traits and core self-evaluations. *Journal of Vocational Behavior, 84,* 21-30.

Zhang, Y., & Chen, C.C. (2013). Developmental leadership and organizational citizenship behavior: mediating effects of self-determination, supervisor identification, and organizational identification. *The Leadership Quarterly, 24,* 534-543.

Table 5: *Descriptive Statistics, Zero-order Correlations and Reliability Coefficients of Study Variables* ($N = 210$).

Variables	Mean	SD	1	2	3	4	5	6
Sex	1.36	.48						
Age	32.49	8.15	-.16*					
Tenure	4.85	4.73	-.08	.63***				
Developmental leadership	3.72	.76	.05	-.04	-.01	(.87)		
Career optimism	3.81	.50	-.02	.00	.05	.14*	(.68)	
Career adaptability	3.92	.39	-.04	-.01	-.04	.22**	.16*	(.57)

Note: *$p < .05$, **$p < .01$, *** $p < .001$. Reliability coefficients are parenthesized.

Table 6. *Unstandardized Effects of Developmental Leadership and Career Optimism on Career Adaptability.*

Variables	Model 1		Model 2	
	Estimates	SE	Estimates	SE
Intercept	3.38***	.28	3.16***	.27
Sex	-.04	.05	-.04	.05
Age	.00	.00	.00	.00
Organizational Tenure	-.01	.01	.00	.00
Developmental Leadership	.10**	.03	.09**	.03
Career Optimism	.10*	.05	.11*	.05
Developmental leadership x Career Optimism			-.15*	.07

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.
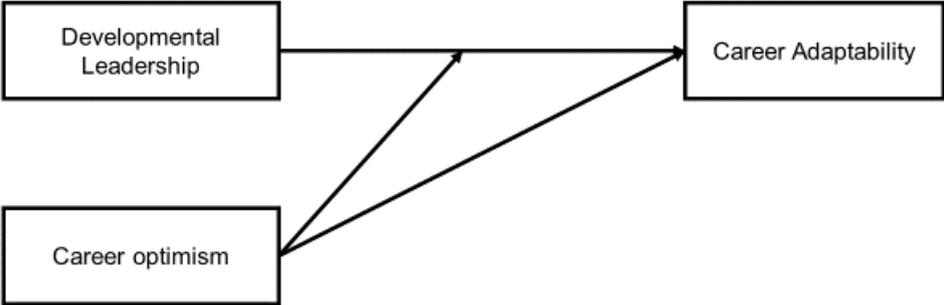
Figure 9: Hypothesized Model Showing Expected Direct and Moderated Effects.
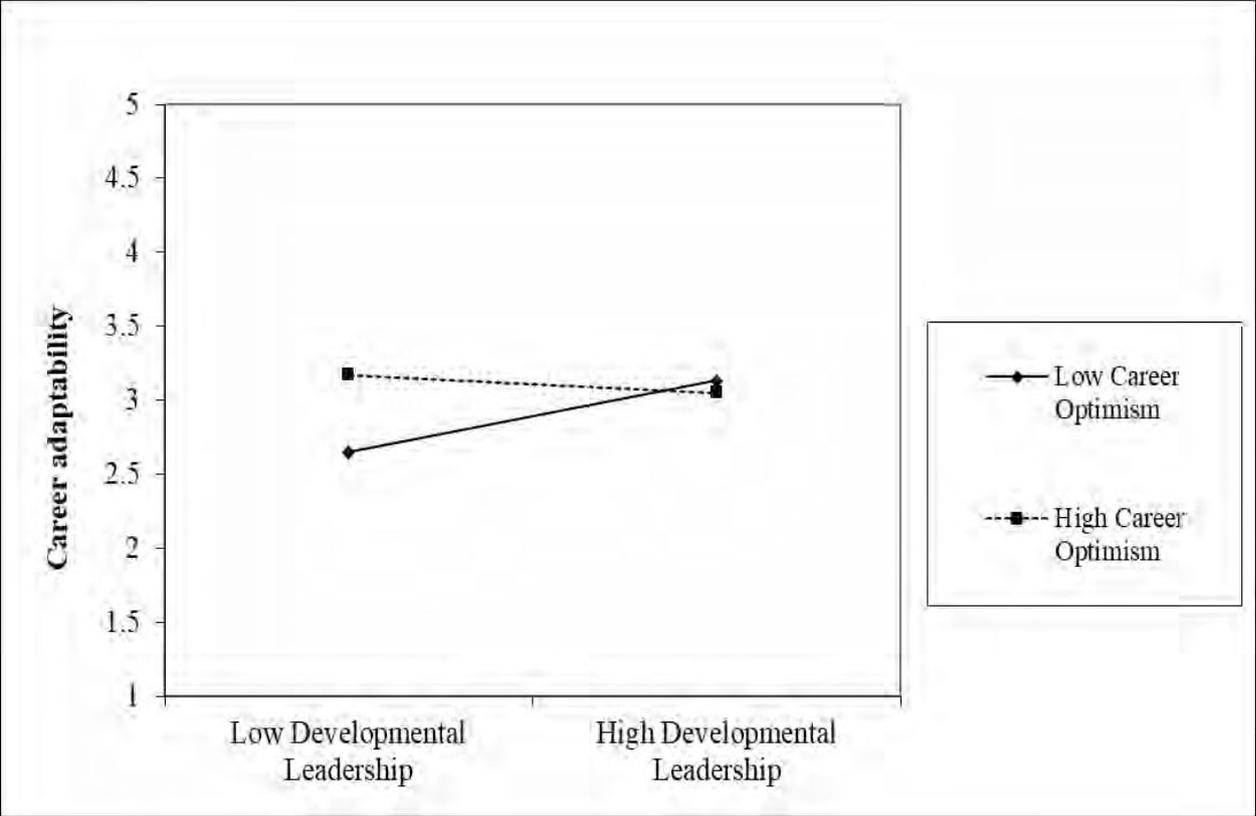
Figure 10. Career Optimism Moderates Developmental Leadership-Career Adaptability Relationship, Model 2.

CHAPTER FIVE

General Discussion

Research on work design is valuable for conceptual reasons (it helps us understand the role of work in shaping psychological outcomes such as employee wellbeing and behavior) and for practical reasons (it provides guidance regarding workplace interventions that could enhance employee wellbeing and behavior). However, it is commonly assumed that effects observed in workplaces located in wealthy Western nations are applicable more generally. We sought not only to replicate the conventional findings from work design research, but also to extend these by integrating situational with individual perspectives to reveal boundary conditions of effects, where possible by using robust methods (e.g. three wave longitudinal designs), all within the context of a non-Western nation, Ghana. Thus, this dissertation comprises three papers that examine Ghanaian work characteristics and their relationships with employee well-being and behavior, as well as boundary conditions on these relationships.

Together, the findings showed little support for our main effect predictions, either those based on traditional work design models or those with more of an employee focus. Innovation related more positively to job crafting; and dedication appeared to facilitate job crafting, paper 1 (Chapter 2). In paper 2, (Chapter 3), cognitive demands seemed to relate negatively to work engagement. Developmental leadership career optimism had significant main effect effects on career adaptability, paper 3 (Chapter 3). However, we did detect some interesting and important interaction effects.
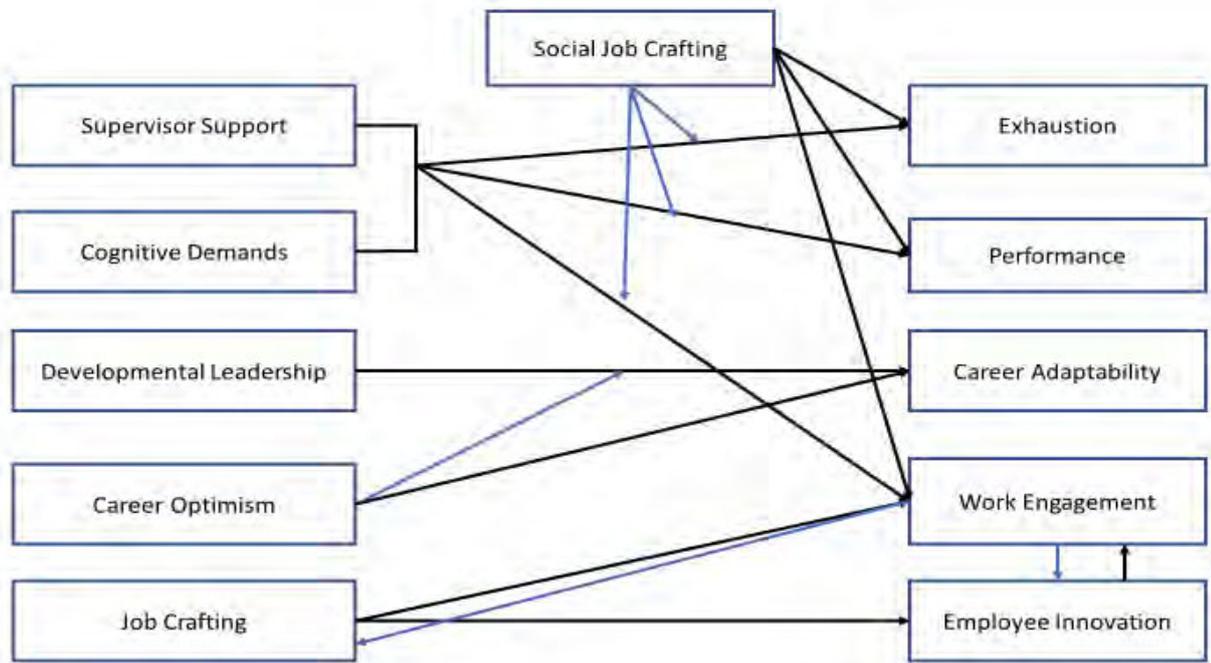
Figure 11. Hypothesized Relations in the Three Papers

Theoretical Contributions

This project contributes to literature in several meaningful ways. The three studies found some support for conventional predictions linking work characteristics to employee well-being and behavior. Results show that situational factors such as cognitive demands, supervisor support, and developmental leadership were – under the right circumstances – beneficial, at least in terms of work engagement and career adaptability. This supports some assumptions about the general applicability of reported patterns of effect in the work design literature. Even in an under-studied work context such as Ghana, actions taken by managers to provide more support, especially of a developmental nature, and to identify reasonable ways to make work cognitively challenging, can have benefits.

However, these benefits were not simple and straightforward. For example, in paper 2 (Chapter 3), the results showed that the engagement-stimulating consequences of cognitive demands were only seen in the presence of high levels of supervisor support. For cognitive

demands to enhance work proficiency, this required both supervisor support and employee-directed social job crafting. One might argue that this is indicative of differences between Ghana and Western nations in terms of cultural values or work practices. While appreciating that subtle difference may exist, our finding appears to relate reasonably with some results in the Western context (Tuckey, Bakker, & Dollard, 2012). First, the result corroborates an assumption of the Job Demands-Resources model (JD-R; Bakker & Demerouti, 2017) and of Conservation of Resources theory (Hobfoll, 1988), that is, that job demands should interact with job resources to predict well-being and performance, and that job resources are particularly salient when job demands are high. Previous studies, notably from western nations support this assumption. For example, Bakker, Van Veldhoven, and Xanthopoulous (2010) showed that task enjoyment and organizational commitment benefited from a combination of job demands and resources, with employees experiencing greater task enjoyment and organizational commitment under demanding situations, when job resources were sufficient.

