HELP IN FINDING THE RIGHT BALANCE: LEADERSHIP, WORK-FAMILY BALANCE AND EMPLOYEE OUTCOMES

KRISTIN HILDENBRAND

Doctor of Philosophy

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Thesis Summary

Although much research has examined employees' experience of the work-family interface, its conceptualization has been rather problematic, ranging from work and family as mutually constraining through to mutually enriching and, more recently, to work-family balance (WFB). Building on Greenhaus and Allen's (2011) conceptualization of WFB as comprising satisfaction and effectiveness components, I proposed and tested a model of the antecedents and outcomes of WFB. Based on work-family border theory, I hypothesised that family-supportive supervisor behaviours (FSSB) facilitate WFB and that the relationship is stronger when the organisation also offers formal support (availability of family-friendly practices (FFPs); enhancement effect). Furthermore, I integrated the leadership and work-family interface literatures by proposing authentic leadership as an antecedent of FSSB. Based on role accumulation theories, I proposed life satisfaction and health as outcomes of WFB satisfaction and WFB effectiveness and job performance as an outcome of only WFB effectiveness. I tested my hypotheses with individual-level data in Study 1 (two waves of data; employees from Germany and the UK) and nested data (individuals nested in teams; two waves of data; employee and supervisor ratings; Germany and the UK) in Study 2. The obtained findings largely supported the hypothesized model and showed that both authentic leadership (Study 1) and team authentic leadership (Study 2) predicted FSSB which, in turn, increased WFB satisfaction and WFB effectiveness. Contrary to my prediction, both studies revealed that FSSB and (team) availability of FFPs compensated for each other, only impacting WFB satisfaction/effectiveness if the other form of family support was not available. Furthermore, both components were positively related to life satisfaction and health, while WFB effectiveness was only related to self-rated performance (Study 1) and not supervisor-rated performance (Study 2). Lastly, the serial moderated mediation model that tested the conditional indirect effect of (team) authentic leadership on the outcomes received mixed support.

Key words: Work-family balance, authentic leadership, FSSB, family-friendly practices, work-family border theory

Acknowledgement

My PhD journey has been one of the most difficult experiences, but also one of the most wonderful ones. There were moments when I was certain that I would never obtain the data for my PhD and moments when I felt like I maybe don't have what it takes to be a researcher. Ultimately, doing a PhD can be quite a lonely progress filled with doubt and uncertainty. But then there were moments of success, support, laughter and hope. Moments that made me resilient, enthusiastic and positive and I associate these moments with you:

First of all, I would like to thank my supervisors Prof Samuel Aryee and Dr Claudia Sacramento. Sam, thank you so much for taking tons of time to provide me with invaluable feedback and for never losing the patience when I gave you a hard time. Thanks for believing in me and for staying my supervisor even when you had left Aston and weren't obliged to. Claudia, thank you for taking all the time to help me with the analysis and for the kind and motivational words that were sometimes highly needed.

Importantly, my PhD journey would not have been the same without all my PhD colleagues. Thanks for taking the time to encourage me, thank you for all your expert advice and thank you for all the awesome moments we had together. A big thank you goes out to (alphabetical order): Dr Alison Lee and Dr Allan Lee, Dr Anna Topakas, Dr Charmi Patel, Jakob Stollberger, Dr Nishat Babu, Laurie O'Broin, Pascale Daher, Sven Lohrey and Dr Vimal Eswaral. A further thank you goes out to all the academic staff that supported me: Dr Liz Bridges, Dr Matthew Carter, Jeanette Ikuomola, Dr Joanne Lyubovnikova and Jenny Thompson. I would also like to thank all the people that I did not name in person, but who are certainly in my heart.

Last but not least, I would like to thank my parents, Kurt and Karin. Words can't express how thankful I am to have you as parents and how invaluable your support has been throughout this whole journey. You suffered with me throughout the two years of data collection and it feels like the whole Hildenbrand family had signed up for a PhD programme. I would also like to thank the rest of my family (my brother David and Oma Ruth especially!) and all my friends, who encouraged me to go down this PhD route and who supported me from near and far. Lastly, I would like to thank my partner Ben, who has proven incredible patience in listening to my PhD sorrows and dealt with my mood fluctuations and anger. Thanks for being there for me, for motivating me ('just keep swimming') and thanks for making me laugh no matter what happens.

I would also like to thank the companies involved in my data collection, especially all the employees that took the time to complete multiple questionnaires!!

I would like to dedicate this thesis to my grandad Otto, who always called me a ‘Käpsele’ (Swabian for ingenious little girl) when I was a young girl.

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CHAPTER ONE - INTRODUCTION

1.1 Development of research problem and research objectives

"The most important career decision you'll make is who your life partner is." - Sheryl Sandberg

As the above quote illustrates, work and nonwork domains of life are as intertwined as they were prior to the Industrial Revolution (1760s to 1820s), when work and family life often took place under the same roof (Glavin & Schieman, 2012). Changes in the nature of economic activities and the role of women in society (as evidenced by the growth in their labour force participation), as well as emergent family forms such as dual-earner and single-parent families, have precipitated a sustained research interest in understanding how members of these emergent family forms coordinate their work and family demands. Over the years, this research has progressed from the initial conceptualization of the work-family interface in terms of conflict (Goode, 1960; Greenhaus & Beutell, 1985; Marks, 1977) to the view that these two domains are mutually enriching (Greenhaus & Powell, 2006; Marks & MacDermid, 1996; Wayne, Grzywacz, Carlson, & Kacmar, 2007). Regardless of how the work-family interface has been conceived, research has consistently shown participation in work and family roles to influence attitudes, performance, and well-being (Amstad, Meier, Fasel, Elfering, & Semmer, 2011; Aryee, Fields, & Luk, 1999; Frone, Russell, & Cooper, 1992; McNall, Nicklin, & Masuda, 2010). Although these perspectives have enhanced our understanding of work-family interactions, there is recognition that neither conflict nor enrichment adequately capture the complexities of the work-family interface (e.g., Frone, 2003), leading to a more recent interest in work-family balance.

Despite the growing paradigmatic status of work-family balance as the conceptual lens through which to understand experiences of the work-family interface (e.g., Frone, 2003; Greenhaus, Collins, & Shaw, 2003), its conceptualization has

remained rather problematic. Eschewing the initial view that work-family balance entails elements of conflict and enrichment, Greenhaus and Allen (2011) defined it as the “overall appraisal of the extent to which individuals’ effectiveness and satisfaction in work and family roles are consistent with their life values at a given point in time” (p. 174). Inherent to Greenhaus and Allen's definition is the notion of satisfaction and effectiveness, which now provides the conceptual foundation for two competing conceptualizations of the construct. Work-family balance satisfaction describes the “overall level of contentment resulting from an assessment of one’s degree of success in meeting work and family role demands” (Valcour, 2007; p. 1512). In contrast, work-family balance effectiveness describes “the accomplishment of role-related expectations that are negotiated and shared between an individual and his/her role-related partners in the work and family domains” (Grzywacz & Carlson, 2007; p. 455). Given the organisational implications of the importance that Generation Y employees (born 1977-1998; Eisner, 2005) attach to work-family balance and to progress work-family research, it is imperative that research ascertains what exactly constitutes work-family balance, how the two competing conceptualisations of the construct are interrelated (Wayne, Butts, Casper, & Allen, 2015) and to map their nomological networks.

Although much is now known about the antecedents and outcomes of positive and negative work-family experiences (i.e. work-family conflict and enrichment; Amstad et al., 2011; Byron, 2005; McNall et al., 2010; Wayne, Randel, & Stevens, 2006), there is a dearth of research on the causes and consequences of work-family balance as a distinct construct (Greenhaus & Allen, 2011). Specifically, previous research has linked work-related factors (e.g., job complexity and job control; Abendroth & den Dulk, 2011; Beham & Drobnic, 2010; Valcour, 2007) to work-family satisfaction, but has only sparsely shed light on the antecedents of work-family effectiveness (co-worker and partner support; Ferguson, Carlson, Zivnuska, & Whitten, 2012). This previous research on work-family balance satisfaction is limited

in its focus on job-related characteristics and hence paints a one-sided picture of employees' daily experiences in managing work and family. While little is generally known about factors that contribute to work-family balance effectiveness, as antecedents of both conceptualisations of work-family balance have not yet been examined in the same study, the comparability of the obtained findings is limited and the further theoretical refinement of the work-family balance construct is hampered.

It is worth noting that the above mentioned job-related characteristics are largely at the discretion of supervisors and organisations. In light of the documented influence of supervisor family-related support on employees' experiences of the work-family interface (Hammer, Kossek, Zimmerman, & Daniels, 2007), it is unfortunate that research has yet to examine the role of supervisors or leader-related factors in promoting the two forms of work-family balance. Additionally, while the impact of informal organisational support (in the form of family-supportive supervisor behaviours) on employees' work-family conflict and work-family enrichment is well established (Kossek, Pichler, Bodner, & Hammer, 2011; Russo, Buonocore, Carmeli, & Guo, 2015), there is a paucity of research on why some supervisors exhibit these behaviours and others don't. As supervisor support is an important component in many conceptualisations of the most prominent leadership styles (e.g., individualised consideration as part of transformational leadership; Bass, 1985), it is rather remarkable that both areas of research have rarely been theoretically (exemption: Straub, 2012) and empirically integrated (e.g., Matthews & Toumbeva, 2014) to examine the role of leadership in employees' experience of the work-family interface.

Similarly, little research has to date examined outcomes of both conceptualisations of work-family balance. Research in this stream has linked work-family balance effectiveness to a series of work-related (e.g., job satisfaction and organisational commitment) and family-related (e.g., family satisfaction; Carlson, Grzywacz, & Zivnuska, 2009; Ferguson et al., 2012; Wayne et al., 2015) outcomes,

while only one study has so far revealed outcomes of work-family satisfaction (e.g., family performance; Wayne et al., 2015) . Interestingly, the only study that examined work-family satisfaction and effectiveness together, found different patterns of relationships between both components and job performance (i.e. work-family balance effectiveness was and work-family balance satisfaction was not related to job performance; Wayne et al., 2015). As the link between work-family balance and job performance is of particular organisational interest, an examination of these relationships with a more rigorous research design (e.g., temporal separation of predictors and outcome) is needed, to shed more light on their true natures. Additionally, while the effect of conflicting and enriching aspects of the work-family interface on employees' well-being is well established (e.g., Frone et al., 1992), it is unclear whether work-family balance satisfaction and effectiveness are also beneficial for employees' health and life satisfaction. An examination of the outcomes of both work-family balance components in one study should contribute to the comparability of their relationships and to a better understanding of the work-family balance construct.

In addition to the preceding conceptual issues, work-family interface research is plagued with a number of methodological shortcomings. First, research has tended to use cross-sectional designs, which constrains the causal status of the reported relationships (Greenhaus & Allen, 2011). Second, many work-family studies are based on findings from one study from one country (e.g., Griggs, Casper, & Eby, 2013; Mauno, Kinnunen, & Pyykkö, 2005), which raises serious concerns regarding both the generalisability and replicability of the obtained findings. Lastly, work-family research rarely accounts for the fact that employees nowadays often work in teams and that empirical findings are biased if research does not account for the impact of the multilevel nature of organisations on the findings (i.e. variance due to team membership; Preacher, Zyphur, & Zhang, 2010).

Taken together, this relative lack of knowledge about the nomological network of the two work-family balance constructs, as well as the preceding methodological issues, constrain the development of actionable knowledge that organisations can use to promote employee work-family balance, as well as its implications for organisational (i.e. job performance) and employee well-being. Building on the work of Wayne and colleagues (2015) and drawing on work-family border theory (Clark, 2000) and role accumulation theories (Marks & MacDermid, 1996; Sieber, 1974), I proposed and tested a model of the antecedents and outcomes of work-family balance. Specifically, this model posits authentic leadership, family-supportive supervisor behaviors and the availability of organisational family-friendly practices as antecedents of work-family balance satisfaction and effectiveness. Furthermore, this model proposes life satisfaction, health, and job performance as outcomes of work-family balance. As it cannot be assumed that satisfaction follows directly from performance and vice versa (i.e. someone could be satisfied with their work-family balance, but be unemployed and hence not have work-family balance effectiveness), the proposed model specifies distinct patterns of relationships for both types of work-family balance and their outcomes of life satisfaction, health and job performance. Additionally, Study 2 tested a cross-level version of the proposed model that examined the direct, indirect and interactive effects of team authentic leadership and team availability of family-friendly practices on employees' work-family balance, life satisfaction, health and job performance.

1.2 Theoretical contributions

This thesis contributes to the work-family and leadership literatures in several ways. First, it builds on the seminal work by Wayne and colleagues (2015) by examining two current conceptualisations of work-family balance (work-family balance satisfaction and effectiveness; Valcour, 2007; Grzywacz & Carlson, 2007) in one study. As these two conceptualisations are proposed to be two components of work-family balance that capture the definition of work-family balance by Greenhaus

and Allen (2011), this thesis contributes to its theoretical refinement and emphasises the need that research assesses both components together. Consequently, this thesis extends prior work (Wayne et al., 2015) by investigating antecedents of both work-family satisfaction and effectiveness in one study. While research has highlighted the importance of various work characteristics (e.g., job control and job complexity; Abendroth & den Dulk, 2011; Behram & Drobnic, 2009; Valcour, 2007) for work-family balance satisfaction, factors that facilitate work-family balance effectiveness are largely unknown (see Ferguson et al., 2012 for an exception). Consequently, this thesis went one step further than previous research and considered the role of supervisors and organisations (in the form of informal and formal organisational family support) in employees' work-family balance and did so for both work-family balance components separately. In doing so, the organisational support that employees receive in order to manage work and family commitments according to work-family border theory (Clark, 2000) is captured.

Second, this study extends previous research (Wayne et al., 2015) by drawing on role accumulation theories (Marks & MacDermid, 1996; Sieber, 1974) to investigate various outcomes of work-family balance. Specifically, this study probes the previously established link (Wayne et al., 2015) between both work-family balance dimensions and employee job performance (positive for work-family effectiveness and not significant for work-family satisfaction) by employing a more rigorous research design (two samples, temporal separation of work-family balance and the outcomes, nested model and supervisor ratings in Study 2). This contribution is especially relevant in light of the abundance of cross-sectional studies in work-family research (Greenhaus & Allen, 2011), which seriously hampers the causal status of the reported relationships.

On the other side, this research also contributes through examining, for the first time, various well-being related consequences of work-family balance (health and

life satisfaction), which highlights the significance of work-family balance for employees' overall lives. This research is of special importance as the impact of positive and negative work-family experiences on stress-related outcomes has been convincingly shown (e.g., work-family conflict and work family enrichment; Amstad et al., 2011; McNall et al., 2010). As both health and life satisfaction are of organisational interest due to the high costs associated with illness-related sick leave (Henderson, Glozier, & Elliott, 2005) and as life satisfaction is of importance for employee attraction and retention (Valcour, 2007), revealing positive links of both components should further strengthen the organisational profile of work-family balance.

Third, this thesis contributes to the literature on organisational family support by examining the joint effect of both formal (availability of family-friendly practices) and informal support (family-supportive supervisor behaviours) on work-family balance. While research has shown the importance of both forms of support for employees' experiences of the work-family interface (e.g., Butts, Casper, & Yang, 2013; Russo et al., 2015), the interaction of formal and informal support on work-family balance has, to my knowledge, not yet been examined. Understanding the interaction between family-friendly practices and family-supportive supervisor behaviours provides a more accurate depiction of employees' day-to-day realities in managing their work and family demands. Additionally, it provides an opportunity to ascertain the extent to which multiple forms of support have an enhancing or compensatory effect (e.g., Bagger & Li, 2014; Friedman & Greenhaus, 2000). Fourth, this thesis adds to the literature on family-supportive supervisor behaviours (Hammer, Kossek, Yragui, Bodner, & Hanson, 2009) by drawing on authentic leadership theory (Luthans & Avolio, 2003) to examine, for the first time, the type of leaders who engages in these behaviours. This empirical integration of the two literatures is overdue due to their strong conceptual overlap concerning leader behaviours (e.g., emotional support and authentic relational transparency; see Straub, 2012) and offers

important insights into the attributes of family-supportive supervisors. In doing so, this thesis contributes to the theoretical refinement of this construct.

Beyond the discussed contributions to work-family research, this thesis also adds to authentic leadership theory (Luthans & Avolio, 2003). By linking authentic leadership to the examined outcomes (job performance and well-being) through the serial mediators of family-supportive supervisor behaviours and work-family balance, this study not only sets out to confirm the documented positive impact of this form of leadership (e.g., Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008), but also to show that authentic leadership is relevant for employee health. Since employees' health has been constantly declining over the last decades (Blanchflower & Oswald, 2004) due to, for example, rising working hours (Sparks, Cooper, Fried, & Shirom, 1997), revealing that authentic leadership has health benefits would strengthen the importance of authentic leadership as a buffer against the detrimental effects of diminished employee health (i.e. through lost production days; Koopmanschap, Rutten, van Ineveld, & Van Roijen, 1995). Hence, the significance of authentic leadership as a leadership construct that truly makes a difference to employees' lives would be highlighted. Importantly, in linking authentic leadership to health and life satisfaction, this research is the first to examine the underlying processes through which authentic leadership influences employees' well-being. Furthermore, revealing alternative pathways through which authentic leadership impacts performance beyond already known mediators (e.g., affective organisational commitment; Leroy, Palanski, & Simons, 2012) is beneficial, as it highlights that authentic leadership not only affects performance through work-related attitudes and behaviours, but also through employees' work-family integration. In doing so, this thesis contributes to the understanding of the authentic leadership construct, while proposing and testing the same underlying mechanisms for the effects of authentic leadership on performance and well-being constitutes a parsimonious model.