Although our finding corroborates the JD-R model, effects were more complex than what previous studies have reported (cf. Bakker & Demerouti, 2017; Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Bakker, Van Veldhoven, & Xanthopoulou, 2010; Hakanen, Bakker, & Demerouti, 2005). We showed that social job crafting augmented the interactive effect of supervisor support and cognitive demands such that under cognitively demanding work environment, supervisor support and social job crafting combined to yield greater work proficiency. Hakanen, Seppala, and Peeters (2017) found that expansive job crafting (e.g., crafting structural and social resources, and challenge demands) was particularly relevant when dentist were faced with high job demands, reducing the negative effects of demands (including quantitative workload) on employee well-being (exhaustion, cynicism, vigour, and dedication). Employees who craft their social job resources take

initiative to obtain feedback from supervisors or colleagues and seek out coaching from supervisors. Such proactive behaviors engender a sense of efficacy and control in cognitively demanding work environments (cf. Fay & Sonnentag, 2002; Folkman & Lazarus, 1985; Lazarus & Folkman, 1984; Parker & Sprigg, 1999; Van Yperen & Hagedoorn, 2003). Therefore, our result relates to Tuckey and colleagues (2012), who found that under conditions of high cognitive demands and high cognitive resources, empowering leadership enabled employees to better, utilize available job resources, leading to greater work engagement. The authors explained that although job resources may be available in the work environment, these resources may not be fully utilized unless followers are empowered by their leaders.

Several interactions highlighted the importance of fit between situational factors and individual factors. For example, in paper 1 (Chapter 2), we found that job crafting (although it came close) was not significantly related to employee innovation, but greater innovation was subsequently associated with more job crafting (although, as discussed above this was only true for absorbed employees. Confirming an extant but under-studied notion of innovation as a potential antecedent of job crafting (Janssen, 2003), this finding shows that by encouraging innovation, organizations could potentially stimulate employees to perform specific forms of proactive behaviors including job crafting (cf. Chen, Farh, Campbell-Bush, Wu, & Wu, 2013; McCirmick, Guay, Colbert, & Stewart, 2019; Rosenbusch, Brinckmann, & Bausch, 2011). Similarly, we found that rather than engagement being an outcome of innovative process improvements, the vigour component of engagement was an important predictor of innovation. This highlights the value of personal resources (such as energy) in expecting employees to engage in extra-role behaviors (Bindl & Parker, 2011; cf. Frijda, 1986; Parker, 2007).

The findings in paper 1 (Chapter 2) make two important contributions to the theory of

proactive person-environment fit. The proactive person-environment fit framework contends that proactive behaviors are directed toward either the internal or the external organizational environment or to the job; and that these behaviors are distinct from each other (Parker & Collins, 2010). First, we showed that proactive behaviors aimed at improving the workplace (i.e., employee innovation) facilitated greater involvement in proactive behaviors targeted at shaping one's roles to achieve fit (i.e., job crafting), but the reverse was not true. Second, the result demonstrated that innovation related to more job crafting behavior in future for highly absorbed employees (cf. Bindl & Parker, 2011; Den Hartog & Belschak, 2007; Frijda, 1986; Martin, Ward, Achee, & Wyer, 1993; Parker, 2007). This is consistent with Bindl and Parker's (2011) assertion that staying focused is important for achieving change-related proactivity (including innovation), and that without focus one can be easily disrupted by negative events. Fritz and Sonnentag (2009) in a daily study involving civic service employees, demonstrated that positive mood related more positively to proactive behavior (e.g., taking charge) on the same day as well as on the following day.

In paper 3 (Chapter 4), we found that developmental leadership related more positively to greater career adaptability, but only for those employees low in career optimism. This result contributes to the JD-R and proactive person-environment fit framework (Bakker & Demerouti, 2017; Parker & Collins, 2010). First, we showed that developmental leadership (which can be thought of as a situational resource) increase the capabilities of followers through empowerment programs such as opportunity to learn new things, delegation, and coaching, which in turn facilitate engagement in proactive person-environment fit behaviors (i.e., career adaptability; Belschak & Den Hartog, 2012; Ohly, Sonnentag, & Pluntke, 2006). Optimism (a form of personal resource) was also associated with greater adaptability, confirming previous findings (Aspinwall, Richter, & Hoffman, 2001; Buyukgoze-Kavas, 2016; cf. Nguyen, Kuntz, Naswell, & Malinen, 2016). Aspinwall and colleagues (2001) and

Buyukgoze-Kavas (2016) showed that optimism was valuable in enabling students adapt to their academic demands. My finding shows that optimism could benefit people in work contexts. Finally, developmental leadership was beneficial to some employees, as the presence of such leadership behavior facilitated greater career adaptability for moderately optimistic employees. This outcome is similar to previous findings (cf. Hansen, Shimbo, Shaffer, Hong, Borda, Ventura, Schwartz et al., 2010; Hmieleski & Baron, 2009; Speier & Frese, 1997; Rank, Nelson, Allen, & Xu, 2010). For example, Rank and colleagues found that transformational leadership related to greater proactive behavior (i.e., innovation) for individuals with lower organization-based self-esteem compared to those high on organization-based self-esteem, denoting the compensatory effect of leadership (Bindl & Parker, 2011). Hmieleski and Baron (2009) found that entrepreneurs with relatively high business experience recorded better performance in new ventures under conditions of moderate optimism. Thus, our findings are consistent with existing theory (c.f. Hobfoll, 1988) and evidence regarding the heightened value of one resource when other resources are scarce, while also identifying how individual factors can determine the utility of situational resources.

Practical Implications

These results have potential implications for practices in Ghanaian organizations. First, we view the results in paper 2 (Chapter 3) from the organization and employee perspective, highlighting the likely effect of culture, and what Ghanaian organizations should do to achieve greater employee performance. Valuable resources (including knowledge, skills, time and others) are controlled by authoritative figures (in this case supervisors), who generally operate in a waiting mode. These resources would remain unutilized if employees are not proactive (i.e., if employees do not seek for them). Therefore, encouraging proactive behaviors (including seeking feedback from supervisors or colleagues and asking supervisors

for coaching support) or creating work environments that facilitate such behaviors could lead to greater performance, as employees may be more capable of leveraging on such behaviors when needed. Therefore, when the "reason to" factor is triggered (i.e., when work is cognitively demanding, creating a felt need for action), employees could proactively utilize job resources (including supervisory support; cf. Fay & Sonnentag, 2002; Parker & Sprigg, 1999; Van Yperen & Hagedoorn, 2003).

Managers should inculcate in employees the idea of "organization first" as demonstrated in Paper 1 (Chapter 2), where proactivity directed to organization (i.e., innovation) facilitated self-directed proactive behavior (i.e., job crafting), but self-directed proactivity did not lead to organization-based proactive behavior. Managers could socialize employees into the culture (i.e., values, attitudes, and goals) of the organization, highlighting how the practice of such a culture could yield positive benefits for the business, employees, and society. Through training, mentoring, and coaching, employees would embrace this idea of "organization first" and behave accordingly. Further, managers should encourage employees to focus and work toward the accomplishment of their work goals.

Finally, managers in Ghanaian organizations should 'know' their employees, as such a knowledge would help in directing organizational resources (e.g., training opportunities, coaching, counselling) to those who really need them. Assessment of personality characteristics, particularly optimism would help the organization, paper 3 (Chapter 4).

Overall Limitations and Suggestions for Future Research

African organizations could benefit from more efforts to collect empirical evidence linking work characteristics and job crafting to employee well-being, proactive behaviors and capability. That our results contained some unexpected findings create a need for further examination. Future studies could attempt to shed more light on the relationship between job crafting and innovation. In addition to this, researchers could further our understanding of the

work engagement scale in African countries, particularly Ghana, validating and checking the appropriateness of the items across occupations, paper 1 (Chapter 2).

In addition to this, variables in the two longitudinal studies were relatively stable over time. Although the three-month's time lag has been utilized in previous studies, more African based studies are required to broaden knowledge of time lag in longitudinal models. Most of these longitudinal models are conducted in wealthy nations. Nevertheless, the two studies had fitting models and some relevant main and interactive effects, highlighting the scientific relevance of these results (Vogt, Hakanen, Brauchli, Jenny, & Bauer, 2016). Future research should utilize longitudinal methods to confirm the cross-sectional evidence of developmental leadership resulting in increased career adaptability for moderately optimistic employees (Chapter 4).

Finally, as Ghana is categorized as a collectivist country (Hofstede, 1980), it will be prudent that future studies examine how and when collectivist cultural values influence engagement in proactive behaviors, affect leadership-outcomes, and work characteristics-outcomes relationships respectively.

Conclusion

Organizations would benefit more from their employees by investing more in designing work characteristics, displaying developmental leadership behaviors, and otherwise creating situations that have the potential to enhance employee well-being and behavior. Self-initiated forms of behaviors, particularly innovation should be encouraged in banking organizations in Ghana, as employee innovation is useful in the performance other proactive behaviors including job crafting. To leverage on the benefits of innovation, managers in banking organizations should design and sustain work environments that fosters work absorption, as being engrossed in one's work could help delivering the benefits of innovation,

that is job crafting. As work in becoming increasingly demanding, banking organizations should encourage supportive supervision, and self-initiated forms of feedback seeking behavior (i.e., social job crafting), as feedback seeking behavior may combine with supportive supervision to deliver the needed performance even under cognitively demanding circumstances. Furthermore, as developmental leadership is useful in facilitating career adaptability among moderately optimistic employees, Ghanaian organizations should encourage development-oriented forms of leadership. However, at least in Ghanaian environments, the effectiveness of such investments may be very situation specific.

References

Aspinwall, L.G., Richter, L., & Hoffman, R.R. (2001). Understanding how optimism works: An examination of optimists' adaptive moderation of belief and behavior. In E.C. Chang (Ed.), *Optimism and pessimism: Implications for Theory, Research, and Practice* (pp. 217-238). Washington, D.C: American Psychological Association.

Bakker, A.B., & Demerouti, E. (2017). Job demands-resources model: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273-285. http://dx.doi.org/10.1037/ocp0000056

Bakker, A.B., Hakanen, J.J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of Educational Psychology, 99,* 274-284.

Bakker, A.B., & Sanz-Vergel, A.I. (2013). Weekly work engagement and flourishing: The role of hindrance and challenge job demands. *Journal of Vocational Behavior, 83*, 397-409. http://dx.doi.org/10.1016/j.jvb.2013.06.008

Bakker, A.B., Van Veldhoven, M.P.M., & Xanthopoulou, D. (2010). Beyond the demand-control model: Thriving on high job demands and resources. *Journal of Personnel Psychology, 9,* 3-16.

Den Hartog, D. N., & Belschak, F. D. (2012). When does transformational leadership enhance employee proactive behavior? The role of autonomy and role breadth self-efficacy. *Journal of Applied Psychology, 97*(1), 194-202 http://dx.doi.org/10.1037/a0024903

Bindl, U.K., & Parker, S.K. (2011). Proactive work behavior: Forward-thinking and change-oriented actions in organizations. In S. Zedeck (Ed.), *APA Handbook of Industrial & Organizational Psychology*, vol. 2, *Selecting and Developing Members for the Organization*, 567-598. Washington, DC: American Psychological Association.

Buyukgoze-Kavas, A. (2016). Predicting career adaptability from positive psychological traits. *The Career Development Quarterly, 64,* 114-125. Doi: 10.1002/cdq.12045

Chen, G., Farh, J.L., Campbell-Bush, E. M., Wu, Z., & Wu, X. (2013). Teams as innovative systems: Multilevel motivational antecedents of innovation in R&D teams. *Journal of Applied Psychology, 98,* 1018–1027. https://doi.org/10.1037/a0032663

Den Hartog, D. N., & Belschak, F. D. (2007). Personal initiative, commitment and affect at work. *Journal of Occupational and Organizational Psychology, 80*(4), 601-622.

Fay, D., & Sonnentag, S. (2002). Rethinking the effects of stressors: A longitudinal study on personal initiative. *Journal of Occupational Health Psychology, 7,* 221-234.

Frijda, N. H. (1986). The emotions. Cambridge, Cambridge University Press.

Folkman, S., & Lazarus, R.S. (1985). If it changes, it must be a process: Study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology, 48,* 150-170.

Hakanen, J.J., Bakker, A.B., & Demerouti, E. (2005). How dentist cope with their job demands and stay engaged: the moderating role of job resources. *European Journal of Oral Science, 113,* 479-487.

Hakanen, J.J., Seppala, P., & Peeters, M.C.W. (2017). High job demands, still engaged and not burned out? The role of job crafting. *International Journal of Behavioral Medicine.* Doi: 10.1007/s12529-017-9638-3

Isen, A. M. (1999). On the relationship between affect and creative problem solving. In S. W. Russ (Ed.), Affect, creative experience, and psychological adjustment (pp. 3-17). Philadelphia: Taylor & Francis. Lazarus, R.S., & Folkman, S. (1984). *Stress, Appraisal, and Coping.* New York, NY: Springer.

LePine, J.A., Podsakoff, N.P., & LePine, M.A. (2005). A meta-analytic test of the challenge

stressor-hindrance stressor framework: An explanation for inconsistent relationships

among stressors and performance. *Academy of Management Journal, 48,* 764-775.

Martin, L. L., Ward, D. W., Achee, J. W., & Wyer, R. S. (1993). Mood as input: People have

to interpret the motivational implications of their moods. *Journal of Personality and

Social Psychology, 64*(3), 317-326.

McCormick, B.W., Guay, R.P., Colbert, A.E., & Stewart, G.L. (2019). Proactive personality

and proactive behavior. *Journal of Occupational and Organizational Psychology, 92,* 30-

51. Doi: 10.1111/joop.12234

Nguyen, Q., Kuntz, J.R.C., Näswall, K., & Malinen, S. (2016). Employee resilience and

leadership styles: The moderating role of proactive personality and optimism. *New

Zealand Journal of Psychology, 45*(2), 13-21.

Ohly, S., Sonnentag, S., & Pluntke, F. (2006). Routinisation, work characteristics and their

relationships with creative and proactive behaviors. *Journal of Organizational Behavior*,

27(3), 257-279.

Parker, S. K. (2007). How positive affect can facilitate proactive behavior in the work place.

Paper presented at the Academy of Management Conference, Philadelphia, USA.

Parker, S. K., & Collins, C. G. (2010). Taking stock: Integrating and differentiating multiple

proactive behaviors. *Journal of Management, 36*(3), 2010 633-662. DOI:

10.1177/0149206308321554

Parker, S.K., & Sprigg, C.A. (1999). Minimizing strain and maximizing learning: The role of

job demands, job control, and proactive personality. *Journal of Applied Psychology, 84,*

925-939.

Rank, J., Nelson, N. E., Allen, T. D., & Xu, X. (2010). Leadership predictors of innovation and task performance: Subordinates' self-esteem and self-presentation as moderators. *Journal of Occupational and Organizational Psychology, 82*(3), 465-489. http://doi.org/10.1348/096317908X371547

Rosenbusch, N., Brinckmann, J., & Bausch, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of Business Venturing, 26,* 441–457. https://doi.org/10.1016/j.jbusvent.2009.12.002

Speier, C., & Frese, M. (1997). Generalized self-efficacy as a mediator and moderator between control and complexity at work and personal initiative: A longitudinal field study in East Germany. *Human Performance, 10*(2), 171-192.

Tuckey, M.R., Bakker, A.B., & Dollard, M.F. (2012). Empowering leaders optimize working conditions for engagement: A multilevel study. *Journal of Occupational Health Psychology, 17*(1), 15-17. Doi: 10.1037/a0025942

Van Yperen, N.W., & Hagedoorn, M. (2003). Do high job demands increase intrinsic motivation, fatigue, or both? The role of job control and job social support. *Academy of Management Journal, 46,* 339-348.

Vogt, K., Hakanen, J.J., Brauchli, R., Jenny, G.J., & Bauer, G.F. (2016). The consequences of job crafting: A three-wave study. *European Journal of Work and Organizational Psychology, 25,* 353-362. http://dx.doi.org/10.1080/1359432X.2015.1072170

Wrzesniewski, A., & Dutton, J.E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review, 26*(2), 179–201.

Full List of References

Ahearne, M., Mathieu, J., & Rapp, A. (2005). To empower or not to empower your sales force? An empirical examination of the influence of leadership empowerment behavior on customer satisfaction and performance. *Journal of Applied Psychology, 90*(5), 945-955. Doi: 10.1037/0021-9010.90.5.945

Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions.* Newbury Park: Sage.

Airila, A., Hakanen, J.J., Schaufeli, W.B., Luukkonen, R., Punakallio, A., & Lusa, S. (2014). Are job and personal resources associated with work ability 10 years later? The mediating role of work engagement. *Work & Stress, 28,* 87-105. Doi:10.1080/02678373.2013.872208

Aldrich, H.E. (1999). *Organizations Evolving.* Thousand Oaks, CA: Sage.

Amabile, T.M. (1983). *The Social Psychology of Creativity.* New York: Springer-Verlag.

Ameme, B., & Wireko, J. (2016). Impact of technological innovations on customers in the banking industry in developing countries. The Business and Management Review, 7(3), 388–397.

Anderson, N., Potocnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management, 40,* 1297-1333.

Arvey, R. D., & Murphy, K. R. (1998). Performance evaluation in work settings. *Annual review of psychology, 49*(1), 141-168.

Aryee, S., Walumbwa, F.O., Zhou, Q., & Hartnell, C.A. (2012). Transformational leadership, innovative behavior, and task performance: Test of mediation and moderation processes. *Human Performance, 25*(1), 1-25. Doi: 10.1080/08959285.2011.631648

Ashford, S. J., & Black, J. S. (1996). Proactivity during organizational entry: The role of desire for control. *Journal of Applied Psychology*, *81,* 199-214.

Ashford, S. J., Blatt, R., & Van de Walle, D. (2003). Reflections on the looking glass: A review of research on feedback- seeking behavior in organizations. *Journal of Management*, *29,* 769-799.

Ashford, S.J., & Cummings, L.L. (1983). Feedback as an individual resource. Personal strategies of creating information. *Organizational Behavior and Human Performance, 32,* 370-398.

Ashford, S.J., & Cummings, L.L. (1985). Proactive feedback seeking: The instrumental use of the information environment. *Journal of Occupational Psychology, 58,* 67-79.

Aspinwall, L.G., & Taylor, S.E. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal of Personality and Social Psychology, 63,* 989, http://dx.doi.org/10.1037/0022-3514.63.6.989.

Aspinwall, L.G., Richter, L., & Hoffman, R.R. (2001). Understanding how optimism works: An examination of optimists' adaptive moderation of belief and behavior. In E.C. Chang (Ed.), *Optimism and pessimism: Implications for Theory, Research, and Practice* (pp. 217-238). Washington, D.C: American Psychological Association.

Axtell, C.M., Holman, D.J., & Wall, T. (2006). Promoting innovation: A change study. *Journal of Occupational and Organizational Psychology, 79,* 509-516. Doi: 10.1348/096317905X68240.

Axtell, C.M., Holman, D.J., Unsworth, K.L., Wall, T.D., Waterson, P.E., & Harrington, E. (2000). Shopfloor innovation: Facilitating the suggestion and implementation of ideas. *Journal of Occupational and Organizational Psychology, 73,* 265-285.

Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science, 20,* 265-269. http://dx.doi.org/10.1177/0963721411414534

Bakker, A. B., & Demerouti, E. (2017). Job demands-resources model: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273-285. http://dx.doi.org/10.1037/ocp0000056

Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management, 43,* 83–104. http://dx.doi.org/10.1002/hrm .20004

Bakker, A. B., Demerouti, E., Taris, T. W., Schaufeli, W. B., & Schreurs, P.J.G. (2003). A multigroup analysis of the job demands-resources model in four home care organizations. *International Journal of Stress Management, 10,* 16-38. Doi: 10.1037/1072-5245.10.1.16

Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of Educational Psychology, 99,* 274-284.

Bakker, A. B., Rodriguez-Munoz, A., & Sanz-Vergel, A. I. (2016). Modelling of job crafting behaviors: Implications for work engagement. *Human Relations, 69,* 169-189.

Bakker, A. B., Tims, M., & Derks, D. (2012). Proactive personality and job performance: The role of job crafting and work engagement. *Human Relations, 65,* 1359–1378. Doi: 10.1177/0018726712453471

Bakker, A.B., & Bal, M.P. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology, 83,* 189-206. Doi: 10.1348/096317909X402596

Bakker, A.B., & Demerouti, E. (2007). The job demands-resources model: state-of-the-art. *Journal of Managerial Psychology, 22*(3), 309-328.

Bakker, A.B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International, 13*(3), 209-223.

Bakker, A.B., Albrecht, S.L., & Leiter, M.P. (2011). Work engagement: Further reflections on the state of play. *European Journal of Work and Organizational Psychology, 20*(1), 74-88.

Bakker, A.B., Schaufeli, W.B., Leiter, M.P., & Taris, T.W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress, 22*(3), 187-200. Doi: 10.1080/02678370802393649

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory.* Englewoods Cliff, NJ: Prentice Hall.

Bardoel, E. A., Pettit, T. M., De Cieri, H., & McMillan, L. (2014). Employee resilience: an emerging challenge for HRM. *Asia Pacific Journal of Management, 52*(3), 279-297. Doi: 10.1111/1744-7941.12033.

Barnett, V., & Lewis, T. (1994). *Outliers in statistical data* (3rd Ed.). New York: Wiley.

Bass, B. M. (1985). *Leadership and Performance Beyond Expectations*. New York: Free Press.

Bass, B. M. (1990). Bass & Stogdill's Handbook of Leadership: *Theory, Research, & Managerial Applications* (3rd Ed.). New York: Free Press.

Berg, J. M., Dutton, J. E., & Wrzesniewski, A. (2013). Job crafting and meaningful work. In B. J. Dik, Z. S. Byrne & M. F. Steger (Eds.), Purpose and meaning in the workplace (pp. 81-104). Washington, DC: American Psychological Association.