Lastly, this research also contributes to the organisational support literature and authentic leadership theory through examining, in Study 2, a nested cross-level version of the proposed model. Specifically, team members' shared perceptions (Salancik & Pfeffer, 1978) of authentic leadership and the availability of family-friendly practices are considered. Concerning team authentic leadership, its cross-level impact on employees' work-family balance and the outcomes of life satisfaction, health and job performance is examined and it is hence assumed, in line with previous research (e.g., Leroy, Anseel, Gardner, & Sels, 2015; Lyubovnikova, Legood, Turner, & Mamakouka, 2015), that team members perceive the authentic leadership behaviours of their supervisor similarly (Luthans & Avolio, 2003). In doing so, calls for more multilevel and cross-level research of authentic leadership are answered (Gardner, Avolio, & Walumbwa, 2005; Yammarino, Dionne, Schriesheim, & Dansereau, 2008). In considering teams' perceptions of availability of FFPs, this thesis takes into account that team members are exposed to the same social cues and that coherent perceptions develop among team members (Ashforth, 1985; Schneider & Reichers, 1983), reinforced through team members' sharing of information (e.g., availability of new on-site childcare). Whereas I am not aware of research that examined the availability of FFPs as a team-level construct (Allen et al., 2014, for example, examined national availability of FFPs), calls have been made to examine organisational family support in multilevel studies (Kossek et al., 2011). Previous research that has widely examined the cross-level influence of various team climates (e.g., Grandey, Foo, Groth, & Goodwin, 2012) and climates that involve general organisational support (e.g., Li, Chiaburu, & Kirkman, 2014) on individual outcomes further supports my intention. The examination of team-level availability of FFPs contributes through the consideration of perceptions that form within teams, while the consideration of team-level constructs portrays a more realistic picture of the organisational reality that is characterised by team work and an increased differentiation of organisations (vertical and horizontal; Rousseau, 1985).

1.3 Thesis structure

Chapter 2

This chapter provides a comprehensive review of the extant work-family balance literature. Specifically, it reviews the conflict and enrichment perspectives on the work-family interface, culminating in the positioning of work-family balance as an over-arching concept that spans both perspectives. Furthermore, this chapter reviews the two competing conceptualizations of work-family balance and prior research on their antecedents and outcomes.

Chapter 3

This chapter provides an extended discussion of and justifies the choice of theories that underpin the relationships depicted in Figure 1 and examined in this study. Specifically, it discusses work-family border theory (Clark, 2000) and role accumulation theories (Marks & MacDermid, 1996; Sieber, 1974), provides a review of the authentic leadership literature and justifies its integration with the work-family interface literature. These theories and literatures, in turn, form the basis on which the hypothesised model is developed. Additionally, the social information processing perspective (Salancik & Pfeffer, 1978), which provides the theoretical justification for the expansion of the model to the team-level, is reviewed.

Chapter 4

This chapter describes the research philosophy and general methodology of this thesis. Specifically, the history of philosophy of science is reviewed and the main dominant paradigms of positivism and interpretivism are discussed. Based on the stages of the authentic leadership and work-family interface literatures (mature; Edmondson & McManus, 2007), the case is made for a quantitative survey study design and the use of two studies to test the hypothesized model is justified.

Chapter 5

This chapter describes the methodology used in Study 1 to test the individual-level model. Specifically, it describes the sample, data collection procedure, measures, and data analytic techniques. The primary data analytic techniques are confirmatory factor analyses and hierarchical linear regressions with MPlus (Muthén & Muthén, 2015a). Furthermore, this chapter reports the findings of the test of the individual-level hypotheses including the serial mediation and serial moderated mediation.

Chapter 6

This chapter describes the methodology used in Study 2 to test the cross-level nested model. Specifically, the sample, data collection procedure, measures, aggregation procedures and data analytic techniques including confirmatory factor analyses and multilevel modeling with MPlus (MLM; Muthén & Muthén, 2015a) are described. Furthermore, the findings of the test of the individual and cross-level hypotheses including the serial mediation and serial moderated mediation are reported.

Chapter 7

This chapter pulls together the various strands of this thesis. Specifically, it reiterates the objectives of this thesis, highlights the salient findings from the two studies, and discusses their theoretical and practical implications. Furthermore, it highlights the limitations of the thesis and maps out directions for future research. The central message that the reader can take away from this study is provided in a concluding note.

CHAPTER TWO - WORK-FAMILY BALANCE: AN EXTENDED LITERATURE REVIEW

2.1 Introduction

In this chapter, I review developments in the conceptualization of the work-family interface. Specifically, I discuss the two central approaches that regard work and family domains as mutually constraining (conflicting) or mutually enriching. Building on the conceptual foundations provided by these approaches, I highlight the emergent focus on achieving a balance between work and nonwork domains and the competing conceptualizations of work-family balance. I specifically focus on the satisfaction and effectiveness perspectives of balance and review the literature on their antecedents and outcomes.

2.2 Conceptualizations of the work-family interface

2.2.1 The work-family interface

While current conceptualisations of the work-family interface assume that work and family domains are intertwined (Frone, 2003), underlying earlier conceptualisations (Edwards & Rothbard, 2000) was the assumption that work and family spheres of life are not related and don't impact each other (e.g., segmentation model; Morf, 1989). This viewpoint has its origin in the fact that, due to the Industrial Revolution and the industrialization of paid work, men became the primary breadwinners and women the primary homemakers, resulting in work and family domains (here homemaking) constituting separate systems (Allen, Cho, & Meier, 2014).

Ongoing social changes (e.g., rising number of women participating in the workforce, delayed childbearing and the rise of single parents; Casper & Bianchi, 2002; Hammer & Zimmerman, 2011) have resulted in an increased number of individuals who have to fulfil both work and nonwork responsibilities. Additionally,

demographic changes such as the aging population (Muenz, 2007), economic and technological changes, such as 24/7 work environments and exacerbated financial pressure due to the 2008 financial recession, have collectively heightened work and family demands. For example, employees nowadays might have to leave work early to pick up their ill child from school or might have to juggle multiple jobs and childcare to make a living. Often, individuals are 'sandwiched' between caring for children and aging parents (Hammer & Zimmerman, 2011), while organisational family-friendly practices (e.g., telecommuting), that were originally designed to help employees to manage family demands (Allen, 2001), have sometimes worsened the blurredness between work and family spheres (Allen, Cho, et al., 2014).

Consequently, work-family research reacted to these changes by conceptualizing the two primary domains of life (paid work and unpaid family work) as causally connected (Edwards & Rothbard, 2000) and intertwined, refusing the 'myth of separate worlds' (Kanter, 1977) that work and family were said to constitute. A plethora of work-family studies within the last four decades or so have proposed and examined various constructs that seek to illuminate our understanding of the operation of the work-family system. These studies have revealed that how employees manage work and family roles not only impacts their well-being and family functioning (McNall et al., 2010), but also their work-related behaviours (e.g., job satisfaction and organisational citizenship behaviour; Amstad et al., 2011), suggesting a business case for understanding and facilitating employees' integration of their work and nonwork spheres. The work-family research literature can be divided into research that considers work and family roles as either conflicting or enriching and their relationship can hence be described as one of enemies or allies (Friedman & Greenhaus, 2000).

2.2.2 Work and family as enemies

Grounded in a scarcity hypothesis (Goode, 1960), research on the work-family interface initially focused on the conflict arising from participation in multiple roles. Changes in traditional gender roles that underpinned the increased participation of women in the labour force and the emergent family forms (e.g., dual-earner and single parent families), meant that a growing number of individuals participated in the workforce without a stay-at-home spouse. Consequently, work and family responsibilities could no longer be equated with traditional gender roles (Byron, 2005). Roles describe here a pattern of expectations from a particular social position (Merton, 1968) and in the case of the traditional gender roles that men are breadwinners and women homemakers. Due to these changes, men and women have to fulfil responsibilities from various roles, which are often competing for a finite amount of resources (time, energy, attention; Goode, 1960), leading to inter-role or work-family conflict. Work-family conflict is one of the most studied constructs of the work-family interface (Byron, 2005) and has been defined as difficulties in engaging in one role due to one's engagement in another role (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). Hence, the role pressures from work and family domains are considered to be mutually incompatible and bidirectional (Greenhaus & Beutell, 1985), meaning that factors originating in the work domain (e.g., role ambiguity and inflexible work schedule) influence experiences in the family domain (work-family conflict) and vice versa (e.g., low spouse support leads to family-work conflict). Consequently, and as expected, the considerable amount of research undertaken revealed largely differing antecedents and consequences of both types of conflict.

2.2.2.1 Antecedents of work-family conflict

Antecedents of work-family conflict stem largely from the work domain (e.g., work overload and job involvement) and causes of family-work conflict, while less marked, from the family domain (e.g., family support and family stressors; Aryee, Srinivas, & Tan, 2005; Byron, 2005; Ford, Heinen, & Langkamer, 2007; Frone, 2003;

Mesmer-Magnus & Viswesvaran, 2005; Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011). However, variables such as job and family stress and family conflict seem to impact both forms of conflict similarly (Byron, 2005). Based on the assumption that individuals who have less/more resources available due to certain individual characteristics are more vulnerable/protected from work-family conflict (resource drain theory; Rothbard, 2001), research has shown, for example, negative affect/neuroticism to be positively and positive affect to be negatively related to work-family conflict (Allen et al., 2012). Interestingly, these and other individual characteristics showed similar relationships with both types of work-family conflict (Allen et al., 2012; Byron, 2005). While the research on the antecedents of work-family conflict is helpful, there is a need to better understand the influence of domain-specific factors on employees' work-family interface.

Formal and informal organisational support as antecedents of work-family conflict

To combat work-family/family-work conflict and the associated negative consequences (discussed below), a growing number of organisations have implemented practices that provide family-related support to enable employees to integrate their work and family domains (Allen, 2001). Formal support are policies, services, practices and benefits organisations offer, such as flexible work arrangements, parental leave or childcare support (family-friendly practices (FFPs); Neal, Chapman, Ingersoll-Dayton, & Emlen, 1993). Generally, these practices can be distinguished (Glass & Finley, 2002) into flexible work arrangements (e.g., telecommuting), employer-supported child care (e.g., on-site childcare) and parental leave (e.g., emergency leave). In parts, organisations are by law required to provide some of these practices (mostly leave policies; e.g., parental leave policies in Germany), as countries have adapted their public policies to do justice to the various social and economic changes (e.g., dual-earner families). The scope of these policies varies between countries with, for example, European countries requiring

organisations to enable employees to take more paid parental leave after the birth of a child compared to the US (Hammer & Zimmerman, 2011). Hence, formal support is to a large degree influenced by national regulations, but is also at the discretion of companies (e.g., telecommuting; Kelly et al., 2008), which often offer more family-supportive policies than legally mandated (Swody & Powell, 2007) as a way to increase employee attraction and retention. It is plausible that employees from organisations that offer various FFPs, such as flexitime or on-site childcare, should struggle less with the fulfilment of various work and family demands than employees whose organisations offer little or no family support.

As it has been shown that work factors are mostly related to work-family conflict and not family-work conflict (domain-specific), research tends to focus solely on FFPs as antecedents of work-family conflict. The conducted research can be distinguished by its focus on the availability of FFPs (i.e. whether the organisation offers FFPs) and the usage of FFPs (i.e. whether employees use available FFPs; Kossek, 2005). While the findings from research that examined the effect of the usage of FFPs on work-family conflict seem rather inconsistent (e.g., Breaugh & Frye, 2008; Frye & Breaugh, 2004; Hammer, Neal, Newsom, Brockwood, & Colton, 2005; Lapierre & Allen, 2006), a recent meta-analysis (Butts et al., 2013) revealed that the usage of FFPs is overall negatively related to work-family conflict. As research on the negative effects of the availability of FFPs on work-family conflict is more consistent (e.g., Shockley & Allen, 2007; Thompson, Beauvais, & Lyness, 1999), its direct effects are larger than the ones obtained for usage of FFPs (Butts et al., 2013). Theoretical explanations for the effect of the usage of FFPs are based on the assumption of an instrumental path (i.e. teleworking enables employees to better manage work and nonwork demands; Grover & Crooker, 1995), whereas the effect of the availability of FFPs is explained by the signalling perspective (Grover & Crooker, 1995; Spence, 1973), which proposes that observable actions are interpreted as signs of related, but less observable underlying characteristics. Hence, the availability of FFPs can signal

an organisation's interest in enhancing the welfare of its employees independent of whether they actually use these FFPs. The availability of FFPs has not only been examined in the form of individual perceptions, but also in the form of national policies in studies that compared its impact on work-family conflict across countries (Allen, Lapierre, et al., 2014).

Perceived family-friendly culture and supervisor support for work and family comprise informal organisational support (Allen, 2001) and its importance for work-family conflict has long been noted (Galinsky & Stein, 1990). Again, research has mostly examined informal support as an antecedent of work-family and not family-work conflict (domain-specific). Family-supportive organisation perceptions can be defined as the ”global perceptions that employees form regarding the extent the organisation is family-supportive” (Allen, 2001; p. 416) and have been shown to reduce work-family conflict (Kossek et al., 2011; Wayne, Casper, Matthews, & Allen, 2013; Wayne et al., 2013). Supervisors, who show family-supportive supervisor behaviours (FSSB), are said to empathise with their employees’ desire to balance work and family responsibilities (Thomas & Ganster, 1995). These supervisors are said to understand employees’ struggle to balance work and family and express this in their behaviour (Hammer et al., 2009). For example, their subordinates can decide when to start and finish work (often around core working hours) and receive help in finding solutions regarding childcare. Research has shown FSSB to be negatively related to work-family conflict (Hammer, Kossek, Bodner, & Crain, 2013), and research that examined both forms of informal support together (Kossek et al., 2011) has emphasised the role of supervisors in shaping employees’ views of organisational work-family support.

However, both FFPs and informal organisational support do not exert their influence on employees’ work-family conflict in a vacuum. For example, employees who use available FFPs, such as teleworking, might jeopardise their career as their

supervisors might interpret this as signs of lack of commitment (Allen & Russell, 1999; Fletcher & Bailyn, 1996) or employees who take parental leave might miss a promotion. Therefore, organisational norms and values in the form of informal organisational support often determine the value employees place on FFPs and the degree to which they make use of them (Allen, 2001), making informal support more important for employees' efforts to integrate work and family than formal FFPs (e.g., Anderson, Coffey, & Byerly, 2002). Consequently, the reported inconsistent findings concerning the impact of the usage and the availability of FFPs on employees' work-family interface and their overall small direct effects (Butts et al., 2012) might be due to the context (i.e. informal organisational support) in which employees are offered FFPs and use them. Hence, research has started to discuss the effects that multiple sources of support have on various work-family outcomes (Butts et al., 2013). This research draws on either the compensatory perspective (Friedman & Greenhaus, 2000) or enhancement perspective (Friedman & Greenhaus, 2000; Greenhaus, Ziegert, & Allen, 2011), according to which sources of support compensate for each other/complement each other. Current research concerning the interplay of different forms of support on employees' work-family interface yields findings consistent with the enhancement/complementary perspective (Allen et al., 2014; Greenhaus et al., 2011), while these studies did not examine the interplay of the availability of organisational FFPs and FSSB, the two forms of organisational support that seem most relevant for employees' work-family experience.

2.2.2.2 Consequences of work-family conflict

Pertaining to the documented detrimental consequences of work-family conflict, research has shown that same-domain outcomes are more strongly affected than other-domain outcomes. For example, work-family conflict has been reported to more strongly relate to work-related outcomes such as work-related stress, burnout and reduced organisational citizenship behaviours, while family-work conflict has been shown to be more related to family-related outcomes (e.g., marital and family

satisfaction; Amstad et al., 2011). Both forms of conflict have been reported to impact stress-related outcomes such as health problems and depression similarly (Allen, Herst, Bruck, & Sutton, 2000; Amstad et al., 2011; Carlson, Grzywacz, et al., 2011).

Although this stream of research has reported many important antecedents (e.g., job stress and schedule flexibility; Byron, 2005) and outcomes (e.g., reduced life satisfaction and job performance; Greenhaus, Allen, & Spector, 2006) of work-family/family-work conflict, examining only the diminishing effects that multi-role engagement has does not fully capture individuals' experiences of the work-family interface (Aryee et al., 2005). For example, while a mother of a one-year old baby who resumes her previous work on a part-time basis might struggle due to the increased demands (e.g., reduced time and energy), she should also reap the benefits of participating in an additional role (e.g., increased self-esteem). The research discussed in the next section highlights the advantages associated with multi-role membership.

2.2.3 Work and family as allies

Even though the conflict perspective still dominates work-family research (e.g., Bhave, Kramer, & Glomb, 2012; Shockley & Allen, 2013; van Steenbergen, Kluwer, & Karney, 2014), empirical and theoretical papers increasingly explore the benefits linked to the fulfilment of work and family roles. The idea of synergy (Bailyn, 1993; Zedeck, 1992) or salutary effects (Barnett & Hyde, 2001) that work and family potentially have on each other is not new. Role accumulation theories (Marks & MacDermid, 1996; Sieber, 1974) have long posited that individuals who occupy multiple roles acquire multiple resources, which can then be used to facilitate performance in another role. Furthermore, the benefits of multiple roles, such as personal gratification and energy (Marks, 1977), mean that the costs associated with multiple roles are outweighed by their advantages (Grzywacz, Carlson, Kacmar, & Wayne, 2007). In the last two decades or so, research has seen a rise in work-family

constructs grounded in these role enhancement/accumulation perspectives (e.g., work-family enrichment and work-family facilitation; Greenhaus & Powell, 2006; Hill, 2005) and the positive effects associated with multi-role membership have been well established (e.g., job satisfaction and affective commitment; Aryee et al., 2005; Carlson, Hunter, Ferguson, & Whitten, 2014; Carlson et al., 2014).

Work-family enrichment (Greenhaus & Powell, 2006) is defined as "the extent to which experiences in one role improve the quality of life in the other role" (p.73). Hence, individuals are said to use positive experiences in one role to obtain positive experiences in another role (performance and positive affect). On the contrary, positive spillover (Edwards & Rothbard, 2000; Hanson, Hammer, & Colton, 2006) is defined as the sole "transfer of positively valenced affect, skills, behaviours and values from the originating domain to the receiving domain" (p. 251), which is said to result in positive outcomes in the receiving domain. Work-family facilitation (Wayne et al., 2007), a construct that also reflects the benefits of multiple role participation, has been defined as "the extent to which an individual's engagement in one life domain provides gains which contribute to enhanced functioning in another life domain" (p. 251). This construct focuses on an individual's active role through their engagement, while the obtained gains can be categorized into developmental, affective, capital and efficiency gains. All of these constructs are highly related in their content, as they all include a notion of resources acquired in one domain, which increase the functioning or quality of life in another domain (cross-domain effects). Furthermore, work-family enrichment and work-family facilitation have been conceptualised as bidirectional, highlighting the diverse impact work and family domains are said to have on each other. Nonetheless, these constructs can be differentiated by the type of resources that are proposed to be transferred between the two domains and the scope of consequences that these resources have on the receiving domain. On the one hand, positive spillover is limited to the transfer of personal resources such as affects and skills (Hanson et al., 2006), while work-family facilitation additionally includes capital gains as a resource

(economic, social or health assets), which are transferred from one domain to the other. On the other hand, work-family enrichment captures all the preceding resources as it focuses on the transfer of experiences, which include personal resources (e.g., psychological and physical resources), social-capital resources (e.g., influence and information) and material resources (e.g., money and gifts; Greenhaus & Powell, 2006).

While positive spillover and work-family enrichment propose that the transferred resources lead to improved quality of life or positive outcomes in the receiving domain, work-family facilitation is said to lead to improvement in system-level functioning (Wayne et al., 2007). The notion of systems (Bronfenbrenner, 1989) captures the idea that, for example, the family domain as the receiving domain is made up of multiple sub-systems (e.g., couple subsystem and parents subsystem) and that changes can be expected in all of these subsystems (e.g., organisation skills acquired at work impact the way the homework is done and the way the children are brought to school). Due to their strong conceptual overlap and research that confirms their interrelatedness (Masuda, McNall, Allen, & Nicklin, 2012), it has been suggested to categorize these positive constructs under the term work-family enrichment as the broadest, and most researched constructs (Greenhaus & Allen, 2011; Hanson et al., 2006). Consequently, I review in the next section antecedents and consequences of all three positive constructs under the generic term ‘work-family enrichment’.

2.2.3.1 Antecedents of work-family enrichment

A variety of work and family resources have so far been linked to work-family/family-work enrichment. Similar to the picture portrayed above for work-family conflict, the antecedents of work-family enrichment also stem largely from the work domain (e.g., various job characteristics, supervisor and colleague support and work identity; Carlson, Kacmar, Wayne, & Grzywacz, 2006; Siu et al., 2010; Wayne et al., 2006), while the causes of family-work enrichment reside in both the work and family

domain (e.g., autonomy at work and relationship with the family; Carlson et al., 2006). Individual characteristics, such as extraversion, neuroticism and proactive personality have also been linked to work-family/family-work enrichment (Aryee et al., 2005; Wayne, Musisca, & Fleeson, 2004). As the obtained findings are in parts contradictory (e.g., differing findings regarding neuroticism) or have not been replicated, it is not yet clear which individual characteristics can be truly linked to the two directions of work-family enrichment.

In contrast to work-family conflict, research has often examined formal and informal support as antecedents of both directions of work-family enrichment (e.g., McNall et al., 2010; Odle-Dusseau, Britt, & Greene-Shortridge, 2012). Regarding formal support, scholars have again distinguished usage from availability of FFPs, but the sparse research has yielded mixed findings. For example, while Carlson, Grzywacz and Kacmar (2010) reported the use of flexible work schedules (one type of FFPs) to positively relate to work-family enrichment, Wayne and colleagues (2006) found the use of multiple benefits (including childcare policies, flexibility policies and leave policies) to be unrelated to work-family/family-work enrichment. Similarly, the findings pertaining to the influence of availability of FFPs are mixed with studies finding positive direct (Baral & Bhargava, 2011; McNall, Masuda, & Nicklin, 2009), indirect (Siu et al., 2010) or no effects on work-family/family-work enrichment (Baral & Bhargava, 2010).

Regarding informal support, the empirical findings concerning the positive effect of family-supportive organisation perceptions (Allen, 2001) on work-family/family-work enrichment are also little conclusive (positive and nonsignificant links; Carlson, Ferguson, Kacmar, Grzywacz, & Whitten, 2011; Wayne et al., 2013), meaning that as of yet no firm statements can be made whether organisational perceptions of family support lead to positive work-family experiences.

A different image is offered for supervisors' work-family support in the form of FSSB (Thomas & Ganster, 1995). Specifically, research has convincingly linked FSSB to work-family enrichment (Odle-Dusseau et al., 2012; Russo et al., 2015; Wayne et al., 2006), while its effect on family-work enrichment warrants further empirical support due to inconclusive findings (positive and non-significant links; Odle-Dusseau et al., 2012; Wayne et al., 2006). Both formal and informal work-family support represent organisational efforts to help employees to coordinate their work and family demands and both are hence components of a family-supportive work environment. While research has, as previously reported, shown formal and informal support to impact employees' work-family conflict in an enhancing manner (i.e. reduced work-family conflict; Allen et al., 2014; Friedman & Greenhaus, 2000), research has yet to examine their interplay on work-family enrichment. Given the criticality of workplace family support, it is imperative that research examines whether the two forms of support enhance each other in influencing employees' positive work-family experiences.

2.2.3.2 Consequences of work-family enrichment

Mirroring the pattern of findings obtained for work-family conflict, work-family enrichment has also been shown to more strongly influence work-related outcomes, such as job satisfaction, affective commitment, and job performance than family-related outcomes (Carlson et al., 2006; McNall et al., 2010; van Steenbergen, Ellemers, & Mooijaart, 2007). Similarly, family-work enrichment was more strongly related to family-related outcomes, such as family satisfaction and marital satisfaction (Carlson et al., 2006; Hill, 2005; McNall et al., 2010). Interestingly, both directions of work-family enrichment seem to be equally important for stress-related outcomes (McNall et al., 2010), reflecting the findings obtained for work-family conflict (e.g., Amstad et al., 2011).

Although research on the positive side of the work-family interface is still in its infancy (Greenhaus & Allen, 2011), many important antecedents and consequences (e.g., FSSB and job satisfaction; McNall et al., 2010; Russo et al., 2015) have been revealed. While considering also the positive side of the work-family interface constitutes an important advancement compared to the prior sole focus on work and family as conflicting, the construct of work-family enrichment suffers, similar to work-family conflict, from a range of shortcomings. Both constructs have been defined as bi-directional and research has revealed differing antecedents and consequences of both directions of conflict and enrichment (e.g., Byron, 2005; Carlson et al., 2006; McNall et al., 2010). Hence, their bi-directional conceptualisation makes them unnecessarily complicated for organisations to manage through, for example, organisational interventions, as factors that increase work-family enrichment might not affect/negatively affect family-work enrichment. Additionally, while there is little confusion about the definition of work-family conflict (Greenhaus & Beutell, 1985), the multitude of positive work-family constructs discussed above (e.g., positive spillover and work-family facilitation) hampers theoretical progress, as it is unclear which concept or which combination of concepts captures the positive side of the work-family interface best. The construct of work-family balance has been introduced to provide a complete picture of employees' daily realities in managing work and family and to hence overcome the shortcomings associated with an exclusive focus on conflicting or enriching aspects.

2.2.4 Work-family balance

2.2.4.1 Work-family balance as low conflict and high facilitation/enrichment

In order to achieve this full picture of the work-family interface, Frone (2003) suggested that a definition of work-family balance (WFB) should not only equate balance with low levels of conflict (Duxbury & Higgins, 2001), but should also include the reinforcing aspects that work and family domains have on each other. Hence, both resource drain, resulting from work-family conflict, and resource gain, resulting from

work-family facilitation, should be considered. He consequently depicted work-family conflict and work-family facilitation in his fourfold taxonomy along the dimensions of direction of influence (i.e. the bi-directional nature of work and family) and type of effect (conflict vs. facilitation) and concluded that WFB is characterized by low levels of conflict and high levels of facilitation. Research has subsequently provided some support for the fourfold taxonomy (e.g., Aryee et al., 2005; Rantanen, Kinnunen, Mauno, & Tement, 2013) and examined various antecedents (e.g., work overload, family support, work pressure and recovery) and consequences (e.g., job satisfaction, organisational commitment, career and life satisfaction) of conflict and facilitation (e.g., Aryee et al., 2005; Chen, Powell, & Cui, 2014; Lu, Siu, Spector, & Shi, 2009; Sanz-Vergel, Demerouti, Moreno-Jiménez, & Mayo, 2010). While these studies constitute an important conceptual advancement by considering and examining both positive and negative work-family experiences, conflict and facilitation (discussed above as work-family enrichment) have, in parts, differing antecedents and outcomes (e.g., work overload related to conflict and not to facilitation; Aryee et al., 2005). The matter is further complicated by the fact that both constructs have been defined as bi-directional (Frone, 2003) and, as reviewed above, different processes seem to underlie both directions (Witt & Carlson, 2006). Therefore, their effect on overall WFB is questionable, as factors might increase/decrease work-family conflict and work-family facilitation, but not their opposite directions (e.g., work-related factors; Byron, 2005; Carlson et al., 2006). The conceptualisations of WFB as low conflict and high facilitation (additive model) is based on the assumption that conflict and facilitation are unrelated, independent constructs (Frone, 2003; Greenhaus & Powell, 2006) which is disputable as both have also been discussed as opposite ends of a continuum or work-family enrichment as buffering the negative effects of work-family conflict (Greenhaus & Powell, 2006; Powell & Greenhaus, 2006). This conceptual confusion prompted scholars (Gareis, Barnett, Ertel, & Berkman, 2009; Grzywacz & Bass, 2003; Wayne et al., 2015) to compare the effects of combinations of conflict

and enrichment (e.g., additive, interactive or relative difference models) on various outcomes. As this research finds that different combinations of both directions of conflict and facilitation/enrichment predict different outcomes best (e.g., Gareis et al., 2009) and as it is questionable whether any of these combinations fully captures employees' overall assessment of the degree to which they successfully integrate work and family (Marks & MacDermid, 1996; Valcour, 2007), assessing WFB via conflict and facilitation does not seem the best way forward. To address these shortcomings, the work-family literature has seen a rise in conceptualisations of WFB as a unified/global/overall construct that spans work and family domains and initial empirical findings suggest that WFB as a distinct construct explains outcome variance beyond conflict and enrichment (Carlson et al., 2009), suggesting that WFB as the sum might be more than its parts.

2.2.4.2 Review of conceptualisations of WFB as a global construct

The first theory-driven definition that considered the balance between multiple roles ('role balance') was offered by Marks and MacDermid (1996). According to these authors, individuals experience role balance if they are "fully engaged in the performance of every role in their total role system" (p. 421), signifying that a balance across work and nonwork roles should be achieved and one role should not take precedent over the others. Greenhaus and colleagues (2003) seized this idea of equality between experiences in different roles by defining WFB as "the extent to which individuals are equally engaged in and equally satisfied with work and family roles" (p. 513). However, this element of equality invokes the image of a scale with work and family domains needing to be balanced out (Greenhaus & Allen, 2011), while it is disputable whether high engagement in one role is only possible at the expense of engagement in another role. For example, a career-driven young adult might spend considerably more time at work than with his young family, while the available time after work and on the weekends suffices to fulfil all assigned family demands (e.g., do the weekly shopping). It is therefore not beyond debate that

individuals who put a relative priority on work or family (e.g., career-focused; Friedman & Greenhaus, 2000) still experience a good WFB, which is reflected in the idea that the individual allocation of time and energy needs to fit individual values (Byme et al., 2014; Greenhaus & Allen, 2011; Kofodimos, 1993) and hence only needs to be in line with one's own internal standards.

This limitation of the above definitions has been addressed in more recent conceptualisations of WFB, which converge on the idea that WFB is about meeting one's own and relevant others' expectations (Greenhaus & Allen, 2011; Grzywacz & Carlson, 2007; Valcour, 2007), independent of whether the individual is equally engaged (and has equal demands) in all roles.

These current definitions and related measures can be distinguished by their focus on either individuals' satisfaction with their WFB (referred to here as WFB satisfaction; Valcour, 2007) or their perceived effectiveness in meeting work and family obligations (referred to here as WFB effectiveness; Carlson et al., 2009; Grzywacz & Carlson, 2007). The idea that both satisfaction and effectiveness are components of WFB is reflected in Greenhaus and Allen's (2011) definition of WFB as the "overall appraisal of the extent to which individuals' effectiveness and satisfaction in work and family roles are consistent with their life values at a given point in time" (p. 174). The focus on effectiveness and satisfaction is justified by the assumption that employees want to fulfil all of their work and family demands and that this extensive involvement in multiple roles should lead to fulfilment and satisfaction (Friedman & Greenhaus, 2000; Valcour, 2007). This is mirrored in role accumulation theories (Marks & MacDermid, 1996; Sieber, 1974), which underpin positive constructs of the work-family interface and which emphasise resulting beneficial outcomes (i.e. high performance and satisfaction with performance) of the successful engagement in multiple roles. Employees who only show high performance without being satisfied can't be considered to be balanced (e.g., a workaholic that is not

satisfied with his/her fulfilment of family demands), as it is the case for employees who are satisfied with their WFB but who perform poorly (e.g., an employee who comes late to work due to family commitments).

It is therefore conceptually appropriate that a definition of WFB needs to include both effectiveness and satisfaction with WFB. However, as satisfaction does not necessarily follow from high performance and vice versa (Clarke, Koch, & Hill, 2004), WFB satisfaction and effectiveness should be considered as two separate, but related components of WFB. This assumption is strengthened by research that shows that the two types of WFB have different patterns of relationships with various outcomes (Wayne et al., 2015). Despite the growing use of WFB to capture employees' experiences of the work-family interface, no theory-driven measure has yet been developed to assess WFB as defined by Greenhaus and Allen (2011) and research continues to examine overall WFB with items that do not stem from validated and theory-driven scales (Allen & Kiburz, 2012; Greenhaus et al., 2011). Consequently, I conceptualised WFB in terms of WFB satisfaction (Valcour, 2007) and WFB effectiveness (Carlson et al., 2009). The literature on both facets of WFB is reviewed in the succeeding section.

2.2.4.3 WFB satisfaction and WFB effectiveness

Valcour (2007) defined satisfaction with WFB (referred to here as WFB satisfaction) as “an overall level of contentment resulting from an assessment of one’s degree of success in meeting work and family role demands” (p. 1512). Therefore, WFB is conceptualised as employees’ attitudes towards resource allocation between work and family domains, including both a cognitive (i.e. appraisal of success of role fulfilment) and affective component (i.e. positive feelings resulting from the appraisal). As this definition of WFB focuses on individuals’ internal, subjective evaluations, WFB represents a psychological construct (Wayne et al., 2015).

Grzywacz & Carlson (2007), on the other hand, define WFB (referred to here as WFB effectiveness) as “the accomplishment of role-related expectations that are negotiated and shared between an individual and his/her role-related partners in the work and family domains” (p. 455). Their definition of WFB includes both the individual and relevant others (social construct) and these authors disregard the idea that WFB is in the eyes of the beholder. The individual is seen as being able to provide accurate assessment of others’ appraisal of their performance in the work and family domains.

Due to the differences between the two conceptualizations of WFB (psychological vs. behavioural construct), I developed separate hypotheses regarding the outcomes of both WFB satisfaction and WFB effectiveness.

2.3 Research on WFB

Research that has examined WFB as an overall construct has revealed that a variety of job characteristics (e.g., job complexity, job control), various forms of social support (supervisor, co-worker and partner support) and control over working hours were positively related to WFB satisfaction, while various job demands (e.g., psychological job demands, job insecurity, work pressure and working hours) were negatively relate to WFB satisfaction (Abendroth & den Dulk, 2011; Beham & Drobnic, 2010; Valcour, 2007). In contrast, only one study has considered antecedents of WFB effectiveness and revealed that co-worker and partner support contributed to increased WFB effectiveness (Ferguson et al., 2012).

Although the preceding research has uncovered antecedents of the two dimensions of WFB, research has yet to examine antecedents of both components in the same study to truly capture WFB as per Greenhaus and Allen’s (2011) definition. Knowledge about the factors that promote WFB satisfaction and effectiveness (as well as their outcomes) is paramount for the further theoretical refinement of the WFB construct. This, however, can only be accomplished if antecedents (and outcomes) of both dimensions are assessed in the same study, which is the objective of this thesis.