Berg, J., Dutton, J., & Wrzesniewski, A. (2008). *What is Job Crafting and Why Does it Matter?* Retrieved from http://positi veorgs.bus.umich.edu/wp-content/uploads/What-is-Job-Crafting-and-Why-Does-it-Matter1.pdf

Berg, J.M., Grant, A.M., & Johnson, V. (2010). When callings are calling crafting work and leisure in pursuit of unaswered occupational callings. *Organization Science, 215*(5), 973-994. Doi: 10.1287/orsc.1090.0497

Biggs, A., Brough, P., & Barbour, J.P. (2014). Enhancing work-related attitudes and work engagement: A quasi-experimental study of the impact of a leadership development intervention. *International Journal of Stress Management, 21*(1), 43-68. Doi: 10.1037/a0034508

Bimrose, J., & Hearne, L. (2012). Resilience and career adaptability: Qualitative studies of adult career counselling. *Journal of Vocational Behavior, 81,* 338–344. Doi: 10.1016/j. jvb.2012.08.002

Bindl, U. K., Parker, S. K., Totterdell, P., & Hagger-Johnson, G. (2012). Fuel of the self-starter: How mood relates to proactive goal regulation. *Journal of Applied Psychology, 97*(1), 134.

Bindl, U.K., Unsworth, K.L., Gibson, C.B., & Stride, C.B. (2019). Job crafting revisited. Implications of an extended framework for active change at work. *Journal of Applied Psychology, 104*(5), 605-628. http://dx.doi.org/10.1037/ap10000362

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt, W. C. Borman, and associates (Eds.), *Personnel Selection in Organizations,* 71–98. San Francisco: Jossey-Bass.

Breevaart, K., & Bakker, A.B. (2017). Daily job demands and employee work engagement: The role of daily transformational leadership behavior. *Journal of Occupational Health Psychology,* 1-41. Doi: 10.1037/ocp0000082

Brook, A.T., Garcia, J., & Fleming, M. (2008). The effects of multiple identities on psychological well-being. *Personality and Social Psychology Bulletin, 34*(12), 1588-1600 DOI: 10.1177/0146167208324629

Brough, P., & Pears, J. (2004). Evaluating the influence of the type of social support on job satisfaction and work related psychological well-being. *International Journal of Organizational Behavior, 8,* 472-485.

Brough, P., Timms, C., Siu, O.I., Kalliath, T., O'Driscoll, M.P., Sit, C.H.P. (2013). Validation of the job demands-resources model in cross-national samples: Cross-sectional and longitudinal predictions of psychological strain and work engagement. *Human Relations, 66*(10), 1311-1335. Doi: 10.1177/0018726712472915

Brown, J.D., & Marshall, M.A. (2001). Great Expectations: Optimism and Pessimism in Achievement Settings, in *Optimism and Pessimism: Implications for Theory, Research, and Practice,* ed. E. C. Chang (Washington, DC: American Psychological Association), 239-255.

Burns, J. M. (1978). *Leadership.* New York, NY: HarperCollins.

Buyukgoze-Kavas, A. (2016). Predicting career adaptability from positive psychological traits. *The Career Development Quarterly, 64*, 114-125. Doi: 10.1002/cdq.12045

Caesens, G., Marique, G., Hanin, D., & Stinglhamber, F. (2016). The relationship between perceived organizational support and proactive behavior directed towards the organization. *European Journal of Work and Organizational Psychology, 25*(3), 398-411, DOI: 10.1080/1359432X.2015.1092960

Carmeli, A., Gilat, G., & Weisberg, J. (2006). Perceived external prestige, organizational identification, and affective commitment: a stakeholder approach. *Corporate Reputation Review*, *9,* 92–104.

Carver, C.S., Scheier, M.F., & Segerstrom. (2010). Optimism. *Clinical Psychology Review, 30,* 879-889. http://dx.doi.org/10.1016/j.cpr.2010.01.006

Carver, C.S., Scheier, M.F., & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56,* 267-283.

Cavanaugh, M.A., Boswell, W.R., Roehling, M.V., & Boudreau, J.W. (2000). An empirical examination of self-reported work stress among U.S. managers. *Journal of Applied Psychology, 85,* 65-74.

Chan, S.H.J., & Mai, X. (2015). The relation of career adaptability to satisfaction and turnover intentions. *Journal of Vocational Behavior, 89,* 130-139. http://dx.doi.org/10.1016/j.jvb.2015.05.005

Chang, E.C. (1998). Dispositional optimism and primary and secondary appraisal of a stressor: controlling for confounding influences and relations to coping and psychological and physical adjustment. *Journal of Personality and Social Psychology, 74,* 1109-1120.

Conway, J.M., & Lance, C.E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology, 25,* 325-334. Doi: 10.1007/s10869-010-9181-6

Cooper-Thomas, H.D., Paterson, N.L., Stadler, M.J., & Saks, A.M. (2014). The relative importance of proactive behaviors and outcomes for predicting newcomer learning, well-being, and work engagement. *Journal of Vocational Behavior, 84,* 318-331. http://dx.doi.org/10.1016/j.jvb.2014.02.007

Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management, 26*, 435–462.

Crawford, E. R., LePine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology, 95,* 834–848. Doi: 10.1037/a0019364

Creed, P.A., Fallon, T., & Hood, M. (2009). The relationship between career adaptability, person and situation variables, and career concerns in young adults. *Journal of Vocational Behavior, 74,* 219-229.

Dawson, J.F., & Richter, A.W. (2006). Probing three-way interaction in moderated multiple regression. Development and application of a slope difference test. *Journal of Applied Psychology, 91,* 917-926.

De Dreu, C. K. W., & West, M. A. (2001). Minority dissent and team innovation: The importance of participation in decision-making. *Journal of Applied Psychology*, *86*, 1191–1201.

Demerouti, E., Bakker, A. B., & Gevers, J. M. (2015). Job crafting and extra-role behavior: The role of work engagement and flourishing. *Journal of Vocational Behavior*, *91*, 87-96.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86,* 499–512.

Demerouti, E., Bakker, A.B., Nachreiner, F., & Schaufeli, W.B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86,* 499–512.

Den Hartog, D. N., & Belschak, F. D. (2007). Personal initiative, commitment and affect at work. *Journal of Occupational and Organizational Psychology, 80*, 601–622.

Dierendonck, D., & Dijkstra, M. (2012). The role of the follower in the relationship between empowering leadership and empowerment: A longitudinal investigation. *Journal of Applied Social Psychology, 42*(1), E1-E20. Doi: 10.1111/j.1559-1816.2012.01022.x

Don, B.P., Girme, Y.U., & Hammond, M.D. (2019). Low self-esteem predicts indirect support seeking and its relationship consequences in intimate relationships. *Personality and Social Psychology Bulletin 2019, 45*(7) 1028–1041. DOI: 10.1177/0146167218802837

Dormann, C., & Griffin, M. A. (2015). Optimal time lags in panel studies. *Psychological Methods, 20*(4), 489-505.http://dx.doi.org/10.1037/met0000041

Doty, D.H., & Glick, W.H. (1998). Common methods bias: Does common methods variance really bias results. *Organizational Research Methods, 1*(4), 378-406.

Ehrhart, M. G., & Klein, K. (2001). Predicting followers' preference for charismatic leadership: The influence of follower value and personality. *Leadership Quarterly, 12*, 153-179.

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology, 71,* 500-507. Doi: 10. 1037/0021-9010.71.3.500

Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I.L., & Rhoades, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of Applied Psychology, 87,* 565-573. Doi: 10. 1037/0021-9010.87.3.565

Evans, M.G. (1985). A Monte Carlo study of the effects of correlated method variance in moderated multiple regression analysis. *Organizational Behavior and Human Decision Processes, 36*(3), 305-323. http://doi.org/10.1016/0749-5978 (85)90002-0

Farr, J. L., & Ford, C. M. (1990). Individual innovation. In M. A. West & J. L. Farr (Eds.), *Innovation and creativity at work: Psychological and organizational strategies*. Chichester: Wiley.

Feldman, D.C., & Brett, J. M. (1983). Coping with new jobs: A comparative study of new hires and job changers. *Academy of Management Journal, 26*, 258-272.

Fleig-Palmer, M. M., Luthans, K. W., & Mandernach, B. J. (2009). Successful reemployment through resiliency development. *Journal of Career Development, 35,* 228–247. Doi: 10.1177/0894845308327271

Frederickson, B.L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56,* 218-226.

Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the 21st century. *Research in Organizational Behavior, 23*, 133–187.

Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the 21st century. *Research in Organizational Behavior, 23,* 133–187. San Diego, CA: JAI.

Frese, M., & Zapf, D. (1994). Action as the core of work psychology: A German approach. In H.C. Triandis, M.D. Dunnette, & L.M. Hough (Eds.), *Handbook of Industrial and Organizational Psychology* (Vol. 4, pp. 271-340). Palo Alto, CA: Consulting Psychologists Press.

Frese, M., Kring, W., Soose, A., & Zempel, J. (1996). Personal initiative at work: Differences between East and West Germany. *Academy of Management Journal, 39*, 37-63.

Garcia, P.R.J.M., Restubog, S.L.D., Bordia, P., Bordia, S., & Roxas, R.E.O. (2015). Career optimism: The roles of contextual support and career decision-making self-efficacy. *Journal of Vocational Behavior, 88,* 10-18. http://dx.org/10.1016/j.jvb.2015.02.004

Geers, A.L., Handley, I.M., & McLarney, A.R. (2003). Discerning the role of optimism in persuasion: The valance-enhancement hypothesis. *Journal of Personality and Social Psychology, 85,* 554-565.

Geldenhuys, M., taba, K., & Venter, C.M. (2014). Meaningful work, work engagement, and organizational commitment. *South African Journal of Industrial Psychology, 40*(1), 1-10. http:// dx.doi.org/10.4102/sajip.v40i1.1098

Ghitulescu, B. E. (2013). Making change happen: The impact of work context on adaptive and proactive behaviors. *The Journal of Applied Behavioral Science*, *49*(2), 206-245.

Gibson, B., & Sanbonmatsu, D.M. (2004). Optimism, pessimism, and gambling: the downside of optimism. *Personality and Social Psychology Bulletin, 30,* 149-160. Doi: 10.1177/0146167203259929

Gomes, C., Curral, L., & Caetano, A. (2015). The mediating effect of work engagement on the relationship between self-leadership and individual innovation. *International Journal of Innovation Management, 19*(1), 1-18. Doi: 10.1142/S1363919615500097

Grant, A. M., & Ashford, S. J. (2008). The dynamics of proactivity at work. *Research in Organizational Behavior, 28,* 3–34.

Grant, A. M., & Parker, S. K. (2009). Redesigning work design theories: The rise of relational and proactive perspectives. *The Academy of Management Annals, 3*, 317–375

Grant, A. M., Fried, Y., Parker, S. K., & Frese, M. (2010). Putting job design in context: Introduction to the special issue. *Journal of Organizational Behavior*, *31*(2-3), 145-157. Doi: 10.1002/job.679

Griffin, M.A., Neal, A., & Parker, S.K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. *Academy of Management Journal, 50*, 327–347.

Guan, Y., Deng, H., Sun, J., Wang, Y., Cai, Z., Ye, L., Fu, R., Wang, Y., Zhang, S., & Li, Y. (2013). Career adaptability, job search self-efficacy and outcomes: A three-wave investigation among Chinese university graduates. *Journal of Vocational Behavior, 83*(3), 561–570.

Hakanen, J., Bakker, A.B., & Schaufeli, W.B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology, 43,* 495-513. Doi:10.1016/j.jsp.2005.11.001

Hakanen, J.J., & Koivumaki, J. (2014). Engaged or exhausted-How does it affect dentists' clinical productivity? *Burnout Research, 1,* 12-18. Doi: 10.1023/A: 1025007614869

Hakanen, J.J., Bakker, A.B., & Demerouti, E. (2005). How dentist cope with their job demands and stay engaged: the moderating role of job resources. *European Journal of Oral Science, 113,* 479-487.