Concerning the outcomes of the two components of WFB, only one study has so far examined consequences of WFB satisfaction and has revealed positive relationships with organisational commitment, job and family satisfaction, turnover intent and family performance (Wayne et al., 2015). The outcomes of WFB effectiveness have, on the other hand, received slightly more research attention with research showing positive relationships with job, marital and family satisfaction, organisational commitment, family performance and family functioning, as well as self- and other-rated work and family performance (Carlson et al., 2009; Ferguson et al., 2012; Wayne et al., 2015). Interestingly, the obtained findings differ for WFB satisfaction and WFB effectiveness in such a way that only WFB effectiveness was positively related to job performance (Wayne et al., 2015). As this relationship is of organisational interest and as it has implications for WFB theory, further research is needed that scrutinizes the link between both components and WFB with a more rigorous research design (e.g., temporal separation of predictor and outcome). Additionally, while past research highlighted the effect of the work-family interface on employees' health (e.g., Amstad et al., 2011; McNall et al., 2010), uncovering positive links between WFB and well-being (life satisfaction and health) would strengthen the organisational profile of WFB and emphasise the broad reach of the WFB construct.

2.4 Conclusion

This chapter reviewed the different conceptualizations of the work-family interface, ranging from the historical focus on work and family as mutually incompatible through to the focus on the two domains as mutually enriching, culminating in the contemporary focus on achieving a balance between these domains. Furthermore, this chapter reviewed the literature on the antecedents and outcomes of these conceptualizations and noted the limitations of the extant research, which motivated this study. Building on the notion that WFB is better conceptualized as comprising satisfaction and effectiveness dimensions, the case was made for investigating workplace family support (formal and informal) as a key driver of employees'

experience of the work-family interface and for linking WFB satisfaction and WFB effectiveness to employee performance and well-being. In the succeeding chapter, I discuss the theoretical grounding of this thesis (work-family border theory and role accumulation theories; Clark, 2000; Marks & MacDermid, 1996; Sieber, 1974). Following, as this thesis integrates work-family interface and leadership literatures to achieve a better understanding of the characteristics of supervisors that exhibit FSSB, a review of the leadership and authentic leadership literatures is provided. Subsequently, the research model is presented and the hypotheses, including cross-level relationships, are formed.

CHAPTER THREE – THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1 Introduction

In this chapter, I review the two theories that underpin my hypothesized model and discuss authentic leadership (Luthans & Avolio, 2003; Walumbwa et al., 2008) as the root concept of positive forms of leadership (Avolio & Gardner, 2005). Consequently, I develop my hypothesized model and draw on work-family border theory and authentic leadership theory (Luthans & Avolio, 2003) to hypothesise that authentic leadership is positively related to employees' perception of FSSB which, in turn, relates to WFB satisfaction and WFB effectiveness. Second, I hypothesise that availability of FFPs moderates the link between FSSB and WFB in such a way that the effect is stronger when availability of FFPs is high (enhancement perspective). Third, I draw on role accumulation theories (Marks & MacDermid, 1996; Sieber, 1974) to propose that fulfilling multiple roles leads to WFB satisfaction and WFB effectiveness and that both components differentially relate to life satisfaction, health and job performance. Lastly, given the recognition of the nested nature of the majority of organizational life (Klein & Kozlowski, 2000), I extend the hypothesised individual-level model to the team level and consider the cross-level effect of team authentic leadership (team consensus regarding authentic leadership) on individual FSSB, WFB satisfaction/effectiveness, life satisfaction, health and job performance and the cross-level moderating effect of team availability of FFPs (team consensus regarding availability of FFPs) on the link between individual FSSB and WFB satisfaction/effectiveness.

3.2 Theoretical frameworks

3.2.1 Overview of theories of the work-family interface

Triggered by the rising number of women entering the workplace in the 1970s, the early focus of work-family research was on the consequences associated with the

incompatibility of the demanding expectations from work and family roles (Kanter, 1977). Both domains were considered to be 'greedy' for time and energy (Coser, 1974), which is reflected in the scarcity or conflict perspective that assumes that work and family roles conflict due to time constraints, role-related strain or incompatible role-related behaviour (Greenhaus & Beutell, 1985). These pressures from one role are said to hamper performance in another role (role theory; Kahn et al., 1964) , such that, for example, a spouse that faces incompatible pressures from work (e.g., overtime) and home (e.g., pressure to spend more family time), experiences work-family conflict.

As it became apparent that multi-role membership does not have to result in conflict, subsequent theory and research shifted towards emphasising the enriching aspects of performing multiple roles (e.g., Greenhaus & Powell, 2006) and drew on role accumulation theory (Marks & MacDermid, 1996; Sieber, 1974) to do so. The general tenor of these expansion or enhancement theories is that participating in multiple roles is beneficial as the resources acquired in one role can be used in another role (instrumental path; Greenhaus & Powell, 2006) or positive affect spills over from one role to another, enhancing performance in that other role (affective path).

As an expansion of role theory, border and boundary theories (e.g., Ashforth, Kreiner, & Fugate, 2000; Clark, 2000) consider the boundaries/borders that individuals create between their various roles. Clark (2000) conceptualised borders as fine lines between work and nonwork domains, with employees as daily border-crossers. These borders can be of various forms and strengths and a special emphasis is put on the role of border-keepers (e.g., supervisors) as individuals within a domain that manage the domain and its borders.

Following the preceding discussion and drawing on the conceptual foundations of role theory, I utilize work-family border theory and role accumulation

theory to explicate the relationships depicted in Figure 1. First, as both supervisors and organisations represent border-keepers who impact employees' WFB, Clark's (2000) highly regarded work-family border theory provides the theoretical justification for the hypothesized antecedents of WFB. Furthermore, role accumulation theory (Marks & MacDermid, 1996; Sieber, 1974) underpins the hypothesized influence of WFB on the outcomes depicted in Figure 1 and examined in this thesis.

3.2.2 Work-family border theory

Work-family border theory has been extensively used as a theoretical framework to describe and explain the functioning of the work-family interface (Kreiner, Hollensbe, & Sheep, 2009; Powell & Greenhaus, 2010). As previously noted, the boundaries between the work and family domains have become increasingly blurred as a growing number of employees participate in both work and family roles. Work-family border theory (Clark, 2000) views employees as daily border-crossers and examines both individual strategies and the context as impacting individual WFB. For example, work and family make differing and often conflicting demands on individuals, which need to be managed in order to achieve WFB. The main concepts of the theory, namely the domains, borders between the domains, border-crossers and border-keepers, are discussed next.

Work and family domains are characterised by different rules, patterns, behaviours and cultures. Consequently, a behaviour that is desirable at work (e.g., emotional labour), might not be desirable at home (Clark, 2000). Borders exist between different domains, informing individuals about the start/end point of domain-relevant rules, expectations and behaviours. These borders can be temporal, physical or psychological and can vary in permeability and flexibility. A mother working from home (e.g., teleworking) builds psychological borders between work and family domains, while the borders between the domains are quite possibly permeable (e.g.,

doing the laundry during lunch breaks) and flexible (e.g., start and finish time of work can be adjusted to fit family responsibilities).

As employees are multi-domain members and daily cross the borders between multiple domains, they are described as border-crossers. Individuals differ in the degree to which they have influence within a domain (e.g., through autonomy and decision-making authority) and the degree to which they identify with domain responsibilities (e.g., part of their self-concept). Individuals who have high influence and identification are said to be more committed to their domains, to be able to shape their domains, and to influence the boundaries between them (Powell & Greenhaus, 2010), leading to a high WFB.

Whereas the individual employee is considered to be influential in managing domains and borders, their influence within a domain is seen as determined by other individuals from that domain (called border-keepers; e.g., supervisors or spouses). These border-keepers are said to define the domain and impose role-specific requirements on the employee (e.g., temporal constraints due to shift work). Differing expectations between employees and border-keepers with regard to the borders of the domain and role-related expectations lead to work-family conflict. However, according to Clark (2000), border-crossers whose border-keepers possess high 'other-domain awareness' and show high 'commitment to the border-crosser' should experience WFB. Other-domain awareness is characterised by an understanding of border-crossers' other-domain commitments and the specific challenges they currently face, while commitment to the border-crosser is manifested in support for these other-domain responsibilities/challenges. The basis for this understanding and commitment is that border-keepers are aware of border-crosser's challenges and sympathetic towards them, which is said to be achieved through open communication between border-keepers and border-crossers (Clark, 2000).

3.2.3 Role accumulation theories

Research has used role accumulation theories (e.g., Marks & MacDermid, 1996; Sieber, 1974) to explain the positive effect work and family roles have on each other (e.g., work-family enrichment; Carlson et al., 2009) and on related outcomes. As mentioned above, these theories assume that the merits of multi-role membership exceed its negative consequences. Therefore, participation in multiple roles does not necessarily lead to role conflict or role overload, but can potentially lead to WFB and other positive outcomes. This assumption is based on the reasoning that multiple roles offer multiple opportunities to recharge replenished resources (Marks, 1977) and that employees who fulfil multiple roles have multiple social identities and self-aspects (Linville, 1987), buffering them from the negative effects of stress.

According to Sieber (1974), fulfilling roles leads to four types of rewards, namely role privileges (i.e. inherent and emergent rights stemming from the role, such as bonuses, retirement plans or decision-making control), overall status security (i.e. roles buffer against stress, such as spouse providing financial support when individual faces unemployment), resources for status enhancement and role performance (e.g., non-institutionalized by-products of roles, such as network, company car or recommendation letter) and personality enrichment and ego gratification (i.e. enriched personality and self-concept through, for example, exposure to differing views and development of multiple self-identities). Sieber (1974) takes the view that the more roles an individual occupies (e.g., full-time employment, member of the worker union, spouse, father, friend), the more role privileges and resources an individual has available and the better the individual can respond to stress, resulting in high performance and good health.

These assumptions are mirrored in Marks and MacDermid's (1996) theory of role balance. These authors state that if individuals approach all of their roles with attentiveness and care and are fully engaged in them (and hence do not favour one

role permanently over others), they should experience role balance. Role balance, in turn, should be related to well-being, role ease (i.e. felt ease in carrying out tasks) and positive role experiences). After an initial phase in which individuals get accustomed to a new role and organise the fulfilment of the additional role responsibilities around the fulfilment of existing role responsibilities, individuals should seize every moment that has been allocated to the new role and show high performance across all roles. Hence, while multi-role membership signifies a busier schedule, this busy schedule is said to contribute to individuals' focus on fulfilling the various role demands and multi-role engagement should thus contribute to performance and well-being.

Taken together, both theories discuss antecedents of WFB and propose that multi-role membership is not only related to WFB, but also to a variety of positive outcomes. In doing so, these theories explain why individuals actively seek involvement in multiple roles and don't permanently prioritise one role above all others (Marks & MacDermid, 1996).

3.3 Authentic leadership

It should be apparent from the above discussion that work-family border theory (Clark, 2000) places considerable emphasis on important domain members, such as supervisors and spouses (called 'border-keepers') in influencing employees' (border-crossers') WFB. While border theory explicates the antecedents of WFB, its (WFB) positive outcomes (e.g., job performance and health) are explicable by drawing on role accumulation theories (Marks & MacDermid, 1996; Sieber, 1974). Based on these theories and the work-family interface literature, a comprehensive hypothesized model is offered that proposes various antecedents and consequences of WFB. Pertaining to the hypothesized antecedents of WFB, the model draws on the leadership literature (authentic leadership) to reveal the characteristics of 'border-keepers' that enable employees to integrate work and family, leading to an array of positive consequences. Based on a comparison with other leadership styles, I provide

a justification for my focus on authentic leadership as a distal driver of the relationships depicted in the hypothesized model. Lastly, gaps in the FSSB literature are highlighted and a case made for the added value of authentic leadership relative to FSSB in accounting for WFB and its outcomes.

3.3.1 Leadership literature

As discussed previously, research on the work-family interface has experienced a substantial increase in attention in the last three decades (Greenhaus & Allen, 2011). Leadership research, on the contrary, has been thriving for more than 150 years (e.g., Galton, 1869). The earliest research (early 20th century; e.g., Terman, 1904; Bowden, 1926) focused on the identification of the characteristics/traits of successful leaders or 'great men', assuming that leaders were born and not made (Kirkpatrick & Locke, 1991). While recent meta-analyses found that leadership was, indeed, linked to certain leader characteristics (e.g., extraversion, conscientiousness & intelligence; Judge, Bono, Ilies, & Gerhardt, 2002; Judge, Colbert, & Ilies, 2004), these trait theories received harsh criticism from contemporaries (e.g., Stogdill, 1948), Consequently, leadership research shifted towards a focus on behaviours of successful leaders, culminating in the two dimensions of initiating structure and consideration (Hemphill & Coons, 1957; Stogdill, 1963), which have recently gained renewed research attention (Judge, Piccolo, & Ilies, 2004; Derue, Nahrgang, Wellman & Humphrey, 2011). Later, leadership research was characterised by an examination of conditions of effective leaders (contingency theories; e.g., Fiedler, 1967) and the examination of the unique relationship between leaders and followers (LMX = leader-member exchange; Graen & Uhl-Bien, 1995).

Over 30 years ago, the concepts of transformational and transactional leadership were introduced (Burns, 1978; Bass, 1985), which both constitute conglomerates of different leader behaviours. Whereas transactional leaders aim at

motivating followers through rewards in exchange for desired behaviour, transformational leaders are said to enhance ‘performance beyond expectations’ through, amongst others, a strong vision. However, as the means through which transformational leaders achieve this vision can potentially be dubious (e.g., use of impression management), Bass and Steidlmeier (1999) introduced the term ‘authentic leadership’ to distinguish pseudo-transformational leadership from authentic transformational leadership. Consequently, morally-grounded behaviours and ethical values are at the heart of this new form of leadership.

3.3.2 Authentic leadership construct

The noun 'authenticity' has its roots in the ancient Greek philosophy (“to thine own self be true”; Harter, 2002; Kernis & Goldman, 2006) and authentic leaders are described as transparent and moral individuals whose words match their deeds (Luthans & Avolio, 2003). Originally, authentic leadership was developed by both practitioners and researchers (George, 2003; Luthans & Avolio, 2003) as a leadership style that is able to restore employees’ trust lost through corporate scandals (e.g., Enron; Avolio & Walumbwa, 2014). A subsequent phase of theory building (e.g., Avolio, Gardner, Walumbwa, Luthans, & May, 2004; Ilies, Morgeson, & Nahrgang, 2005; Luthans, & Avolio, 2003), with models proposing various consequences of authentic leadership, such as job performance and well-being, was followed by a phase of initial theory testing, which was enabled through the development of the Authentic Leadership Questionnaire (Walumbwa et al., 2008).

These authors conceptualised authentic leadership as a higher-order construct and the majority of research has since considered authentic leadership to be comprised of the four dimensions of self-awareness, internalised moral perspective, balanced processing of information and relational transparency. *Self-awareness* refers to authentic leaders’ understanding of their strengths and weaknesses, whereas *internalised moral perspective* signifies that authentic leaders

self-regulate their behaviour according to internal moral values. *Balanced processing of information* means that these leaders objectively consider and analyse all available information before making decisions (e.g., information that clashes with their own viewpoints), while *relational transparency* refers to authentic leaders disclosing their true thoughts, emotions and expectations to followers. Hence, authentic leaders are self-aware of their genuine thoughts and beliefs and are true to themselves by acting according to their core values (congruence; Luthans & Avolio, 2003). Importantly, the above discussed models all place a special emphasis on positive role modelling, with authentic leaders developing their followers into authentic followers through authentic leader-follower relationships (Avolio & Walumbwa, 2014).

3.3.3 Authentic leadership research

3.3.3.1 Consequences

Job performance, organizational commitment, job satisfaction and helping behaviours are amongst the work-related attitudes and behaviours that followers of authentic leaders show (e.g., Hirst, Walumbwa, Aryee, Butarbutar, & Chen, 2015; Leroy et al., 2012; Walumbwa et al., 2008; Wong & Spence Laschinger, 2013). Authentic leadership, however, also directly matters for employees, as its negative effect on burnout suggests (Spence Laschinger, Wong, & Grau, 2012). Importantly, research has shown that authentic leadership can be considered as a team-level phenomenon (e.g., Lyubovnikova et al., 2015), affecting individual and team outcomes similarly (Yammarino et al., 2008). Taken together, the importance of authentic leadership as a leadership style that matters for work-related and health-related outcomes has been shown across a variety of studies.

3.3.3.2 Processes and boundary conditions

Drawing on, amongst others, self-determination theory and social contagion theory (Deci & Ryan, 2000; Meindl, 1995), research has revealed various underlying mechanisms that explain the positive impact authentic leadership has on individual

and team outcomes. Specifically, research has uncovered positive processes (e.g., trust, affective organizational commitment and empowerment; Clapp-Smith, Vogelsang & Avey, 2009; Leroy et al., 2012; Wong & Spence Laschinger, 2013) and positive perceptions of authentic leadership and the follower-leader relationship (e.g., leader behavioural integrity, perceived predictability of the leader and LMX: Leroy et al., 2012; Peus, Wesche, Streicher, Braun, & Frey, 2011, 2012; Wang, Sui, Luthans, Wang, & Wu, 2014) that account for the positive consequences discussed above. Regarding the boundary conditions of authentic leadership, I am aware of only one study that showed that the indirect effect of authentic leadership on job performance (via LMX; Wang et al., 2014) depends on employees' psychological capital (Luthans & Youssef, 2004).

The above review of the consequences, processes, and boundary conditions of authentic leadership highlights the importance of the construct for employees and organisations. However, as with much organizational research, this literature suffers from a chronic shortage of longitudinal studies (Lee & Lings, 2007). Due to the risk of common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) inherent in this research design, research that more rigorously sheds light on the relationships of authentic leadership with work and health-related consequences is strongly needed. While this research should aim at confirming previously discovered relationships (e.g., job performance), authentic leadership should also be linked to new mechanisms and outcomes to reveal its reach. Lastly, an examination of boundary conditions should contribute to a better understanding of the authentic leadership construct and contribute to the maturity of this literature (Edmondson & McManus, 2007).