Hakanen, J.J., Perhoniemi, R., & Toppinen-Tanner, S. (2008). Positive gain spirals at work: From job resources to work engagement. *Journal of Vocational Behavior, 73,* 78-91. Doi:10.1016/j.jvb.2008.01.003

Hakanen, J.J., Seppala, P., & Peeters, M.C.W. (2017). High job demands, still engaged and not burned out? The role of job crafting. *International Journal of Behavioral Medicine.* Doi: 10.1007/s12529-017-9638-3

Hansen, J.D., Shimbo, D., Shaffer, J.A., Hong, S., Borda, T., Ventura, A., Schwartz, J.E., Harlapur, M., & Davidson, K.W. (2010). Finding the glass half full? Optimism is proatective of 10-year incident coronary heart disease in a population-based study. *The Canadian Nova Scotia Health Survey. Letters to the Editor.* Doi: 10.1016/j.ijcard.2010.08.059

Harju, L.K., Hakanen, J.J., & Schaufeli, W.B. (2016). Can job crafting reduce boredom and increase work engagement? A three-year cross-lagged panel study. *Journal of Vocational Behavior, 95, 11-*20, http://dx.doi.org/10.1016/j.jvb.2016.07.001

Harland, L., Harrison, W., Jones, J.R.., & Reiter-Palmon, R. (2004). Leadership behaviors and subordinate resilience. *Journal of Leadership & Organizational Studies, 11*(2), 2.

Hennessey, M.L., Rumrill, P.D., Fitzgerald, S., & Roessler, R. (2008). Disadvantagement-related correlates of career optimism among college and university students with disabilities. *Work, 30*(4), 483-492.

Hesketh, B., & Neal, A. (1999). Technology and performance. In D. R. Ilgen & E. D. Pulakos (Eds.), *The changing Nature of Performance: Implications For Staffing, Motivation, and Development,* pp. 21–55. San Francisco: Jossey-Bass.

Higgins, M., Dobrow, S.R., & Roloff, K.S. (2010). Optimism and the boundaryless career: The role of developmental relationships. *Journal of Organizational Behavior, 31,* 749-769. http://dx.doi.org/10.1002/job.693

Hirschi, A., Herrmann, A., & Keller, A. C. (2015). Career adaptivity, adaptability, and

adapting: A conceptual and empirical investigation. *Journal of Vocational Behavior, 87,*

1–10. http://dx.doi.org/10.1016/j.jvb.2014.11.008.

Hmieleski, K.M., & Baron, R.A. (2009) Entrepreneurs' optimism and new venture

performance: a social cognitive perspective. *Academy of Management Journal, 52,* 473–

488.

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General*

Psychology, 6, 307–324. Doi:10.1037/1089-2680.6.4.307

Hobfoll, S.E. (1989). Conservation of resources: A new attempt at conceptualizing stress.

American Psychologist, 44(3), 513-524.

Hobfoll, S.E. (2001). The influence of culture, community, and the nested-self in the stress

process: advancing conservation of resources theory. *Applied Psychology: An*

International Review, 50, 337-421. Doi: 10.1111/1464-0597.00062

Hobfoll, S.E. (2002). Social and psychological resources and adaptation. *Review of General*

Psychology, 6(4), 307-324.

Holland, P., Cooper, B., & Sheehan, C. (2016). Employee voice, supervisor support, and

engagement: The mediating role of trust. *Human Resource Management, 56*(6), 915-

929. https://doi.org/10.1002/hrm.21809

Holman, D., Totterdell, P., Axtell, C., Stride, C., Port, R., Svensson, R., & Zibarras, L.

(2011). Job design and the employee innovation process: The mediating role of learning

strategies. *Journal of Business Psychology*. doi:10.1007/s10869-011-9242-5

House, R. J. (1996). Path-goal theory of leadership: Lessons, legacy, and a reformulated

theory. *The Leadership Quarterly, 7*, 323–352.

Howard, A. (1995). *The changing nature of work.* San Francisco: Jossey-Bass.

Howell, J.P., Bowen, D.E., Dorfman, P.W., Kerr, S., & Podsakoff, P.M. (1997). Substitutes

for leadership: Effective alternatives to ineffective leadership. In R.P. Vecchio (Ed.).

Leadership: Understanding the Dynamics of Power and Influence in Organizations (pp.

381-395). Notre Dame, IN: University of Notre Dome Press.

Icekson, T., Roskes, M., & Moran, S. (2014). Effects of optimism on creativity under

approach and avoidance motivation. *Frontiers in Human Neuroscience, 8,* 1-6. Doi:

10.3389/fnhum.2014.00105

Inoue, A., Kawakami, N., Tsutsumi, A., Shimazu, A., Miyaki, K., Takahashi, M., Kurioka,

S., Eguchi, H., Tsuchiya, M., Enta, K., Kosugi, Y., Sakata, T., & Totsuzaki, T. (2014).

Association of job demands with work engagement of Japanese employees: comparison

of challenges and hindrances (J-HOPE). PLoS ONE, 9(3), e91583. Doi:

10.1371/journal.pone.0091583

Janssen, O. (2003). Innovative behavior and job involvement at the price of conflict and less

satisfactory relations with co-workers. *Journal of Occupational and Organizational

Psychology, 76,* 347–364.

Jin, M.H., & McDonald, B. (2017). Understanding employee engagement in the public

sector: The role of immediate supervisor, perceived organizational support and learning

opportunities. *American Review of Public Administration, 47*(8), 881-897. Doi:

10.1177/0275074016643817

Kang, J.H., Solomon, G.T., & Choi, D.Y. (2015). CEOs' leadership styles and managers'

innovative behavior: investigation of intervening effects in an entrepreneurial context.

Journal of Management Studies, 52, 531–554.

Karasek, R.A. (1979). Job demands, job decision latitude, and mental strain: implications for

job redesign. *Administrative Science Quarterly, 24*(2), 285-308.

Kim, S., Park, Y.A., & Headrick, L. (2018). Daily micro-breaks and job performance: general work engagement as a cross-level moderator. *Journal of Applied Psychology, 103*(7), 772-786. http://dx.doi.org/10.1037/ap10000308

King, G. A., & Rothstein, M. G. (2010). *Resilience and Leadership: The Self-management of Failure* (pp. 361-394).

King, S. (2006). It is OK to Micromanage Sometimes. http://www.2-speed.com/2006/12/its-ok-to-micromanage-sometimes.

Kluemper, D.H., Little, L.M., & DeGroot, T. (2009). State or trait: effects of state optimism on job-related outcomes. *Journal of Organizational Behavior, 30,* 209-231. Doi: 10.1002/job.591

Kool, M. & Van Dierendonck, D. (2012). Servant leadership and commitment to change, the mediating role of justice and optimism. *Journal of Organizational Change Management, 25* (3), 422-433.

Lawler, E. E. (1986). *High Involvement Management: Participative Strategies for improving Organizational Performance*. San Francisco: Jossey-Bass.

Leiter, M.R., & Bakker, A. (2010). Work engagement: Introduction. In *Work Engagement: A Handbook of Essential Theory and Research,* A Bakker and MP Leiter (eds.), pp. 1-9. East Sussex, UK: Psychology Press.

LePine, J. A., Podsakoff, N. P., & LePine, M. A. (2005). A meta-analytic test of the challenge stressor–hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance. *Academy of Management Journal, 48,* 764–775. Doi: 10.5465/AMJ.2005.18803921

LePine, J.A., LePine, M.A., & Jackson, C. (2004). Challenge and hindrance stress: Relationship with exhaustion, motivation to learn, and learning performance. *Journal of Applied Psychology, 89,* 883-891.

Leys, C., Ley, C., Klein, O., Bernard, P., Licata, L. (2013). Detecting outliers: Do not use standard deviation around the mean, use absolute deviation around the median. *Journal of Experimental Social Psychology, 49,* 764-766.

Li, W. D., Fay, D., Frese, M., Harms, P. D., & Gao, X. Y. (2014). Reciprocal relationship between proactive personality and work characteristics: A latent change score approach. *Journal of Applied Psychology, 99*(5), 948-965. Doi: 10.1037/a0036169

Liu, C., & Li, H. (2018). Stressors and stressor appraisal: the moderating effect of task efficacy. *Journal of Business Psychology, 33,* 141-154. Doi: 10.1007/s10869-016-9483-4

Llorens, S., Schaufeli, W., Bakker, A., & Salanova, M. (2007). Does a positive gain spiral of resources, efficacy beliefs and engagement exist? *Computers in Human Behavior, 23,* 825–841. doi:10.1016/j.chb.2004.11.012

Luthans, F. & Avolio, B. J. (2003). Authentic leadership development. In, K.S. Cameron, J.E. Dutton & R.E. Quinn (Eds.), *Positive Organizational Scholarship: Foundations of a New Discipline.* (pp. 241-258). San Francisco: CA: Berrett- Koehler.

Lyons, P. (2008). The crafting of jobs and individual differences. *Journal of Business Psychology, 23*(1–2), 25–36.

Maslach, C., & Jackson, S.E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior, 2,* 99-113.

Mattarelli, E., & Tagliaventi, M. R. (2015). How offshore professionals' job dissatisfaction can promote further offshoring organizational outcomes of job crafting. *Journal of Management Studies, 52,* 585–620. doi:10.1111/j.1467-6486.2012. 01088. X

Mazzola, J. J., & Disselhorst, R. (2019). Should we be "challenging" employees? A critical review and meta-analysis of the challenge-hindrance model of stress. *Journal of Organizational Behavior*, 1-13. Doi: 10.1002/job.2412

Mills, P. K., & Ungson, G. R. (2003). Reassessing the limits of structural empowerment: Organizational constitution and trust as controls. *Academy of Management Review, 28*(1), 143-153.

Morrison EW, Phelps C. (1999). Taking charge: Extra-role efforts to initiate workplace change. *Academy of Management Journal, 42*, 403–419.

Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied psychology, 79*(4), 475-480.

Murphy, P. R., & Jackson, S. E. (1999). Managing work-role performance: Challenges for 21st century organizations and employees. In D. R. Ilgen & E. D. Pulakos (Eds.). *The Changing Nature of Work Performance:* 325–365. San Francisco: Jossey-Bass.

Murray, S.L., Holmes, J.G., & Griffin, D.W. (2000). Self-esteem and the quest for felt security. How perceived regard regulates attachment processes. *Journal of Personality and Social Psychology, 78*(3), 478-498. Doi: 10.1037//0022-3514.78.3.478

Nahrgang, J.D., Morgeson, F.P., & Hofmann, D.A. (2011). Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology, 96,* 71-94. Doi: 10.1037/a0021484

Nelson, D.L., & Quick, J.C. (1991). Social support and newcomer adjustment in organizations: Adjustment theory at work. *Journal of Organizational Behavior, 12*(6), 543-554.

Nguyen, Q., Kuntz, J.R.C., Näswall, K., & Malinen, S. (2016). Employee resilience and leadership styles: The moderating role of proactive personality and optimism. *New Zealand Journal of Psychology, 45*(2), 13-21.

Nielsen, K., Randall, R., Holten, A.L., & Rial-Gonzales, E. (2010). Conducting organizational-level occupational health interventions: what works? *Work & Stress, 22,* 16-32. Doi: 10.1080/02678373.2010.515393

Obeng, A.Y., & Boachie, E. (2018). The impact of IT technological innovation on the productivity of bank's employee. Cogent Business & Management, 5, 1-19. https://doi.org/10.1080/23311975.2018.1470449

Okpara, O.L. (2017). Micro managing: Between management styles and environmental realities. *International Journal of Business and Management Intervention, 6*(8), 64-72.