3.3.4 Comparison with other leadership theories

In this thesis, I consider authentic leadership as an attribute of border-keepers (Clark, 2000) that express FSSB, and in this way, contribute to employee WFB,

performance and well-being. As work-family research has focused primarily on FSSB when discussing leader behaviours, I focus in this section on justifying the added value of authentic leadership relative to FSSB in accounting for employees' experience of the work-family interface (WFB) and related outcomes. This argumentation is based on a comparison of authentic leadership with transformational and ethical leadership and LMX and the conclusion that authentic leadership is the leadership style most relevant for FSSB and WFB. These leadership styles were selected due to their conceptual overlap with authentic leadership. Namely, authentic leadership was developed based on transformational leadership theory (Bass, 1985) and emphasises, similar to ethical leadership (Brown, Treviño & Harrison, 2005), the moral foundation of leadership behaviours. On the other hand, previous theoretical and empirical work has linked FSSB to LMX and transformational leadership (empirical support only for LMX; Matthews, Bulger, Booth, & Paludi; 2013; Matthews & Toumbeva, 2014; Straub, 2012), further highlighting a need to justify my choice of authentic leadership.

3.3.4.1 Transformational leadership

Transformational leadership (Bass, 1985; Burns, 1978) can be considered as the most researched leadership style of the last two decades (e.g., Judge & Piccolo, 2004) and has been convincingly shown to lead to 'performance beyond expectations' (i.e. linked to job performance; e.g., Dvir, Eden, Avolio, & Shamir, 2002). Transformational leadership, conceptualised as a higher-order construct (Avolio & Bass, 1995; Bass, 1985) that comprises the 'four I's' (Avolio, Waldman & Yammarino, 1991) of *idealized influence, inspirational motivation, intellectual stimulation,* and *individualized consideration,* considerably overlaps with authentic leadership (see Table 3 in Walumbwa et al., 2008). Namely, both transformational and authentic leadership theory highlight leaders as role models (e.g., Avolio, 1999; Luthans & Avolio, 2003) and emphasise the close relationship transformational/authentic leaders develop with followers (authentic relational

transparency and transformational individualized consideration). It however needs to be noted that different processes underlie this relationship (personal attention vs. self-disclosure; Bass, 1985; Walumbwa et al., 2008) and that transformational leadership places a stronger focus on performance than relationships (i.e. authentic leadership more person-focused). This assumption is also reflected in the role of followers in both leadership styles, as transformational leaders aim at developing followers into leaders (Avolio, 1999; Bass, 1985), while authentic leaders aim at developing followers into authentic human beings (e.g., Luthans & Avolio, 2003). A further key distinction, which results from the high levels of authenticity of authentic leaders, is self-awareness (Walbumwa et al., 2008). Specifically, this notion is inherent in the definition of authentic leadership and reflected in the valued-driven leadership behaviours that authentic leaders express. Self-awareness can, in turn, be regarded as the base of authentic leaders' internalized moral perspective, which signifies the self-regulation underlying authentic behaviours. While transformational leaders' behaviours can, of course, also be guided by ethical values (see e.g., Avolio, 1999), these values are not central to the definition of transformational leadership. As leaders could demonstrate manipulative behaviours that serve their own rather than the common good and still be considered transformational, authentic leadership was initially introduced to address this shortcoming (Bass & Steidelmeier, 1999).

3.3.4.2 Ethical leadership

Brown and colleagues (2005) highlighted in their definition of ethical leadership leader's role as a *moral person* and *moral manager*. Being a moral person entails providing an example of ethical conduct and treating other people fairly, which involves the consideration of needs and interests of others. Consequently, ethical leaders are considered to possess attributes such as honesty and integrity (Mayer, Aquino, Greenbaum & Kuenzi, 2012). Being a moral manager, on the other hand, entails ethical leaders actively managing followers' morality,

encouraging them through transactional behaviours (i.e. rewards and punishment; Brown & Treviño, 2006) to express value-guided, ethical behaviours. As evident from the preceding discussion, the core constructs of ethical leadership suggest some degree of conceptual overlap with transformational and authentic leadership styles (see also Table 3 in Walumbwa et al., 2008). Specifically, authentic leaders can also be considered as moral persons, which is reflected in the authentic dimension of internalized moral perspective. Thus, both ethical and authentic leaders are guided in their decisions and behaviours by values such as integrity and fairness. The ethical leadership component of the 'moral manager' (especially the notion of managing employees' ethical behaviours through rewards and discipline) is, on the other hand, less prominent in the authentic leadership conceptualisation (Walumbwa et al., 2008). While the previous examples highlight the overlap of both constructs, the authentic leadership dimensions of self-awareness, relational transparency and balanced processing are not part of the definition of ethical leadership. Additionally, the definition of ethical leaders as fair and integer does not entail that they also analyse information objectively and challenge long-held assumptions. In sum, ethical leadership only taps into one of the dimensions of authentic leadership and may therefore constitute a necessary condition of authentic leadership rather than an overlapping construct (Walumbwa et al., 2008).

3.3.4.3 LMX

While LMX (Graen & Uhl-Bien, 1995) shows the least overlap with authentic leadership, as it has been discussed as an antecedent of FSSB (Matthews et al., 2013) and indeed empirically linked to it (Matthews & Toumbeva, 2014), a short comparison is provided here. LMX theory proposes that supervisors form unique (two-way) relationships with each of their followers (Graen & Uhl-Bien, 1995), which are based on social exchanges (Sparrowe & Liden, 1997). The type of resources that are exchanged between supervisor and follower vary depending on the quality of the relationship, with high-quality LMX employees ('in-group') benefitting from trust,

information and various other resources, whereas low-quality LMX relationships are characterized by a mere economic exchange that requires quick repayment on the part of the follower (Blau, 1964). Therefore, whereas LMX theory (Graen & Uhl-Bien, 1995) is a dyadic leadership theory that proposes that leaders form differing relationships with followers, fundamental to authentic leadership theory is that relationships with all followers are similarly characterized by relational transparency and hence of high quality (Walumbwa et al., 2008). This is illustrated by research that highlights authentic leadership as an antecedent of LMX (i.e. high LMX relationships; e.g., Wang et al., 2014) and the fact that authentic leadership is often examined as a team-level construct (e.g., Hirst et al., 2015).

3.3.4.4 Justification of the choice of authentic leadership

The previous comparison of authentic leadership with transformational and ethical leadership, as well as LMX, highlights important differences. Whereas transformational leadership is most similar to authentic leadership due to the latter originating from the former, the strong performance focus of transformational leadership may not necessarily be beneficial for employees' efforts to manage work and nonwork demands. As transformational leaders focus primarily on making their inspiring vision a reality (Bass, 1985), potentially against all resistance, employees' family commitments might not be given priority. This notion can also be supported by the lack of moral compass in the transformational leadership conceptualisation (Bass & Steidelmeier, 1999), which implies that transformational leaders might use impression management to make followers believe that they are family-supportive, while concurrently insisting on followers working overtime. The assumption that transformational leaders might be less likely to express FSSB and therefore less likely to contribute to WFB can be further strengthened by examining the relationship that transformational leaders form with their followers. While transformational leadership theory highlights individualized consideration, transformational leaders' objective to develop followers into leaders (Bass, 1985)

might mean that the needs of followers who have other priorities (e.g., being a supportive father) might be less understood and appreciated. In line with work-family border theory (Clark, 2000), transformational leaders are less likely to possess high 'other domain awareness' and 'commitment to the border-crosser'. Consequently, and contrary to Straub (2012), transformational leadership may not foster FSSB and not contribute to employees' WFB.

Furthermore, I also consider ethical leadership to be of less importance for employees' WFB relative to authentic leadership. The former is rather limited in its reach as it focuses primarily on morality and ethical behaviour. While I have noted that ethical leadership strongly overlaps with authentic leadership regarding the 'moral person', ethical leadership theory draws heavily on social exchange theory (Blau, 1964), and argues that followers' unethical behaviours should be disciplined. Consequently, the follower-leader relationship lacks the necessary depth that would enable leaders to become aware of followers' other-domain commitments and to show subsequent other-domain support. Hence, I consider ethical leadership to be less relevant for employees' WFB because its two core components do not provide compelling arguments to justify a relationship between ethical leadership and FSSB.

Lastly, high-quality LMX relationships have been both theoretically and empirically linked to FSSB (Matthews et al., 2013; Matthews & Toumbeva, 2014). Work-family border theory (Clark, 2000) also supports these findings, as the trust and information-sharing inherent to high-quality LMX relationships should motivate employees to share their struggles to integrate work and non-work domains with their supervisors. The understanding of employees' other-domain commitments should prompt leaders to actively support employees in juggling work and non-work requirements, resulting in increased WFB through the expression of FSSB. However, this family support is exclusively limited to employees in high LMX relationships, while employees of the 'out-group' are left to their own devices in

managing competing work and family demands. Authentic leaders, on the contrary, do not form unique relationships with followers, but all of their relationships with followers can be characterised as high-quality (e.g., Wang et al., 2014). Hence, while high LMX can be considered as a result of authentic leadership, the latter (authentic leadership) is a more inclusive way to achieve employee WFB.

It becomes apparent from the previous discussion that authentic leadership includes many elements of the discussed leadership styles and often exceeds their scope, addressing some of their conceptual weaknesses. This is illustrated by previous work that shows that authentic leadership matters for important outcomes, such as organizational citizenship behaviours and satisfaction with supervision, beyond transformational and ethical leadership (Walumbwa et al., 2008). Consequently, authentic leadership has been described as a root concept of positive leadership approaches, including transformational, charismatic and ethical leadership (Avolio & Gardner, 2005). The proposition that authentic leadership is the leadership style most relevant for FSSB and WFB is also in line with Straub (2012), who stated that authentic leadership is "the underlying mental state" (p. 17) of family-supportive supervisors. Straub's (2012) subsequent proposition of transformational leadership as an antecedent of FSSB is therefore inconsistent and not theory driven. Next, I justify how authentic leadership contributes to the analysis of WFB, well-being and performance above and beyond FSSB.

3.3.5 Integration of leadership and work-family interface literatures

Supervisors who show FSSB, a form of informal organisational support (Hammer et al., 2007), are described as being aware of and sympathetic towards employees' work and family demands and as providing tangible help that enables WFB (Thomas & Ganster, 1995). Whereas the link between FSSB and WFB has yet to be empirically confirmed, past research that highlights its importance for reducing work-family conflict and increasing work-family enrichment (e.g., Hammer et al.,

2013; Russo et al., 2015) strongly suggests a positive link. WFB, in turn, should be positively related to job performance and well-being, as documented by recent cross-sectional research (i.e. link between WFB effectiveness and job performance; Carlson et al., 2009; Wayne et al., 2015). Consequently, proposing the above relationships is well-justified and well-grounded in work-family border theory (Clark, 2000) and role accumulation theories (Marks & MacDermid, 1996; Sieber, 1974). Integrating authentic leadership and FSSB in examining employees' experience of the work-family interface is important if we are to understand what sort of supervisor engage in FSSB, thereby promoting employees' positive work-family experiences, resulting in life satisfaction, health, and performance.

Research on FSSB has disproportionally focused on its consequences, paying little attention to the characteristics of leaders who express family support. As FSSB goes beyond the usual managerial role expectations (such as being understanding of employees' family needs and not making promotions depending on face time or long working hours), it needs to be clarified what motivates some supervisors to express these behaviours (Straub, 2012). Specifically, FSSB can be considered as a specific form of proactive behaviours which are beneficial for organisations (Straub, 2012). Consequently, factors inherent to supervisors that motivate them to engage in FSSB should be of practical organisational interest and their identification can inform organisational selection processes. Additionally, as the usage of FFPs depends on employees' supervisors (Hammer et al., 2009), the scope and effectiveness of organisational initiatives may be limited when the characteristics of managers that express these behaviours are not known.

To inform the work-family interface and FSSB literatures for these purposes, I draw on leadership theory. This integration is critically important as both literatures strongly overlap in their conceptualisation of leader behaviours that are beneficial for employee and organisational outcomes (e.g., social support and role modeling) and

meaningful synergies can consequently be achieved. As discussed in the previous section, I consider authentic leaders to be the type of supervisors that most likely express behaviours that enable employees to manage work and family demands. In detail, I propose that authentic leaders possess the characteristics of 'border-keepers' that show 'high commitment to the border-crosser' and 'other-domain awareness' (Clark, 2000) and contribute through the expression of FSSB to employees' WFB.

3.4 Research model

My hypothesized research model is depicted in Figure 1. Drawing on work-family border theory (Clark, 2000) and as shown in Figure 1, authentic leaders can be considered as 'border-keepers' that define the work domain and manage the boundaries between work and family domains. In doing so, supervisors influence employees' (border-crossers') ability to successfully integrate work and family domains. Importantly, I propose that authentic leaders possess high 'other-domain awareness' and 'commitment to the border-keeper', which is reflected in their demonstration of FSSB and which have been said to be linked to border-crossers' WFB (Clark, 2000). I consequently hypothesise that authentic leadership is indirectly related to employees' WFB through FSSB. To also consider the role that the organisation plays in employees' WFB, I hypothesise that supervisor family support (FSSB) and organisational family support (availability of FFPs) interact to influence employees' WFB. As both forms of family support foster a positive experience of the work-family interface, they transmit a coherent message (Schein, 2010) and the availability of FFPs should therefore enhance the positive effect of FSSB on WFB (complementary perspective; Friedman & Greenhaus, 2000).

As shown in Figure 1 and drawing on role accumulation theory (Marks & MacDermid, 1996; Sieber 1974), I also posit that employees who participate in multiple roles should not only experience high levels of WFB satisfaction and

effectiveness, but also increased life satisfaction and health. This is based on the proposition that multi-role membership is associated with role privileges, overall status security, personality enrichment and ego gratification (Marks & MacDermid, 1996), which should provide employees with valuable resources and development opportunities and thus increase their life satisfaction and health. Furthermore, I hypothesise different relationships between the two WFB components and job performance. As it is reasonable to assume that satisfaction does not follow from performance and vice versa, I propose that WFB satisfaction is not related to job performance. On the contrary, WFB effectiveness entails that employees perform well in multiple roles and these employees should therefore, based on role accumulation theory (Marks & MacDermid, 1996), show increased levels of job performance.

Combining these hypotheses, I propose that authentic leadership influences employees' life satisfaction and health through FSSB and WFB satisfaction and effectiveness and employees' performance through FSSB and WFB effectiveness (serial mediation). Additionally, I propose that these indirect relationships are stronger when the availability of FFPs is high as compared to low (moderated serial mediation).

The preceding discussion focused on individual-level relationships which are examined in Study 1. However, as employees nowadays often work in teams and share the same supervisor, I propose in line with social information processing perspective (Salancik & Pfeffer, 1978) that authentic leadership can be conceptualised as a group-level phenomenon (team authentic leadership). Furthermore, as team members are exposed to the same social cues and share information, they should form similar perceptions regarding the availability of FFPs (Ashforth, 1985; Schneider & Reichers, 1983), leading me to propose availability of FFPs as a team-level construct. I therefore revise the individual-level model to capture the cross-level influence of team authentic leadership and team availability of FFPs, which are tested in Study 2. Specifically, I propose that team authentic leadership

leads to increased life satisfaction and health through FSSB and WFB satisfaction/effectiveness and to increased performance through FSSB and WFB effectiveness. These indirect relationships are proposed to be moderated by team availability of FFPs, which should moderate the link between FSSB and WFB satisfaction/effectiveness in an enhancing manner.

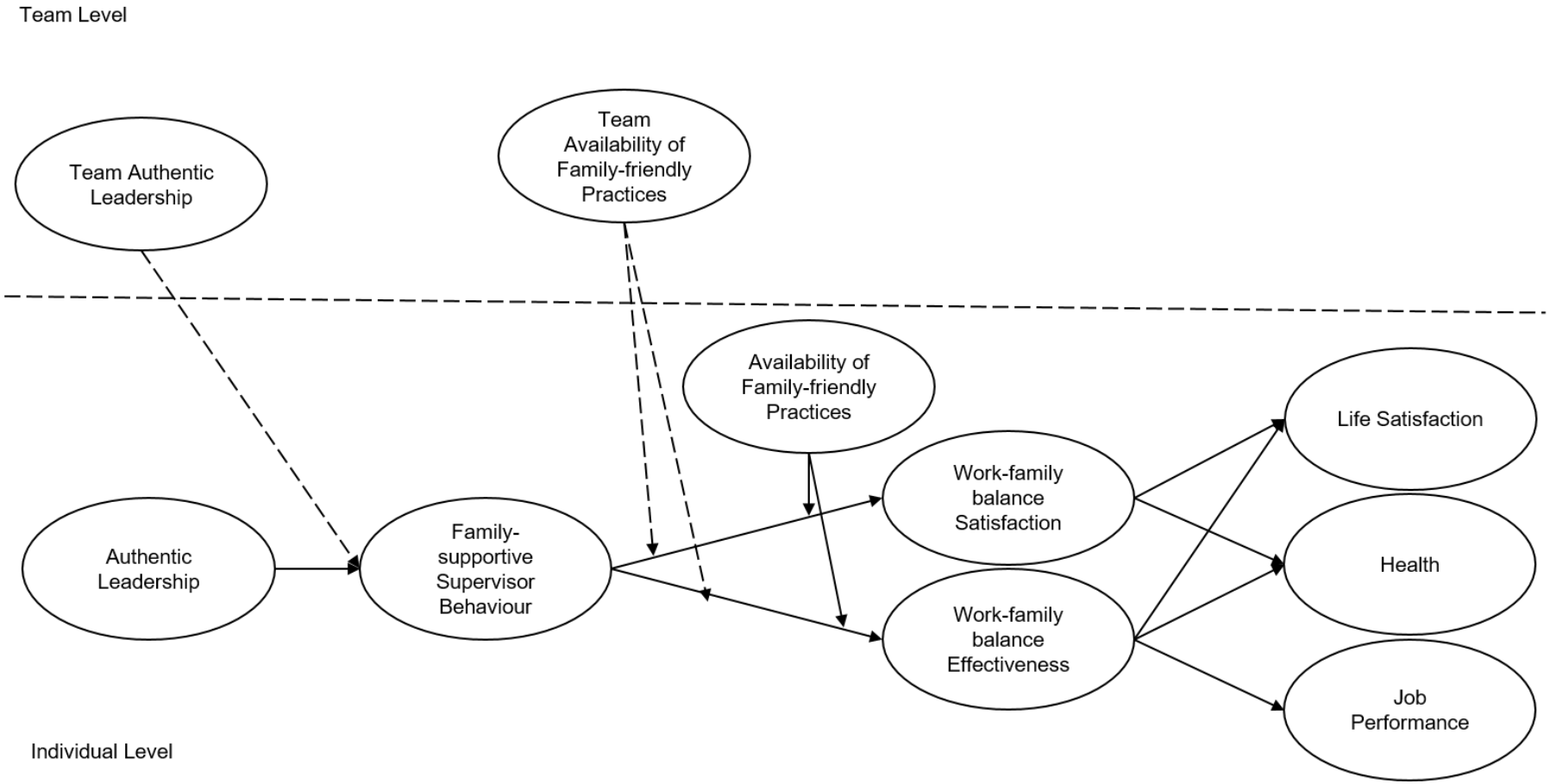

Figure 1. The hypothesized research model.

3.4.1 Antecedents of WFB

Work-family border theory (Clark, 2000) highlights the role of important domain members, such as supervisors and spouses (called 'border-keepers') in influencing employees' (border-crossers') WFB. Drawing on this theory and the extant work-family literature, I develop hypotheses relating authentic leadership to FSSB and, through the interaction of FSSB with the availability of FFPs, to WFB. As I do not propose different antecedents for the two components of WFB, I present the argumentation for the antecedents of WFB satisfaction and effectiveness together.

3.4.1.1 Authentic leadership and FSSB

Informal organisational family support (FSSB and family-supportive organisational perceptions) constitutes together with its formal counterpart (availability and usage of FFPs) organisational family support (Allen, 2001). FSSB has been described by Thomas and Ganster (1995) as being characteristics of supervisors that empathize with employees' needs to balance work and family requirements and express this through their behaviours. In this way, family-supportive supervisors might accommodate employees' needs for flexible work arrangements and offer them advice regarding childcare arrangements. While the importance of FSSB for employees' work-family experiences has been established (e.g., Hammer et al., 2013; Russo et al., 2015), little is known about the attributes of managers that exhibit these characteristics. This shortcoming can be addressed by drawing on the leadership literature, which describes attributes of leaders and leadership styles, which strongly overlap with the behaviours of family-supportive supervisors. Consequently, I draw on authentic leadership theory (Luthans & Avolio, 2003; Walumbwa et al., 2008) to propose that authentic leaders possess the managerial characteristics of supervisors that engage in these behaviours, which are not formally required by organisations.

According to Straub (2012), authentic leadership is fundamental to the conception of FSSB. This proposition can be supported by work-family border theory (Clark, 2000), which states that 'border-keepers' enable employees to achieve a satisfying WFB through expressing an understanding of employees' work-family needs and exhibiting behaviours that aid employees in fulfilling competing demands (i.e. 'other-domain awareness' and 'commitment to the border-crosser'). Consequently, authentic leadership can be regarded as the mental state that family-supportive supervisors possess and that motivates these leaders to engage in FSSB as a form of extra-role behaviour (Straub, 2012).

This proposition is clarified by highlighting the close link and strong conceptual overlap of authentic leadership and FSSB. Authentic leaders are characterised by high levels of self-awareness, which captures the notion of 'authenticity' (Kernis, 2003) most closely and refers to the deep understanding that authentic leaders have of themselves, their strengths and weaknesses (Walumbwa et al., 2008). This awareness should also entail that authentic leaders are aware of their own struggle to combine work and family domains, leading them to develop appropriate strategies to manage competing demands. It is reasonable to assume that employees learn from the observation of these strategies (Bandura & McClelland, 1977) and that family-supportive role modeling takes place (Hammer et al., 2009), which is also supported by authentic leadership theory that emphasises positive role modeling as an underlying process (Avolio & Walumbwa, 2014; Ilies et al., 2005). Furthermore, this awareness, combined with the high levels of relational transparency that characterise authentic leader-follower relationships, should lead to an increased understanding of and sympathy for employees' struggle to achieve a WFB. This understanding should constitute the basis for the provision of instrumental and emotional support, such as expressing care and consideration or responding to family needs through swapping schedules or interpreting organisational practices favourably (Hammer et al., 2009). This assumption can also be supported by research that shows that authentic leaders have high-quality LMX relationships with their followers (Wang et

al., 2014), which are characterised by high levels of trust and the provision of resources (Graen & Uhl-Bien, 1995) and which have been linked to FSSB (Matthews & Toumbeva, 2014). Furthermore, authentic leaders have been described as being guided in their behaviour by an internal moral compass (Walumbwa et al., 2008), resulting in behaviour that is aligned with their values. Consequently, the understanding derived from own experiences combined with this internalised moral perspective should mean that they actively promote available FFPs and not make promotions contingent upon, for example, employees' face time when the organization promotes flexible work initiatives. It needs to be, however, noted that supervisors exert their influence in an organisational context and can therefore not ignore important imperatives that involve meeting deadlines or cutting costs. Nevertheless, while these incentives set the framework for the influence of authentic leaders, these leaders should express FSSB within these boundaries (e.g., creative work-family management; for example, re-design of work to increase work and family outcomes; Hammer et al., 2009).

Taken together, the increased understanding due to the high levels of self-awareness and relational transparency that characterise authentic leadership underlies the expression of FSSB. Therefore, authentic leaders are proposed to be supervisors who exhibit behaviours (FSSB) that are characteristic of 'border-keepers' that facilitate employees' WFB (Clark, 2000). Based on the above argumentation, I hypothesise the following:

Hypothesis 1a: Authentic leadership is positively related to FSSB.

3.4.1.2 Authentic leadership, FSSB and WFB

The importance of perceived supervisor support, namely the degree to which supervisors provide work-related and emotional assistance (Thoits, 1983), for various individual and organisational outcomes is well-known (e.g., job satisfaction and reduced burnout; Ng & Sorensen, 2008; Russell, Altmaier, & Van Velzen, 1987). Research has also convincingly shown that FSSB (Hammer et al., 2007; Thomas & Ganster, 1995),

supervisor support that especially focuses on supporting employees' family role, is negatively related to work-family conflict (e.g., Goh, Ilies, & Wilson, 2015; Lapierre & Allen, 2006) and its impact on various work-family constructs has been found to surpass generic supervisor support (Kossek et al., 2011). Recently, FSSB has also been linked to WFB satisfaction through perceived organisational support (Las Heras, Bosch, & Raes, 2015) and to overall WFB (Greenhaus et al., 2011), while the findings of the last study need to be interpreted with caution due to its assessment of WFB (not validated and not theory-driven).

From a theoretical perspective (Clark, 2000), supervisors are part of the contextual factors that impact employees' WFB through setting, in their role as border-keepers, work-related expectations and determining (actively or passively) the extent to which employees can use the various FFPs. In particular, supervisors who exhibit FSSB should possess a high 'other-domain awareness', signifying an awareness and understanding of employees' work and family commitments. FSSB encompasses emotional support and communication with followers (Hammer et al., 2009), which are both prerequisites of 'other-domain awareness' (Clark, 2000). As FSSB is characterised by both emotional and instrumental support (Hammer et al., 2009), it also fulfils the criteria of border-keepers' 'commitment to the border-crosser', which is characterised by high levels of family support. Both 'other-domain awareness' and 'commitment to the border-crosser' are attributes of border-keepers that increase employees' WFB (Clark, 2000).

It is intuitively plausible that employees whose supervisors exhibit behaviours aimed at enabling them (employees) to integrate work and family, should show a greater WFB, compared to those whose supervisors are not family-friendly. For example, supervisors who are understanding and aware of employees' struggle to juggle multiple work and family tasks (high FSSB), should offer advice and guidance on how to deal with work-family conflicts and family-related problems. Importantly, while an organisation may have a variety of FFPs in place, it is often down to the individual supervisor to interpret

these regulations and to make decisions regarding their daily implementation (e.g., telecommuting or flexible working hours; Breaugh & Frye, 2008). Employees who feel that their supervisor 'sanctions' employees who, for example, take longer parental leave, through, for example, not promoting them, will be less likely to discuss various family-friendly arrangements with their supervisor, as compared to employees with a family-supportive supervisor (Butts et al., 2013). It is therefore paramount that supervisors not only show emotional support, but that their words also match their deeds, meaning that they should provide various forms of instrumental support (e.g., work responsibilities covered when employees take emergency leave; Hammer et al., 2009). Additionally, as supervisors often serve as role models (social learning theory; Bandura & McClelland, 1977), supervisors' own work-family management should signal to employees that WFB is important and offer them examples regarding work-family integration.

Hypothesis 1b: FSSB is positively related to employee WFB satisfaction and WFB effectiveness.

Combining Hypothesis 1a and 1b results in a model in which authentic leadership positively affects WFB satisfaction and WFB effectiveness indirectly through FSSB. Hence, in line with work-family border theory (Clark, 2000) and authentic leadership theory (Luthans & Avolio, 2003), authentic leaders should possess the characteristics of border-keepers' (high other-domain awareness and high commitment to the border-crosser), which they exhibit in the form of FSSB. This family support should, in turn, increase employees' WFB satisfaction and effectiveness. Little research has so far linked the leadership and work-family literatures empirically to explain work-family outcomes. To my knowledge, only one study showed that transformational leadership was related to reduced work-family conflict (Munir, Nielsen, Garde, Albertsen, & Carneiro, 2012)). Based on the above argumentation, I hypothesise the following:

Hypothesis 1c: The positive relationship between authentic leadership and employee WFB satisfaction/effectiveness is mediated by FSSB.

3.4.1.3 The moderating role of availability of FFPs

FFPs, such as flexible working hours or childcare arrangements, represent formal organisational family support which aims at enabling employees to integrate work and family domains (Allen, 2001). As discussed, research distinguishes between availability and usage of FFPs (Kossek, 2005) and argues for their effects on employees' work-family interface along the lines of an instrumental path (i.e. practices enable better work-family integration) or along the signalling perspective (i.e. practices as signs of organisational interest; Grover & Crooker, 1995; Spence, 1973). While research has uncovered direct effects of both usage and availability on employees' positive and negative work-family experiences (e.g., Breaugh & Frye, 2008; Carlson et al., 2010; McNall et al., 2009; Shockley & Allen, 2007), their effects are generally rather small (Butts et al., 2012) and inconsistent findings have been reported, especially concerning the usage of FFPs (e.g., Lapierre & Allen, 2006). This is mirrored in the only empirical study that related FFPs to WFB and which found no direct effect of the usage of various FFPs (e.g., teleworking) on WFB satisfaction (Abendroth & den Dulk, 2011).

As both FSSB and FFPs represent characteristics of the organisational context and different types of organisational family support do not exert their influence in a vacuum, research has examined their joint effect on the work-family interface (Allen, Lapierre, et al., 2014). Examining FFPs as a moderator of the effect of FSSB on work-family outcomes reflects the lived experience of employees (i.e. supervisors influence whether FFPs negatively affect career progression; Butts et al., 2012) and pays tribute to empirical findings that are very clear about the strong direct effect of FSSB on employees' work-family interface (e.g., Hammer et al., 2013; Las Heras et al., 2015). As the availability of FFPs has been shown to be more consistently related to employees' work-family experiences than their usage (e.g., Shockley & Allen, 2007; Thompson et al., 1999) and as it constitutes signals about the organisation being interested in employees' welfare, I focus on availability of FFPs as a boundary condition of the FSSB-WFB link.

I am aware of only two studies that examined the interplay of multiple forms of organisational family support on employees' work-family interface. Greenhaus and colleagues (2011) revealed that the link between FSSB and WFB was moderated by family-supportive organisational perceptions (enhancing effect). Similarly, Allen, Lapierre and colleagues (2014) showed that the link between the availability of national leave policies and work-family conflict was, in some situations, stronger when informal organisational support (FSSB and family-supportive organisational perceptions) was high. While the first study focused on the interplay of two forms of informal support and assessed WFB with a non-theory driven measure (and it is hence unclear what exactly was captured), Allen and colleagues (2014) focused on one type of national as opposed to organisational FFPs and examined negative work-family experiences as an outcome.

According to work-family border theory (Clark, 2000), not only supervisors, but also organisations, can be influential in defining the borders between work and family domains through, for example, the FFPs that they offer. When organisations provide various FFPs, such as flexible working hours, these FFPs reflect high 'other-domain awareness' by acknowledging that employees have family commitments that potentially conflict with work commitments (e.g., bringing children to school). Additionally, FFPs, such as on-site childcare, clearly show an organisation's 'commitment to the border-crosser' by actively supporting employees' family needs. Therefore, organisations can be regarded as border-keepers that show 'other-domain awareness' and 'commitment to the border-crosser' through FFPs and thereby contribute to employees' WFB. The interaction of availability of FFPs and FSSB can be viewed from a complementary perspective (Adler & Kwon, 2002; Friedman & Greenhaus, 2000), according to which resources (i.e. availability of FFPs) complement other similar resources, resulting in an enhancement of the effect of the initial resource (i.e. FSSB). Hence, as availability of FFPs and FSSB send an unambiguous, consistent message (Schein, 2010) and complement each other, availability of FFPs should strengthen the effect of FSSB on WFB. Furthermore, while the interpretation of and encouragement to use FFPs often comes from the supervisors

(Poelmans & Beham, 2008), FFPs set the framework in which family-supportive supervisors exert their influence through, for example, allowing employees to plan their workday around core working hours.

Based on the above argumentation, I propose the following:

Hypothesis 2a: The relationship between FSSB and employee WFB satisfaction/effectiveness is moderated by the availability of FFPs in such a way that the relationship will be stronger, when availability is high as compared to low.

Combining the argumentation underlying Hypothesis 1c and Hypothesis 2a, the indirect influence of authentic leadership on employee WFB satisfaction and effectiveness via FSSB should be influenced by the organisation's availability of FFPs. As discussed above, according to work-family border theory (Clark, 2000), both supervisors and organisations can be considered to be border-keepers that influence the work domain and the borders with non-work domains and hence employees' WFB. Due to the high 'commitment to the border-crosser' and high 'other-domain awareness' that should be, as discussed above, characteristic of authentic leaders (Luthans & Avolio, 2003) and which they should express through FSSB, authentic leadership should be indirectly positively related to employees' WFB. This indirect effect should be stronger if the organisation also shows high 'commitment to the border-crosser' and high 'other-domain awareness', as expressed through the availability of FFPs. This is because the message authentic leaders and organisations send through FSSB and FFPs regarding employees' WFB is coherent (Schein, 2010) and both forms of family support should complement each other, leading to an enhanced effect on WFB. I therefore propose the following:

Hypothesis 2b: The positive indirect effect of authentic leadership on WFB satisfaction/effectiveness via FSSB is stronger if the availability of FFPs is high as compared to low.

3.4.2 Outcomes of WFB

Drawing on role accumulation theory (Marks & MacDermid, 1996; Sieber, 1974), I propose positive relationships between WFB and the outcomes of life satisfaction, health and job performance. While I expect similar relationships for life satisfaction and health, I expect the components of WFB to be differentially related to job performance.

3.4.2.1 Life satisfaction

Life satisfaction is defined as an individual's global assessment of their "quality of life according to his or her chosen criteria" (Shin & Johnson, 1978; p. 478) and hence represents a cognitive, judgemental process (Diener, Emmons, Larsen, & Griffin, 1985). Life satisfaction constitutes a component of subjective well-being (Diener, 1984) and has been of interest since the beginnings of human civilisation (e.g., Aristotle's discussion of a virtuous life; Diener, 1984). Various individual differences and job resources have been linked to life satisfaction (e.g., supervisor support and core self-evaluations; Demerouti, Bakker, Nachreiner, & Schaufeli, 2000; Judge, Locke, Durham, & Kluger, 1998), while life satisfaction has, not surprisingly, also been shown to relate to employees' experience of the work-family interface. In line with the conflict perspective that underpinned work-family research, work-family conflict or work-family interference have been shown to negatively impact life satisfaction (Adams, King, & King, 1996; Kossek & Ozeki, 1998), while positive work-family experiences have also been linked to enhanced life satisfaction (Gareis et al., 2009; Hill, 2005; Lu et al., 2009). Furthermore, research that conceptualized WFB in terms of time balance, involvement balance, and satisfaction balance (i.e. equal amount of time, involvement and satisfaction in work and nonwork domains; Greenhaus et al., 2003) or that assessed WFB with a non-theory driven measure (Haar, Russo, Suñe, & Ollier-Malaterre, 2014), revealed positive links with quality of life and life satisfaction.