Parker, S. K. (1998). Role breadth self-efficacy: Relationship with work enrichment and other organizational practices. *Journal of Applied Psychology, 83,* 835–852.

Parker, S. K. (2007). How positive affect can facilitate proactive behavior in the work place. *Paper presented at the Academy of Management Conference*, Philadelphia, USA.

Parker, S. K. (2014). Beyond Motivation: Job and Work Design for Development, Health, Ambidexterity, and More. *Annual Review of Psychology, 65*, 661-691.

Parker, S.K., & Axtell, C.M. (2001). Seeing another viewpoint: Antecedents and outcomes of employee perspective. *Academy of Management Journal, 44*(6), 1085-1100.

Parker, S.K., & Collins, C.G. (2010). Taking stock: Integrating and differentiating multiple proactive behaviors. *Journal of Management, 36*(3), 633-662. Doi: 10.1177/0149206308321554

Parker, S.K., & Ohly, S. (2008). Designing motivating work. In R. Kanfer, G. Ghen, & R. D. Pritchard (Eds.). *Work Motivation: Past, Present, and Future* (pp. 233-384). New York, NY: Routledge.

Parker, S.K., & Sprigg, C.A. (1999). Minimizing strain and maximizing learning: The role of job demands, job control, and proactive personality. *Journal of Applied Psychology, 84,* 925-939.

Parker, S.K., Bindl, U.K., & Strauss, K. (2010). Making things happen: A model of proactive motivation. *Journal of Management, 36*(1), 827-856. Doi: 10.1177/0149206310363732

Parker, S.K., Johnson, A., & Nguyen, H. (2013). Making the most of structural support: moderating influence of employees' clarity and negative affect. *Academy of Management Journal, 56*(3), 867-892. http://dx.doi.org/10.5465/qmj.2010.0927

Parker, S.K., Williams, H.M., & Turner, N. (2006). Modeling the antecedents of proactive behavior at work. *Journal of Applied Psychology, 91*, 636–652.

Pearce, C. L. & Sims, H. P. (2002). Vertical versus shared leadership as predictors of the effectiveness of change management teams: An examination of aversive, directive, transactional, transformational, and empowering leader behaviors. *Group Dynamics: Theory, Research, and Practice, 6*(2), 172-197. Doi: 10.1037/1089-2699.6.2.172

Peral, S., & Geldenhuys, M. (2016). The effects of job crafting on subjective well-being amongst South African high school teachers. *South African Journal of Industrial Psychology, 42*(1), 1-13. http://dx.doi.org/10.4102/sajip.v42i1.1378

Petrou, P., Bakker, A.B., van den Heuvel, M. (2016). Weekly job crafting and leisure crafting: Implications for meaning-making and work engagement. *Journal of Occupational and Organizational Psychology,* 1-24. Doi: 10.1111/joop.12160

Petrou, P., Demerouti, E., & Peeters, M.C.W., Schaufeli, W.B., & Hetland, J. (2012). Crafting a job on a daily basis: Contextual correlates and the link to work engagement. *Journal of Organizational Behavior,* 33(8), 1120–1141.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88,* 879–903. doi:10.1037/0021-9010.88.5.879

Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. *Journal of Applied Psychology, 85,* 612–624.

Rafferty, A.E., Griffin, M.A. (2006). Refining individualized consideration: distinguishing developmental leadership and supportive leadership. *Journal of Occupational and Organizational Psychology, 79,* 37-61.

Rank, J., Nelson, N. E., Allen, T. D., & Xu, X. (2010). Leadership predictors of innovation and task performance: Subordinates' self-esteem and self-presentation as moderators. *Journal of Occupational and Organizational Psychology, 82*(3), 465-489. http://doi.org/10.1348/096317908X371547

Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job engagement: Antecedents and effects on job performance. *Academy of Management Journal*, *53*, 617-635.

Riordan, C.M. (2010). Sometimes Micromanaging is good…..and necessary. Dean, Daniel College of Business, University of Denver, USA.

Rosenbusch, N., Brinckmann, J., & Bausch, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of Business Venturing, 26,* 441–457. https://doi.org/10.1016/j.jbusvent.2009.12.002

Rottinghaus, P. J., Day, S. X., & Borgen, F. H. (2005). The Career Futures Inventory: A measure of career-related adaptability and optimism. *Journal of Career Assessment, 13,* 3–24.

Rudolph, C.W., Katz, I.M., Lavigne, K.N., & Zacher, H. (2017). Job crafting: A meta-analysis of relationships with individual differences, job characteristics, and work outcomes. *Journal of Vocational Behavior, 102,* 112-138. http://dx.doi.org/10.1016/j.jvb.2017.05.008

Sackett, A. M., & Armor, D. A. (2009). *Manipulating the Reasons for Optimism (and Pessimism): Reversing Bias by Shifting Consequences.* Unpublished manuscript.

Salanova, M., Agut, S., & Peiro´, J. M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: The mediation of service climate. *Journal of Applied Psychology, 90,* 1217–1227.

Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *The Career Development Quarterly, 45*(3), 247–259.

Savickas, M. L. (2002). Career Construction: A Developmental Theory of Vocational Behavior. In D. Brown (Ed.), *Career Choice and Development* (pp. 149–205) (4th Ed.). San Francisco: Jossey-Bass.

Savickas, M. L. (2005). The theory and practice of career construction. In S. D. Brown, & R. W. Lent (Eds.), *Career Development and Counselling: Putting Theory and Research to Work* (pp. 42–70). Hoboken, NJ: Wiley.

Savickas, M. L. (2013). Career construction theory and practice. In S. D. Brown & R. W. Lent (Eds.), *Career Development and Counselling: Putting Theory and Research to Work* (2nd ed., pp. 147–183). Hoboken, NJ: John Wiley & Sons.

Savickas, M. L., & Porfeli, E. J. (2012). Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior, 80,* 661–673. Doi:10.1016/j.jvb.2012.01.011

Schaufeli, W. B., & Bakker, A. B. (2010). The conceptualization and measurement of work engagement: a review in Work Engagement: *A Handbook of Essential Theory and Research*, eds A. B. Bakker and M. P. Leiter (New York, NY: Psychology Press).

Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson, S. E. (1996). The Maslach Burnout

Inventory—General Survey. In C. Maslach, S. E. Jackson, & M. P. Leiter (Eds.),

Maslach Burnout Inventory: Manual (3rd ed., pp. 19 –26). Palo Alto, CA: Consulting

Psychologists Press

Schaufeli, W.B. (2012). Work engagement. What do we know and where do we go? *Romanian

Journal of Applied Psychology, 14*(1), 3-10.

Schaufeli, W.B., & Bakker, A.B. (2004). Job demands, job resources, and their relationship

with burnout and work engagement: A multi-sample study. *Journal of Organizational

Behavior,* 25, 293-315. Doi: 10.1002/job.248

Schaufeli, W.B., Bakker, A.B., & Salanova, M. (2006). The measurement of work

engagement with a brief questionnaire: A cross-national study. *Educational and

Psychological Measurement, 66,* 701-716.

Schaufeli, W.B., Bakker, A.B., & Van Rhenen, W. (2009). How changes in job demands and

resources predict burnout, work engagement, and sickness absenteeism. *Journal of

Organizational Behavior, 30,* 893-917. Doi: 10.1002/job.595

Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: assessment and

implications of generalized outcome expectancies. *Health Psychology, 4*(3), 219-247.

Doi: 10.1037/0278-6133.4.3.219

Scheier, M.F., Carver, C.S., & Bridges, M.W. (1994). Distinguishing optimism from

neuroticism (and trait anxiety, self-mastery, and self-esteem): A re-evaluation of the Life

Orientation Test. *Journal of Personality and Social Psychology, 67,* 1063.

Schwartz, S. H., & Bilsky, W. (1990). Toward a theory of the universal content and structure

of values: Extensions and cross-cultural replications. *Journal of Personality and Social

Psychology, 58,* 878–891.

Scott, L. M., Hui, L., & Elizabeth, M. C. (2013). Directive versus empowering leadership: A field experiment comparing impacts on task proficiency and proactivity. *Academy of Management Journal, 56*(5), 1372.

Scott, S.G., & Bruce, R.A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal, 37*(3), 580-607.

Searle, B. J., & Parker, S. K. (2013). Work design and happiness: An active, reciprocal perspective. In S. A. David, I. Boniwell, & A. Conley Ayers (Eds) *Oxford Handbook of Happiness,* pp. 711-732. Oxford: Oxford University Press. Doi: 10.1093/oxfordhb/9780199557257.013.0053

Seibert, S. E., Kraimer, M. L., & Crant, J. M. (2001). What do proactive people do? A longitudinal model linking proactive personality and career success. *Personnel Psychology*, *54,* 845-875.

Seibert, S. E., Wang, G., & Courtright, S. H. (2011). Antecedents and consequences of psychological and team empowerment in organizations: a meta-analytic review. *Journal of Applied Psychology, 96*(5), 981. Doi: 10.1037/ a0022676

Seligman, M. E. P. (1998). Building human strength. Psychology's forgotten mission. *American Psychological Association Monitor*, *29*(1), 2.

Shamir, B., & Howell, J.M. (1999). Organizational and contextual influences on the emergence and effectiveness of charismatic leadership. *The Leadership Quarterly, 10,* 257-283.

Sharot, T. (2011). The optimism bias. *Current Biology, 21,* R941-R945. Doi: 10.1016/j.cub.2011.10.030

Siemsen, E., Roth, A., & Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational Research Methods, 13*(3), 456-476. Doi: 10.1177/1094428109351241

Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology, 68,* 653–663.

Smith, C.A., Haynes, K.N., Lazarus, R.S., & Pope, L.K. (1993). In search of the "hot" cognitions: attributions, appraisals and their relation to emotion. *Journal of Personality and Social Psychology, 65,* 916-029. Doi: 10.1037//0022-3514.65.5.916

Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the interface between non-work and work. *The Journal of Applied Psychology, 88,* 518–528. doi:10.1037/0021-9010.88.3.518

Sonnentag, S. (2017). A task-level perspective on work engagement: A new approach that helps differentiate the concepts of engagement and burnout. *Burnout Research, 5,* 12-20. http://dx.doi.org/10.1016/j.burn.2017.04.001

Speier, C., & Frese, M. (1997). Generalized self-efficacy as a mediator and moderator between control and complexity at work and personal initiative: A longitudinal field study in East Germany. *Human Performance, 10*(2), 171-192.

Spencer, S.M., & Norem, J.K. (1996). Reflection and distraction: Defensive pessimism, strategic optimism, and performance. *Personality and Social Psychological Bulletin, 22,* 354-365.

Spirrison, C.L., & Gordy, C.C. (1993). The constructive thinking inventory and detecting errors in proofreading. *Perceptual and Motor Skills, 76,* 631-634.