According to Powell and Greenhaus (2006), individuals who participate in and are satisfied with their work and family roles should exhibit high levels of well-being. Also,

multi-role membership has been said to protect individuals from negative role-related experiences (Barnett & Hyde, 2001). These assumptions are in line with role accumulation theory (Marks & MacDermid, 1996; Sieber, 1974) that highlights the merits of multi-role engagement. Employees who successfully balance multiple roles should benefit from a variety of role privileges from work and family domains, such as financial security, paid parental leave or help with childcare. They have emotional and instrumental support available from, for example, supervisors/colleagues and spouses/friends that serve as buffers from high levels of role-related stress. Importantly, individuals who occupy multiple roles are exposed to multiple contexts that should enrich and develop their personalities. This is in line with the assumption that multiple social identities also give meaning and behavioural guidance and have been shown to be positively related to well-being (role accumulation hypothesis; Thoits, 1983).

It becomes clear from the above discussion that occupying multiple roles should not only lead to WFB (Marks & MacDermid, 1996), but that multiple roles should also provide a variety of resources that have been linked to increased life satisfaction (Demerouti et al., 2000). This is further strengthened by the fact that WFB is highly valued by the majority of employees (Kossek, Valcour, Lirio, & Cooper, 2014) and having a good WFB should hence positively affect how employees evaluate their quality of life. Drawing on role accumulation theories (Marks & MacDermid, 1996; Sieber, 1974), both WFB satisfaction and WFB effectiveness should be equally relevant for life satisfaction. I therefore propose:

Hypothesis 3a: WFB satisfaction and WFB effectiveness are positively related to life satisfaction.

3.4.2.2 Health

Research has consistently shown that employees' inability to successfully integrate work and family roles (as represented by work-family conflict) is negatively linked to a host of health-related outcomes such as physical health, anxiety disorders, and

depression (Carlson, Grzywacz, et al., 2011; Frone, Russell, & Barnes, 1996; Frone, 2000). More recently, it has been pointed out that positive experiences resulting from synergies between work and family roles (e.g., work-family enrichment/facilitation) increase employees' health (e.g., Carlson et al., 2014; Grzywacz & Bass, 2003; Grzywacz, 2000). As these findings hold for both directions of work-family conflict and work-family enrichment (Amstad et al., 2011; McNall et al., 2010), it can be assumed that multi-role membership (and hence WFB) can also generate opportunities and resources that facilitate growth and improve employees' health (Barnett, 1997; Marks, 1977; Sieber, 1974). Although I am not aware of research that has examined the link between WFB and physical or mental health, the proposition of a positive link is further strengthened by the notion of WFB as the lynchpin for a healthy society (Halpern, 2005).

According to role accumulation theory (Sieber, 1974), participation in multiple roles entails personality enrichment and ego gratification, meaning that individuals are exposed to various viewpoints and have multiple opportunities to expand their self-concept. This is supported by the assumption that employees who successfully manage work and family demands (i.e. WFB) should possess a positive self-image (Burke, 1991; Schlenker & Weigold, 1992), while positive self-images and self-esteem have, in turn, been shown to positively relate to health (e.g., Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004; Trzesniewski et al., 2006). Consequently, role accumulation has been regarded as essential for employee health (Sarbin & Allen, 1967; Sieber, 1974) and role balance has been proposed to be positively related to well-being (Marks & MacDermid, 1996). Taken together, employees who successfully balance multiple work and nowork roles and are satisfied with their WFB should be physically and mentally healthier compared to employees who have a poor WFB. I therefore propose the following:

Hypothesis 3b: WFB satisfaction and WFB effectiveness are positively related to health.

3.4.2.3 Job performance

One of the main propositions of the conflict perspective of the work-family interface is that mutually incompatible role pressures from work and family domains (e.g., incompatible due to time, strain and role-related behaviour; Greenhaus & Beutell, 1985), should lead to reduced job performance (Kahn et al., 1964). Empirical evidence that fully supports this proposition is, however, scarce (Allen et al., 2000). On the contrary, research that examines beneficial effects of work and family role-involvement (work enrichment/facilitation) tends to find positive effects on job performance (e.g., Carlson et al., 2011; van Steenbergen et al., 2007).

From a role accumulation perspective, WFB, which results from the successful fulfilment of multiple roles, should be positively related to role performance. According to Sieber (1974), the various role privileges and resources that employees acquire in their multiple roles should facilitate high role performance. This is in line with Marks and MacDermid's (1996) proposition that individuals who are busily engaged in their roles work more effectively and seize every moment as they are aware of commitments from other domains that need to be fulfilled in their allocated time. Consequently, after a short period of stress in which employees figure out how to combine the fulfilment of a new role with existing roles, employees should show high performance across all of their roles.

Wayne and colleagues (2015) reported WFB effectiveness, but not WFB satisfaction, to positively relate to supervisor-rated performance. These authors based their reasoning on Ajzen and Fishbein (1977), according to whom target and action elements of predictor and outcome need to be aligned to obtain strong relationships, which is the case for WFB effectiveness and job performance as behavioural constructs (Carlson et al., 2009), but not for WFB satisfaction as a psychological construct (Valcour, 2007). If employees are satisfied with their allocation of resources, such as time and attention, between work and family domains (WFB satisfaction; Valcour, 2007), it is not necessarily implied that employees and relevant others also judge their performance as

high. For example, employees who are family-focused (life values; Greenhaus & Allen, 2011) put their family at the centre of their universe and work only serves the purpose of providing the financial means for the family to live. Hence, these employees may not seize each and every moment at work and would therefore, in line with role accumulation theory (Marks & MacDermid, 1997), not show high levels of job performance. WFB effectiveness on the other hand, is a social construct (Carlson et al., 2009) and signifies the successful fulfilment of role expectations in the eyes of employees and as perceived by others (i.e. supervisors and spouses). As this WFB component equals WFB with self- and other-rated performance and based on Wayne and colleagues' findings (2015), I expect WFB effectiveness rather than WFB satisfaction to relate to job performance.

Hypothesis 3c: WFB effectiveness is positively related to job performance.

3.4.3 Authentic leadership, WFB, life satisfaction, health and job performance

3.4.3.1 Serial mediation

Following from the previous hypotheses, I propose that authentic leadership positively influences employees' life satisfaction and health through FSSB and WFB satisfaction/effectiveness and job performance through FSSB and WFB effectiveness. In line with work-family border theory (Clark, 2000), authentic leaders can be described as border-keepers that facilitate border-crossers' (employees') WFB through high 'other-domain awareness and high 'commitment to the border-keeper', as represented by FSSB. Specifically, authentic leaders' knowledge about potential work-family pitfalls, stemming from their high levels of self-awareness, should manifest itself in an increased understanding of employees' daily work-family struggles. Furthermore, this self-awareness should lead them to develop various boundary management strategies (e.g., time management), which are visible to employees and which hence constitute positive work-family role modeling. Moreover, as authentic leaders are aware of employees' specific struggles through honest, personal conversation, they should also act on this awareness and understanding by providing emotional and instrumental family support

(e.g., adjust work schedules). Hence, authentic leadership should be related to high WFB satisfaction and effectiveness.

WFB satisfaction and effectiveness on the other hand should, in line with role accumulation theories (Marks & MacDermid, 1996; Sieber, 1974), lead to increased life satisfaction and health due to the role privileges (e.g., financial security and social support) and personality enrichment (e.g., expansion of the self-concept) associated with multi-role membership. These benefits should protect employees' health in times of stress (e.g., voluntary work provides distraction from work stress) and improve their well-being, as occupying multiple roles provides multiple opportunities for positive role experiences (e.g., child takes first steps). Regarding job performance as an outcome of WFB, while role accumulation theories discuss positive effects of WFB on job performance (Marks & MacDermid, 1996), I propose that this only holds for WFB effectiveness (Wayne et al., 2015), as performance does not necessarily follow from WFB satisfaction.

Combining these arguments, I propose the following:

Hypothesis 4a: Authentic leadership is positively related to employee life satisfaction via FSSB and employee WFB satisfaction/effectiveness.

Hypothesis 4b: Authentic leadership is positively related to employee health via FSSB and employee WFB satisfaction/effectiveness.

Hypothesis 4c: Authentic leadership is positively related to employee performance via FSSB and employee WFB effectiveness.

3.4.3.2 Moderated serial mediation

Subsequent to the above argumentation, as an organisation can also be considered as a border-keeper (Clark, 2000) that influences border-crossers' (employees') ability to manage work and family domains (through FFPs such as flexible working hours and parental leave), I propose that the indirect effect of authentic

leadership on employees' life satisfaction, health, and job performance through FSSB and WFB satisfaction/effectiveness depends on the availability of FFPs. In line with the signalling perspective (Grover & Crooker, 1995; Spence, 1973), I propose that employees interpret available FFPs as signals of organisational family support and that, as both FSSB and FFPs send an unambiguous message regarding the organisational importance of WFB, the effect of FSSB on WFB satisfaction and effectiveness will be enhanced. The consequent higher levels of WFB satisfaction and WFB effectiveness mean that authentic leadership increases life satisfaction, health and job performance through FSSB and the WFB components to a higher degree. I therefore hypothesise that:

Hypothesis 5a: The positive effect of authentic leadership on employee life satisfaction via FSSB and employee WFB satisfaction/effectiveness is stronger when the availability of FFPs is high as compared to low.

Hypothesis 5b: The positive effect of authentic leadership on employee health via FSSB and employee WFB satisfaction/effectiveness is stronger when the availability of FFPs is high as compared to low.

Hypothesis 5c: The positive effect of authentic leadership on employee performance via FSSB and employee WFB effectiveness is stronger when the availability of FFPs is high as compared to low.

3.5 Cross-level Model

In addition to examining the individual-level process through which authentic leadership influences individual outcomes, I also examine the cross-level process through which team authentic leadership impacts individual-level mechanisms and outcomes. Importantly, I also consider team availability of FFPs as opposed to individual availability of FFPs as a boundary condition of the indirect effect of authentic leadership on the individual outcomes (see Figure 1). In the following section, I provide a rationale for examining these variables at the team level and explain why they should exhibit similar relationships with the outcomes as their individual-level counterparts.

3.5.1 Multilevel view

It can be argued that single-level models (e.g., individual level) provide an incomplete and limited picture of organisational phenomena (Hitt, Beamish, Jackson, & Mathieu, 2007) as they do not adequately capture their complexity and richness. For example, organisations have increasingly adopted a team-based work structure (i.e. employees nested in teams). It can hence be argued that a study that only considers individual-level relationships and ignores the impact of team membership and team-level variables on individual-level variables and relationships achieves an incomplete understanding of these (e.g., Porter, 1996). While conceptual models are more likely to include multilevel thinking (Hitt et al., 2007), empirical papers are less likely to explore these ideas. The exclusive consideration of the individual level in the previously hypothesized model, which revolves around WFB, had been guided by past work-family interface research. This research has been dominated by an individual-level perspective. In order to overcome this limited focus and to examine how team-level constructs influence WFB and its consequences, I examined some of the variables that had previously been defined at the individual level at the team level. Whereas the shift from the individual to the cross-level model pays tribute to the team-based structure of organisations, it can't be concluded that these lower-level relationships will directly translate into cross-level relationships (i.e. might be weaker, stronger, reverse or non-existent; Ostroff, 1993). Consequently, a theoretical justification for the proposition of team-level constructs and the resulting cross-level relationships is necessary (Klein & Kozlowski, 2000).

This justification is based on the social information perspective (SIP; Salancik & Pfeffer, 1978), according to which individual behaviours and attitudes are in part influenced by the social context. This social context provides social cues and pressures for conformity, resulting in similar attitudes and behaviours of individuals that share the same reality. Specifically, I consider team membership as the determining factor of this shared reality, with teams being defined as comprising "two or more individuals who exist

to perform organisationally relevant tasks" (Kozlowski & Bell, 2003; p. 334). Consequently, employees who work in teams share attitudes, perceptions and cognitions (shared team properties; Klein & Kozlowski, 2000), which is captured by, for example, various team climates (e.g., climate of authenticity; Grandey et al., 2012). Shared team properties entail a low variability in team members' perceptions, which I will hereafter argue should be the case for authentic leadership and availability of FFPs. While I highlighted in the hypothesis development that authentic leadership constitutes the mind-set that supervisors that express FSSB possess, and consequently argued for a positive relationship, I do not consider FSSB to be a team-level construct. As opposed to the conceptualisation of authentic leadership that highlights its multilevel nature (Yammarino, Dionne, Schriesheim & Danserau), FSSB has only been conceptualised as an individual-level phenomenon (Hammer et al., 2009, Hammer et al., 2007; Straub, 2012). While the literature agrees that authentic leaders treat followers similarly and homogenous perceptions of authentic leaders are formed (e.g., Walumbwa et al., 2008; Yammarino et al., 2008), the expression of FSSB is tailored towards followers' individual needs. Along these lines, followers who have a new born baby will require and receive a different form of family support (e.g., telecommuting and parental leave) than employees' who don't care for dependents. Whereas team members should be aware that their supervisor is generally family-supportive, there should be considerable variability within teams based on their direct experience of family support (i.e. different social cues are perceived; Salancik & Pfeffer, 1978). Consequently, theory, design and analysis would not be aligned if FSSB would be studied at the team-level (Hitt et al., 2007), which may be reinforced by the fact that research has predominately examined FSSB as an individual-level construct (e.g., Crain et al., 2014; Odle-Dusseau, Hammer, Crain, & Bodner, 2015; Russo et al., 2015; see for the only exemption: Hill, Matthews, & Walsh, 2015 for an organisational-level conceptualisations). This, however, does not imply that antecedents of FSSB can't reside at the team-level (e.g., Straub, 2012).

3.5.2 Team authentic leadership

From an SIP perspective (Salancik & Pfeffer, 1978), leaders are an important part of the social environment of a team and the social cues they send influence employees' attitudes and behaviours (e.g., usage of FFPs will be sanctioned). As leaders nowadays often supervise teams (Cohen & Bailey, 1997), it can be argued that they influence all team members' attitudes and behaviours to a similar degree, which is captured in the assumption that leadership can be examined across levels of analysis without any loss in meaning (Avolio & Walumbwa, 2014). Accordingly, scholars have emphasised the importance of considering levels of analysis in leadership research (e.g.,Dansereau, Alutto, & Yammarino, 1984) and authentic leadership has been noted to function at multiple levels (Avolio, Luthans, & Walumbwa, 2004; Yammarino et al., 2008). Authentic leadership is characterized through, for example, balanced processing and internalised moral perspective (Walumbwa et al., 2008). The behaviours of these supervisors, such as considering information objectively before making a decision (e.g., assignment of tasks to employees is based on their expertise and experience) and being guided by one's ethical values (e.g., display of moral courage; Hannah, Avolio & Walumbwa, 2011) should be, due to their fundamental nature, visible to all followers and not depend on their individual needs and perceptions. Consequently, followers should perceive authentic leaders similarly (i.e., low variability, average leadership style model; Podsakoff & Organ, 1986), resulting in top-down effects on individual attitudes and behaviours (e.g., identification with supervisor and well-being). In recent times, empirical papers have been published that draw on this multilevel conceptualisation and align theory, analysis and design (Hitt et al., 2009) by examining the cross-level impact of authentic leadership on, for example, employee performance and voice behaviour (e.g., Hsiung et al., 2012; Leroy et al., 2015). Due to the above arguments, I assume that team members agree in their perception of authentic leadership (i.e. team authentic leadership), which should influence employees' attitudes through similar processes as individual-level authentic leadership. I consequently propose, based on the justifications provided for the individual-

level hypotheses, the cross-level relationships depicted in Figure 1 (see below for the formulation of the hypotheses).

3.5.3 Team availability of FFPs

I also draw on SIP perspective (Salancik & Pfeffer, 1978) to argue that as team members have similar perceptions of the availability of organisational FFPs, it is plausible and relevant to examine FFPs as a team-level construct. Team members should have similar sources of information when it comes to the availability of FFPs (i.e. be exposed to similar cues), while they should also share information regarding changes to existing FFPs (e.g., organisation introduces on-site childcare). Furthermore, as team members are most likely conscious of the FFPs that are used within the team (e.g., team member works on certain days from home), they should be well aware of their availability. Consequently, team members should share perceptions of the availability of FFPs (Ashforth, 1985; Schneider & Reichers, 1983), constituting a climate of organisational availability of FFPs (see e.g., organisational support climate; Eisenberger, Huntington, & Sowa, 1986). This climate should signal to employees (Spence, 1973; Grover & Crooker, 1995) that the organisation values their WFB. Consequently, FSSB and team availability of FFPs should send a consistent message regarding the importance of employees' WFB. Accordingly, team availability of FFPs should strengthen the positive effect of FSSB on WFB (enhancing effect; Friedman & Greenhaus, 2000). While research has considered FFPs beyond the individual level (i.e. national level; e.g., Abendroth & den Dulk, 2011; Allen et al., 2014), I am not aware of any research that has examined FFPs at the team-level of analysis. Based on SIP (Salancik & Pfeffer, 1978) and the reasoning for the moderating role of individual availability of FFPs, I propose the cross-level moderation depict in Figure 1.

Taken together, the following changes are made to the individual-level hypotheses to capture the cross-level effects of team authentic leadership and team availability of FFP.

Hypothesis 1a: Team authentic leadership is positively related to FSSB.

Hypothesis 1c: The positive relationship between team authentic leadership and employee WFB satisfaction/effectiveness is mediated by FSSB.

Hypothesis 2a: The relationship between FSSB and employee WFB satisfaction/effectiveness is moderated by team availability of FFPs in such a way that the relationship will be stronger, when availability is high as compared to low.

Hypothesis 2b: The positive indirect effect of team authentic leadership on WFB satisfaction/effectiveness via FSSB is stronger if the team availability of FFPs is high as compared to low.