Sweeny, K., & Shepperd, J.A. (2010). The costs of optimism and the benefits of pessimism. *Emotion, 10*(5), 750-753. Doi: 10.1037/a0019016

Sylva, H., Mol, S.T., Den Hartog, D.N., & Dorenbosch, L. (2019). Person-job fit and proactive career behavior: a dynamic approach. *European Journal of Work and Organizational Psychology*, 1-15. DOI: 10.1080/1359432X.2019.1580309

Tadic, M., Bakker, A.B., & Oerlemans, W.G.M. (2013). Work happiness among teachers: A day reconstruction study on the role of self-concordance. *Journal of School Psychology, 51,* 735-750. Doi: 10.1016/j.jsp.2013.07.002

Taris, T.W. (2006). Is there a relationship between burnout and objective performance? A critical review of 16 studies. *Work Stress, 20,* 316-334.

Tharenou, P., & Terry, D. J. (1998). Reliability and validity of scores on scales to measure managerial aspirations. *Educational and Psychological Measurement*, *58,* 475-492.

Tims, M., & Bakker, A.B. (2010). Job crafting: Towards a new model of individual job redesign. *South African Journal of Industrial Psychology, 36,* 1-9. Doi: 10.4102/sajip. v36i2.841

Tims, M., Bakker, A.B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior, 80,* 173-186. doi: 10.1016/j.jvb.2011.05.009

Tims, M., Bakker, A.B., & Derks, D. (2013a). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology, 18, 230-*240. Doi: 10.1037/a0032141

Tims, M., Bakker, A.B., & Derks, D. (2014). Daily job crafting and the self-efficacy-performance relationship. *Journal of Managerial Psychology, 29,* 490-507.

Tims, M., Bakker, A.B., & Derks, D. (2015). Job crafting and performance: A longitudinal study. *European Journal of Work and Organizational Psychology, 24,* 914-928. Doi: 10.1080/1359432X.2014.969245

Tolentino, L. R., Garcia, P. R. J. M., Restubog, S. L. D., Bordia, P., & Tang, R. L. (2013). Validation of the Career Adapt-Abilities Scale and an examination of a model of career adaptation in the Philippine context. *Journal of Vocational Behavior, 83*(3), 410–418.

Tolentino, L.R., Sedoglavich, V., Lu, V.N., Garcia, P.R.J.M., & Restubog, S.L.D. (2014). The role of career adaptability in predicting entrepreneurial intentions: A moderated mediation model. *Journal of Vocational Behavior, 85,* 403-412.

Tuckey, M.R., Bakker, A.B., & Dollard, M.F. (2012). Empowering leaders optimize working conditions for engagement: A multilevel study. *Journal of Occupational Health Psychology, 17*(1), 15-17. Doi: 10.1037/a0025942

Tuckey, M.R., Searle, B.J., Boyd, C.M., Winefield, A.H., & Winefield, H.R. (2015). Hindrances are not threats: Advancing the multidimensionality of work stress. *Journal of Occupational Health Psychology, 20*(2), 131-147, http://dx.doi.org/10.1037/a0038380

Vacharkulksemsuk, T., & Fredrickson, B. L. (2013). Looking back and glimpsing forward: The broaden-and-build theory of positive emotions as applied to organizations. In *Advances in Positive Organizational Psychology* (pp. 45-60). Emerald Group Publishing Limited.

Van de Walle, D., & Cummings, L. L. (1997). A test of the influence of goal orientation on the feedback-seeking process. *Journal of Applied Psychology*, *82,* 390-400.

van den Heuvel, M., Demerouti, E., & Peeters, M. C. W. (2012). Succesvol job craften door middel van een groepstraining [Succesful job crafting through group training]. In J. De Jonge, M. C. W. Peeters, S. Sjollema, & H. De Zeeuw (Eds.), *Scherp in Werk: Vijf routes naar optimale inzetbaarheid* (pp. 7–20). Assen: Van Gorcum.

van Wingerden, J., & Poell, R.F. (2017). Employees' perceived opportunities to craft and in-role performance: The mediating role of job crafting and work engagement. *Frontiers in Psychology, 8,* 1-9. Doi: 10.3389/fpsyg.2017.01876

van Wingerden, J., Bakker, A.B., & Derks, D. (2017). The longitudinal impact of job crafting intervention. *European Journal of Work and Organizational Psychology, 26* (1), 107-119. doi: 10.1080/1359432x.2016.1224233

Van Yperen, N.W., & Hagedoorn, M. (2003). Do high job demands increase intrinsic motivation, fatigue, or both? The role of job control and job social support. *Academy of Management Journal, 46,* 339-348.

Varki, A. (2009). Human uniqueness and the denial of death. *Nature,* 460-684. Doi: 10.1038/460684c

Vogt, K., Hakanen, J.J., Brauchli, R., Jenny, G.J., & Bauer, G.F. (2016). The consequences of job crafting: A three-wave study. *European Journal of Work and Organizational Psychology, 25,* 353-362. http://dx.doi.org/10.1080/1359432X.2015.1072170

Vogt, K., Hakanen, J.J., Brauchli, R., Jenny, G.J., & Bauer, G.F. (2016). The consequences of job crafting: a three-wave study, European Journal of Work and Organizational Psychology, 25:3, 353-362, DOI: 10.1080/1359432X.2015.1072170

Wanberg, C.R. (1997). Antecedents and outcomes of coping behaviors among unemployed and reemployed individuals. *Journal of Applied Psychology, 82,* 731.

Wang, H.J., Demerouti, E., & Le Blanc, P. (2017). Transformational leadership, adaptability, and job crafting: The moderating role of organizational identification. *Journal of Vocational Behavior, 100,* 185-195. http://dx.doi.org/10.1016/j,jvb.2017.03.009

Wang, H.J., Demerouti, E., Le Blanc, P., & Lu, C.Q. (2018). Crafting a job in 'tough times': When being proactive is positively related to work attachment. *Journal of Occupational and Organizational Psychology, 91*, 569–590. DOI:10.1111/joop.12218

Wang, Z., Zhang, J., Thomas, C.L., Yu, J., & Spitzmueller, C. (2017). Explaining benefits of employee proactive personality: The role of engagement, team proactivity composition and perceived organizational support. *Journal of Vocational Behavior, 101,* 90-103. http://dx.doi.org/10.1016/j.jvb.2017.04.002

Warr, P., Bindl, U. K., Parker, S. K., & Inceoglu, I. (2014). Four-quadrant investigation of job-related affects and behaviors. *European Journal of Work and Organizational Psychology, 23*(3), 342-363

Welbourne, T. M., Johnson, D. E., & Erez, A. (1998). The role-based performance scale: Validity analysis of a theory-based measure. *Academy of Management Journal, 41*, 540–555.

West, M.A., & Anderson, N.R. (1996). Innovation in top management teams. *Journal of Applied Psychology*, *81*, 680–693.

Wrzesniewski, A., & Dutton, J.E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review, 26,* 179-201. Doi: 10.5465/AMR.2001.4378011

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International journal of stress management*, *14*(2), 121-141.http://dx.doi.org/10.1037/1072-5245.14.2.121

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior, 74,* 235–244. doi:10.1016/j.jvb.2008.11.003

Xanthopoulou, D., Bakker, A.B., Dollard, M.F., Demerouti, E., Schaufeli, W.B., Taris, T.W., & Schreuers, P.J. (2007). When do job demands particularly predict burnout? The moderating role of job resources. *Journal of Managerial Psychology, 22,* 766-786.

Youssef, C.M., & Luthans, F. (2007). Positive organizational behavior in the workplace: the

impact of hope, optimism, and resilience. *Journal of Management, 33,* 774-800.

http://dx.doi.org/10.1177/0149206307305562

Zacher, H. (2014). Career adaptability predicts subjective career success beyond personality

traits and core self-evaluations. *Journal of Vocational Behavior, 84,* 21-30.

Zhang, Y., & Chen, C.C. (2013). Developmental leadership and organizational citizenship

behavior: mediating effects of self-determination, supervisor identification, and

organizational identification. *The Leadership Quarterly, 24,* 534-543.

Appendix A of this thesis has been removed as it may contain sensitive/confidential content

APPENDIX B

SURVEY QUESTIONNAIRE

Job Design, Work Engagement and Innovative Work Behaviour Survey

Participant Information and Consent Form

If you are at least 18 years old and are a permanent employee of your organization, we would like you to complete our confidential survey on job design, employee work engagement and innovative work behaviour at work. The purpose of the study is to establish the potential impact of job demands and job resources on employee work engagement and innovative work behaviour at work. We also wish to examine if these effects are influenced by other variables such as person-job fit, organizational identification and job crafting.

The study is being conducted to meet the requirement of Eric Delle's PhD work under the supervision of chief investigator Dr Ben Searle ████████████████████████ ████████████████ of the Department of Psychology, Macquarie University, Australia.

If you decide to participate, you will be invited to complete a paper survey, which should take you approximately 30 minutes to complete. In the questionnaire, we will ask you to give your opinion on different job demands and resources you are exposed to at work. We will also ask you how you feel when you are at work. The survey questions should be straightforward, as they mostly involve circling numbers to indicate what you think or how you feel.

Any information or personal details gathered in the course of the study are confidential, except as required by law. Access to the data will be limited to persons directly involved in the research and will be strictly monitored by the chief investigator. No individual will be identified in any publication or communication of the results, which will take the form of broad conclusions emerging from statistical analysis of multiple participants. If you would like summary of the research findings, you can contact Eric Delle at ████████████████████

Participation in this study is completely voluntary; you are not obliged to participate and if you decide to participate, you are free to withdraw at anytime without having to give a reason and without consequence.

This survey is being conducted by independent researchers from Macquarie University in Australia. For us to achieve our research aims, it is important that you answer as honestly as you can. We are taking many steps to maintain confidentiality of your data.

We will be asking you to complete *two more surveys* after this one, each after a period of a few months. The reason for this is that we need to find out how different aspects of work can affect wellbeing and behaviour over time.

In order to link your responses across the three surveys, while also keeping your responses anonymous, we would like you to generate your own code that you can use in each of our surveys.

Each time, we will prompt you with the same instruction to generate this code:

Using the instructions provided above, please print your code here:

three letters   *three numbers*

Please circle the appropriate number to answer the following questions about your experiences of work within the past MONTH.

		Never	Sometimes	Regularly	Often	Very often
1	Do you have flexibility in the execution of your job?	1	2	3	4	5
2	Do you have control over how your work is carried out?	1	2	3	4	5
3	Can you participate in decision-making regarding your work?	1	2	3	4	5
4	If necessary, can you ask your colleague for help?	1	2	3	4	5
5	Can you count on your colleagues to support you if difficulties arise in your work?	1	2	3	4	5
6	In your work, do you feel valued by your colleagues?	1	2	3	4	5
7	My supervisor informs me whether he/she is satisfied with my work.	1	2	3	4	5
8	My supervisor shows consideration for my problems and desires regarding my work.	1	2	3	4	5
9	I feel valued by my supervisor.	1	2	3	4	5
10	My supervisor uses his/her influence to help me solve problems at work.	1	2	3	4	5
11	My supervisor is friendly and open to me.	1	2	3	4	5
12	I receive sufficient information about my work objectives.	1	2	3	4	5
13	My job offers me opportunities to find out how well I do my work.	1	2	3	4	5
14	I receive sufficient information about the results of my work.	1	2	3	4	5
15	In my work, I have the opportunity to develop my strong points.	1	2	3	4	5
16	In my work, I can develop myself sufficiently.	1	2	3	4	5
17	My work offers me the possibility to learn new things.	1	2	3	4	5

Please circle a number to answer these questions about your experiences of work this past MONTH

		Never	Sometimes	Regularly	Often	Very often
1	Do you have to work at speed?	1	2	3	4	5
2	Do you have too much work to do?	1	2	3	4	5
3	How often do you have to work extra hard in order to reach a deadline?	1	2	3	4	5
4	Do you work under time pressure	1	2	3	4	5
5	Does your work require a lot of concentration	1	2	3	4	5
6	Does your work demand enhanced care or precision?	1	2	3	4	5
7	Do you regard your work as mentally very straining?	1	2	3	4	5
8	Does your work require your constant attention?	1	2	3	4	5
9	Is your work emotionally demanding?	1	2	3	4	5
10	In your work, are you confronted with things that "touch" you emotionally?	1	2	3	4	5
11	Do you face emotionally charged situations in your work	1	2	3	4	5
12	In your work, do you deal with clients who incessantly complain?	1	2	3	4	5
13	In your work, do you have to deal with demanding clients?	1	2	3	4	5
14	Do you have to deal with clients who do not treat you with the appropriate respect and politeness?	1	2	3	4	5

		Never	Sometimes	Regularly	Often	Very often
1	I receive conflicting requests from two or more people.	1	2	3	4	5
2	I am unable to fulfil the conflicting expectations of my co-workers.	1	2	3	4	5
3	The expectations of my colleagues are in conflict.	1	2	3	4	5
4	At my work, different groups of people expect opposite things from me.	1	2	3	4	5
5	I have to deal with administrative hassles.	1	2	3	4	5
6	I have many hassles to go through to get projects/assignments done.	1	2	3	4	5
7	I have to go through a lot of red tape to get my job done.	1	2	3	4	5
8	I am confronted with unexpected hassles at work.	1	2	3	4	5
9	I have many hassles to go through to get my work done.	1	2	3	4	5

The statements below measure how people can feel at work and about work. For each one, please circle a number to indicate how often you have felt that way within the past MONTH.

		Never	Almost never	Rarely	Sometimes	Often	Very often	Always
1	At my work, I feel bursting with energy	0	1	2	3	4	5	6
2	In my job, I feel strong and vigorous	0	1	2	3	4	5	6
3	I am enthusiastic about my job	0	1	2	3	4	5	6
4	My job inspires me	0	1	2	3	4	5	6
5	When I get up in the morning, I feel like going to work	0	1	2	3	4	5	6
6	I feel happy when I am working intensely	0	1	2	3	4	5	6
7	I am proud of the work that I do	0	1	2	3	4	5	6
8	I am immersed in my work	0	1	2	3	4	5	6
9	I get carried away when I'm working	0	1	2	3	4	5	6

The following statements also concern the way people can experience and feel about their work. For each one, please circle a number to indicate how much you agree that the statement describes you and your experiences within the past MONTH.

		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	There are days when I feel tired before I arrive at work	1	2	3	4	5
2	After work, I tend to need more time than in the past in order to relax and feel better	1	2	3	4	5
3	During my work, I often feel emotionally drained	1	2	3	4	5
4	After my work, I usually feel worn out and weary	1	2	3	4	5

Thinking about your experiences within the past MONTH, please circle a number to indicate how much you agree or disagree with the following statements about you and your work.

		Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1	There is a good fit between what my job offers me and what I am looking for in a job	1	2	3	4	5
2	The attributes that I look for in a job are fulfilled very well by my present job	1	2	3	4	5
3	The job that I currently hold gives me just about everything that I want from a job	1	2	3	4	5
4	The match is very good between the demands of my job and my personal skills	1	2	3	4	5
5	My abilities and training are a good fit with the requirements of my job	1	2	3	4	5
6	My personal abilities and education provide me a good match with the demands that my job places on me.	1	2	3	4	5

The following statements are about work actions that may not be part of your job requirements, but which some people do sometimes. Please circle a number to indicate the extent to which you have done these things (if at all) within the past MONTH.

		Not at all	Just a little	Moderately	Quite a lot	To a great extent
1	I created new ideas for difficult issues	1	2	3	4	5
2	I searched out new working methods, techniques, or instruments	1	2	3	4	5
3	I generated original solutions for problems	1	2	3	4	5
4	I mobilised support for innovative ideas and solutions	1	2	3	4	5
5	I encouraged important organizational members to be enthusiastic about enthusiastic ideas and solutions	1	2	3	4	5
6	I transform innovative ideas into useful applications	1	2	3	4	5

Please indicate the extent to which you have engaged in the following job-related actions and behaviours (if at all) within the past MONTH.

		Never	Almost never	Rarely	Sometimes	Often	Very often	Always
1	I try to develop my capabilities	1	2	3	4	5	6	7
2	I try to develop myself professionally	1	2	3	4	5	6	7
3	I try to learn new things at work	1	2	3	4	5	6	7
4	I make sure that I use my capacities to the fullest	1	2	3	4	5	6	7
5	I decide on my own how I do things	1	2	3	4	5	6	7
6	I make sure that my work is mentally less intense	1	2	3	4	5	6	7
7	I try to ensure that my work is emotionally less intense	1	2	3	4	5	6	7
8	I manage my work so that I try to minimize contact with people whose problems affect me emotionally	1	2	3	4	5	6	7
9	I organize my work so as to minimize contact with people whose expectations are unrealistic.	1	2	3	4	5	6	7
10	I try to ensure that I do not have to make many difficult decisions at work	1	2	3	4	5	6	7
11	I organize my work in such a way to make sure that I do not have to concentrate for too long a period at once	1	2	3	4	5	6	7
12	I ask my supervisor to coach me	1	2	3	4	5	6	7
13	I ask whether my supervisor is satisfied with my work	1	2	3	4	5	6	7
14	I look to my supervisor for inspiration capabilities	1	2	3	4	5	6	7
15	I ask others for feedback on my job performance	1	2	3	4	5	6	7
16	I ask colleagues for advice	1	2	3	4	5	6	7
17	When an interesting project comes along, I offer myself proactively as project co-worker	1	2	3	4	5	6	7
18	If there are new developments, I am one of the first to learn about them and try them out	1	2	3	4	5	6	7
19	When there is not much to do at work, I see it as a chance to start new projects	1	2	3	4	5	6	7
20	I regularly take on extra tasks even though I do not receive extra salary for them	1	2	3	4	5	6	7
21	I try to make my work more challenging by examining the underlying relationships between aspects of my job	1	2	3	4	5	6	7

For each statement below, please circle a number indicate the extent your agreement that it describes how you feel AT THE MOMENT.

First, think about the organisation where you work.

		Strongly disagree	Disagree	Slightly disagree	Undecided	Slightly agree	Agree	Strongly agree
1	I am glad to be a member of this organisation	1	2	3	4	5	6	7
2	I think my organisation has a lot to be proud of	1	2	3	4	5	6	7
3	It is pleasant to be a member of this organisation	1	2	3	4	5	6	7
4	Being a member of this organisation gives me a good feeling	1	2	3	4	5	6	7
5	I feel a bond with my organisation	1	2	3	4	5	6	7
6	I feel solidarity with my organisation	1	2	3	4	5	6	7
7	I feel committed to my organisation	1	2	3	4	5	6	7
8	I often think about the fact that I am a member of this organisation	1	2	3	4	5	6	7
9	The fact that I am a member of this organisation is an important part of who I am	1	2	3	4	5	6	7
10	Being a member of this organisation is an important part of my identity	1	2	3	4	5	6	7

Now think about the group/team in which you work.

		Strongly disagree	Disagree	Slightly disagree	Undecided	Slightly agree	Agree	Strongly agree
1	I am glad to be in a group with my work team	1	2	3	4	5	6	7
2	I think my work team has a lot to be proud of	1	2	3	4	5	6	7
3	It is pleasant to be in a group with my work team	1	2	3	4	5	6	7
4	Being in a group with my work team gives me a good feeling	1	2	3	4	5	6	7
5	I feel a bond with my work team	1	2	3	4	5	6	7
6	I feel solidarity with my work team	1	2	3	4	5	6	7
7	I feel committed to my work team	1	2	3	4	5	6	7
8	I often think about the fact that I am in a group with my work team	1	2	3	4	5	6	7
9	The fact that I am in a group with my work team is an important part of who I am	1	2	3	4	5	6	7
10	Being in a group with my work team is an important part of my identity	1	2	3	4	5	6	7

Please circle a number to indicate how often you have carried out each of the following behaviours over the past MONTH.

		Very little	A little	Somewhat	A lot	A great deal
1	Carried out the core parts of your job well	1	2	3	4	5
2	Completed your core tasks well using the standard procedures	1	2	3	4	5
3	Ensured your tasks were completed properly	1	2	3	4	5
4	Adapted well to changes in core tasks	1	2	3	4	5
5	Coped with changes to the way you have to do your core tasks	1	2	3	4	5
6	Learned new skills to help you adapt to changes in your core tasks	1	2	3	4	5
7	Initiated better ways of doing your core tasks	1	2	3	4	5
8	Come up with ideas to improve the way in which your core tasks are done	1	2	3	4	5
9	Made changes to the way your core tasks are done	1	2	3	4	5
	Now think about the group/team in which you work					
1	Coordinated your work with co-workers	1	2	3	4	5
2	Communicated effectively with your co-workers	1	2	3	4	5
3	Provided help to co-workers when asked, or needed	1	2	3	4	5
4	Dealt effectively with changes affecting your work unit (e.g., new members)	1	2	3	4	5
5	Learnt new skills or taken on new roles to cope with changes in the way your unit works	1	2	3	4	5
6	Responded constructively to changes in the way your team works	1	2	3	4	5
7	Suggested ways to make your unit more effective	1	2	3	4	5
8	Developed new and improved methods to help your work unit perform well	1	2	3	4	5
9	Improved the way your work unit does things	1	2	3	4	5

Thinking about the past MONTH, please circle a number to indicate how much you agree that the following statements describe how people act in your organisation.

		Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1	People in our company actively attack problems	1	2	3	4	5
2	Whenever something goes wrong, people in our company search for a solution immediately	1	2	3	4	5
3	Whenever there is a chance to get actively involved, people in our company take it	1	2	3	4	5
4	People in our company take initiative immediately – more often than in other companies	1	2	3	4	5
5	People in our company use opportunities quickly in order to attain goals	1	2	3	4	5
6	People in our company usually do more than they are asked to do	1	2	3	4	5
7	People in our company are particularly good at realizing ideas	1	2	3	4	5

The survey is nearly complete. Please ensure you have provided your self-generated code on page 2 before you submit your completed survey!

Please tick (✓) or provide the information that represents your particular circumstance. Remember that all information will be treated in the strictest confidence.

1. Sex: Male ( ) Female ( )

2. What is your age?...............................

3. Highest level of education: Postgraduate degree ( ) Undergraduate degree ( )

   Highest National Diploma ( ) Diploma in Business Studies ( ) Secondary School ( )

   Other (please specify)...

4. How many years have you worked in this organization? ....

5. How many years have you worked in your current position? ....

6. How many hours do you work per week?...

7. Job position: Manager ( ) Non-manager ( )

8. What is the name of your department? ....

9. What is your marital status?   Single ( )   Married ( )   Divorced ( )   Other
   (please specify)..

10. Do you have children? Yes ( )   No ( )

This is the end of the survey. Please check that you have completed the whole survey before you submit it. If it is complete, please follow the instructions you were given for submitting the survey. Thank you for your time and effort!

Your organisation will contact staff later this year when our next survey is available.   We would greatly appreciate it if you would complete the next survey as well.

Thank you again.