H4a: Team authentic leadership is positively related to employee life satisfaction via FSSB and employee WFB satisfaction/effectiveness.

H4b: Team authentic leadership is positively related to employee health via FSSB and employee WFB satisfaction/effectiveness.

H4c: Team authentic leadership is positively related to employee performance via FSSB and employee WFB effectiveness.

H5a: The positive effect of team authentic leadership on employee life satisfaction via FSSB and employee WFB satisfaction/ effectiveness is stronger when the team availability of FFPs is high as compared to low.

H5b: The positive effect of (team) authentic leadership on employee health via FSSB and employee WFB satisfaction/effectiveness is stronger when the team availability of FFPs is high as compared to low.

H5c: The positive effect of team authentic leadership on employee performance via FSSB and employee WFB effectiveness is stronger when the team availability of FFPs is high as compared to low.

3.6 Conclusion

This chapter provided an extended discussion of work-family border and role accumulation theories that underpinned the model tested in this study. It also included a review of the authentic leadership literature and distinguished authentic leadership from other positive forms of leadership (e.g., transformational leadership). Based on the justification of the integration of the leadership and work-family interface literatures and drawing on work-family border theory, I theoretically explained the processes through which authentic leadership influences FSSB and employee WFB. Role accumulation theories were consulted to account for the influence of WFB on life satisfaction, health and performance. As shown in Figure 1, both individual and cross-level relationships were proposed. Specifically, I hypothesized the antecedents to be similarly related to the satisfaction and effectiveness components of WFB and the WFB components to be similarly related to the outcomes of life satisfaction and health. However, I predicted that the effectiveness but not the satisfaction component would be positively related to job performance.

The test of the hypothesized model (Study 1: individual-level and Study 2: cross-level; Chapter 5 and 6) is preceded by a discussion of the research philosophy and methodology of this research.

CHAPTER FOUR – RESEARCH METHODOLOGY

4.1 Introduction

In this chapter, I provide a short overview of the history of philosophy of science and discuss positivism and interpretivism as the main overarching paradigms in social science research. Subsequently, I make a case for the post-positivist perspective that underlies this thesis and argue, based on methodological fit (leadership and work-family interface literatures; Edmondson & McManus, 2007), for the use of a quantitative research design. A contrasting comparison of quantitative research designs is followed by the description of my research strategy and the research designs of Study 1 and Study 2 (both survey designs). This chapter concludes with the description of the sampling method, the sample, and the data analytical approach taking in this thesis.

4.2 Research philosophy

As a question and answer procedure, research enables scientists to address questions (e.g., why and how authentic leadership influences employee health and work outcomes), which are amenable to empirical verification, leading to the development of knowledge about a specific phenomenon (Lee & Lings, 2007). Science can therefore be defined as gaining knowledge through scientific methods (Popper, 1959). However, the choice of these methods and the type of required evidence depend on the researcher's philosophical viewpoint. Philosophy of science describes these conceptual roots that underpin the search for knowledge (Ponterotto, 2005) and comprises assumptions about ontology, epistemology, axiology, and methodology. Two main philosophical viewpoints or paradigms can be distinguished within philosophy of science (positivism and interpretivism).

4.2.1 Short history of philosophy of science

The history of philosophy of science can be traced back to the Milesians (600 BC), who questioned the nature of reality and thus posed ontological questions. The origins of

the modern scientific world-view in the social sciences, however, go back to the period of the 'scientific revolution' (1500 – 1750; Okasha, 2002), during which researchers began to question the nature of science again, after God had been at the centre of all attempts to understand reality throughout the 'Dark Ages' (Lee & Lings, 2007). This epoch was not only characterised by major scientific (e.g., development of modern physics by Johannes Keppler and Galileo Galilei), but also major philosophical advancements, such as Locke's (1632-1704) proposition that all knowledge must come from observations and that all humans are born with a blank mind (empiricism, also Hume: 1711-1776; Lee & Lings, 2007). Building on these ideas, scientists of the Vienna Circle, such as the physicist Schlick (1882-1936), developed logical positivism, which categorises statements as analytic (i.e. tautologies), synthetic (i.e. factual statements) or meaningless (i.e. all metaphysical statements) and only considers the first two to be scientifically meaningful (Caldwell, 1994). Underlying this categorisation of knowledge claims is the assumption that statements need to be verifiable by empirical evidence and that ideas that can't be directly observed are meaningless. (Critical) realists/ post-positivists, such as Feigel (1902-1988) and Bhaskar (1944-2014), strongly opposed these ideas and proposed that scientific knowledge should not be limited by humans' power to observe (Okasha, 2002). Consequently, the doors were opened for the consideration of not-directly observable psychological processes as meaningful theoretical explanations. As scientific statements did not depend anymore on a complete verification with observable evidence, which is, for example, impossible for many scientific laws (e.g., all ravens are black; Caldwell, 1994), the positivist criterion of verifiability was superseded by the criterion of falsifiability (Popper, 1959). The proposition that scientific statements do not have to be observable to be meaningful (e.g., theoretical constructs) has implications for the concept of causality (i.e. it is impossible to observe the causality between a snooker ball hitting another; only the result is observable; Lee & Lings, 2007), which can now serve as an explanation.

Despite their differences, the previous philosophical viewpoints are commonly summarized under the umbrella term 'positivism', as they are predicated on similar

assumptions (e.g., laws of nature should be derived from empirical data; Lincoln & Guba, 1985). The paradigm of 'interpretivism' can be regarded as its opposing philosophical stance and similarly encapsulates different traditions (e.g., phenomenology and social constructivism) that converge on the core assumption of the non-existence of a single external reality (Lee & Lings, 2007). These viewpoints trace back to the 16th and 17th century when philosophers argued (Berkeley & Kant) that it is impossible to objectively describe the world as humans can only interpret its representation in their minds, which, is in turn, influenced by internal knowledge. Renewed interest in these ideas was triggered by the crisis of science following the Industrial Revolution and philosophers, such as Nietzsche (1844-1900), emphasized that it is impossible to judge a perspective as true, as a multitude of perspectives exist (Lee & Lings, 2007). Furthermore, philosophers such as Heidegger (1889-1976) contributed to interpretivism through highlighting that objective interpretations of human experiences are never possible, since they are influenced by the social context and not independent of the language used to describe them. The differences between the paradigms of positivism and interpretivism regarding ontological, epistemological, axiological and methodological assumptions are discussed next.

4.2.2 Knowledge generation process

Ontology can be described as the study of what there is (Hofweber & Velleman, 2011), meaning the study of the basic structure of reality or being. Positivism and interpretivism strongly differ in their beliefs about the nature of reality, with the former arguing that only one true reality exists, which is denied by the latter (i.e. multiple, subjective realities; Ponterotto, 2005). Following from these differing views of reality are different epistemological assumptions, which entail what researchers can know about reality. As positivists belief in an objective reality, this reality can be fully captured by researchers through applying rigorous scientific procedures, leading to the generation of bias-free, generalizable knowledge. Interpretivist researchers, on the other hand, are interested in capturing the subjective realities of participants and put a special emphasis

on describing the 'lived experience' of their interactions (Ponterotto, 2005). The acquired knowledge is hence specific to the participants, situations and interactions and difficult to generalise. Researchers' ontological position also influences the objectives of their research (axiology; Lee & Lings, 2007), namely whether they aim at explaining and predicting (positivists) or understanding (interpretivists). Depending on these aims, researchers use deduction (positivists) or induction (interpretivists) to formulate generalizable laws and principles or to describe context-dependent phenomena. Last but not least, due to their differing stand on all three prior philosophical assumptions, researchers use different research procedures (methodology). Positivists/realists use methods, such as experiments and questionnaire surveys, which allow them to verify/falsify hypotheses derived from theories with collected data (hypothetico-deductive method). Interpretivists, in contrast, use for example, interviews and focus groups to achieve in-depth understanding of the subject matter. Importantly, while it can't be denied that positivists and interpretivists prefer specific methods, the use of quantitative or qualitative data should not be equated with one's philosophical stance, as certain methods (e.g., case studies and focus groups) can be used in a way that fulfils the purposes of both positivists and interpretivists (Holden & Lynch, 2004).

As this short review shows, both paradigms strongly differ in the degree to which social science research should follow the principles of natural sciences (e.g., objectivism and general laws). Hence, it may appear somewhat problematic to evaluate research that has been conducted from an opposing philosophical viewpoint. This notion is captured by the term 'incommensurability' (Kuhn, 1970), which signifies that, as researchers perceive everything through the lens of the paradigm they adhere to (Okasha, 2002), they can't objectively judge research belonging to an opposing paradigm. Hence, positivist and interpretivist researchers should see different things when they look at the same object (Caldwell, 1994). As authentic leadership is the main predictor in the hypothesized model, the research philosophy underpinning leadership and specifically authentic

leadership research is discussed next and the stage of this literature is reviewed, which influenced the methodological approach of this thesis.

4.2.3 Paradigms in leadership research and methodological fit

Leadership research is dominated by a realist/post-positivist perspective (Alvesson, 1997) and related research often uses quantitative methods (methodology), such as questionnaire surveys, to test theoretical propositions with empirical data (hypothetico-deductive method; see 4.3). Underlying this research is the assumption of a single, objective reality (ontology), which can be captured with rigorous research methods (epistemology), yielding generalizable laws that can explain and predict leadership phenomena and their impact on various outcomes (axiology). As opposed to logical positivism, leadership research heavily relies on phenomena that are not directly observable (e.g., leadership style), but that can be studied through operationalising them via observations (theory-laden observations; Lee & Lings, 2007). Therefore, the dominant realist/post-positivist leadership research aims at falsifying instead of verifying scientific statements, while the inclusion of non-observable phenomena paves the way for causality as an explanation for observed relationships (e.g., authentic leadership positively influences job performance). Examples relevant for this research are current studies on authentic leadership (e.g., Leroy et al., 2015) that hypothesize, based on relevant theory (e.g., authenticity; Kernis, 2003), relationships between authentic leadership and various outcomes (e.g., authentic followership, basic need satisfaction and job performance). The theoretical constructs are operationalized via validated measures (e.g., Walumbwa et al., 2008), analysed with various statistical procedures (e.g., multilevel path model) and interpreted in conformance with the underlying theory.

However, this stream of leadership research can be criticised for not paying adequate attention to the fact that leadership is a socially-constructed phenomena and that individuals attach different meanings to different leadership behaviours (Alvesson, 1997). Hence, leadership definitions and constructs have been challenged for not fitting

the richness and complexity of leadership in the ‘real world’ and questionnaire surveys, as the preferred method, have been criticised for trying to capture these complex social phenomena with response categories (Potter & Wetherell, 1987). Last but not least, while researchers use rigorous methods in an attempt to minimise biasing effects (e.g., experiments), they are less objective in their choice of the subject matter, which is often influenced by present and past personal experiences (Alvesson, 1997).

Yet, qualitative leadership research that follows more of an interpretivist paradigm can be similarly criticised (e.g., Endrissat, Mueller & Kaudela-Baum, 2007), as the obtained findings are highly context-dependent. Therefore, questions regarding the degree to which a contribution to the understanding (positivist axiology) of the subject is achieved (e.g., focus groups in a single company; Alvesson, 1997), can be raised. This seems to especially apply to focus groups and interviews (often used by interpretivist researchers), as they constitute social situations in which language is used to emphasize and persuade, and various interpersonal processes potentially inhibit participants from truthfully portraying their subjective worlds. Hence, the degree to which an increased understanding is achieved is questionable, while it can also be argued that these forms of data collection can be misused to support a-priori formed assumptions. Whereas various precautions can be taken to mitigate these methodological shortcomings (see Alvesson, 1997), the choice of methods of research should also be guided by its ‘methodological fit’, which ensures that the research theoretically contributes to the literature.

According to McGrath (1964), the choice of methodology should be informed by the state of prior knowledge. This idea has been further elaborated by Edmondson and McManus (2007), who propose that research questions, stage of the literature, and research design need to be congruent and mutually reinforcing (i.e. methodological fit) to ensure high-quality research (as captured through the scope of the theoretical contributions). These authors categorise the prior literature into nascent, intermediate,

and mature and make recommendations for when quantitative or qualitative methods are most appropriate. In the case of nascent theory (e.g., climate of authenticity; Grandey et al., 2012), when little is known about the construct and how underlying processes unfold, rich data are needed to understand the phenomenon and to reveal key variables. This purpose is best met by using qualitative methods, such as interviews and ethnography that allow researchers to immerse themselves into the setting of the study and to be guided by emergent themes in the data in subsequent data collection (iterative process). The stage of the literature can be categorized as intermediate (employee silence; Knoll & van Dick, 2013), when relationships between constructs that have been derived from theory are initially tested or when newly-developed measures need to be validated (Edmondson & McManus, 2007). In these cases, qualitative and quantitative forms of data collection are often combined (triangulation; Jick, 1979), with the former often used to provide further explanation for the quantitative findings. A mature literature (e.g., job satisfaction; Locke, 1969) is characterised by the existence of well-established theories that have been extensively researched with validated measures to capture non-observable phenomena. Research here aims at, for example, explaining differences between previous research findings through the examination of moderating/mediating variables. Quantitative methods, such as questionnaire surveys, accomplish these purposes best.

4.2.4 Paradigms and methodological fit in authentic leadership theory

As described in detail in Chapter 3, the term authentic leadership was first mentioned in an attempt to address shortcomings in the conceptualisation of transformational leadership (e.g., impression management: Bass & Steidlmeier, 1999). Subsequently, the construct of authentic leadership was introduced by both practitioners and researchers (George, 2003; Luthans & Avolio, 2003) as a leadership style that should enable stakeholders to regain trust in leaders that had been lost due to corporate scandals (e.g., Enron). This was followed by a phase that focused on theoretically refining the authentic leadership construct through linking it to other well-established constructs

(e.g., self-awareness; Sparrowe, 2005). Furthermore, researchers drew on various related theories (e.g., authenticity literature; Ilies et al., 2005) to develop a definition of authentic leadership, to specify its components, and to propose various research questions about its antecedents and consequences (see also Shamir & Eilam, 2005). Interestingly, only one theoretical paper drew in this initial phase on observations in authentic leadership theorising (Eagly, 2005; Endrissat et al., 2007). Gardner, Avolio, Luthans, May and Walumbwa (2005) consolidated these various theoretical papers by proposing an integrative definition and model of authentic leadership. The test of these models was enabled through the development and validation of the Authentic Leadership Questionnaire (Walumbwa et al., 2008), which included the quantitative and qualitative item generation, quantitative item selection (CFA = confirmatory factor analysis with samples from different countries) and quantitative establishment of its validity with multiple samples (e.g., convergent validity). Being given the tools to do quantitative research, various papers have been subsequently published that linked authentic leadership to a multitude of outcomes (e.g., job satisfaction; Jensen & Luthans, 2006) and uncovered various underlying mechanisms (e.g., team reflexivity; Lyubovnikova et al., 2015). Research has also started to emerge that considers boundary conditions of the effects of authentic leadership (Wang et al., 2014).

Based on this review, it can be concluded that the authentic leadership literature is in its mature stage and that research should consequently clarify or challenge aspects of existing theory. Quantitative methods are the preferred method to fulfil these aims and the existence of validated measures (i.e. Authentic Leadership Questionnaire; Walumbwa et al., 2008) enables research to test statements that include causality and to examine boundary conditions of the effects discovered in previous research (Edmondson & McManus, 2007). It, however, becomes apparent from the above discussion that the nascent stage lacked important qualitative work that would have contributed to the development of the authentic leadership construct (see Endrissat et al., and Novicevic, Harvey, Ronald & Brown-Radford, 2006 for exemptions) and that current authentic

leadership research, in line with the maturity of the literature, also makes little use of qualitative data. This dominance of quantitative methods might be also due to the realist/post-positivist philosophical stance that authentic leadership researchers take.

4.3 Research philosophy and design in this thesis

4.3.1 My research philosophy

In this thesis and consistent with the majority of leadership researchers (Alvesson, 1997), I adopt a realist/post-positivist perspective. In line with post-positivism/critical realism, I assume the existence of a single, objective reality (ontology) which, as human beings interpret incoming data in light of, for example, previous experiences and culture can, however, only be imperfectly apprehended (Guba & Lincoln, 1994). Hence, I assume that a reality independent of its perception exists (e.g., constructs of authentic leadership and WFB) and that this reality can be representatively captured (epistemology) if data are collected from a large enough number of participants. Importantly, this external reality includes, as opposed to the positivist view, also constructs that are not directly observable (e.g., authentic leadership as a conglomerate of different observable behaviours), but that can be operationalised (i.e. through validated scales) and consequently, meaningfully studied. Therefore, as the researcher, I am separate from the objects of my investigation (i.e. employees; dualism; e.g., contact limited to organisational representatives) and through the use of the scientific method, I can obtain unbiased knowledge concerning causal relationships between constructs (epistemology; Lee & Lings, 2007; e.g., the positive relationship between authentic leadership and FSSB).

The scientific method is also known as the hypothetico-deductive method (Lee & Lings, 2007) and has its roots in the natural sciences. This method requires that the literature is consulted to find answers to research questions. I consequently drew, in a deductive process, on the work-family interface, the organisational family-support and the leadership literatures and on work-family border and role accumulation theories (Clark, 2000; Marks & MacDermid, 1996; Sieber, 1974) to identify key variables (e.g.,

organisational FFPs) and to develop formal hypotheses (e.g., authentic leadership is positively related to WFB through FSSB). After the concepts had been operationalized and data had been collected, the inductive process began, which involved the test of the proposed hypotheses with statistical methods. Notably, as I follow a post-positivist perspective, the data were analysed in a way (hierarchical linear regressions and MLM) that aims at falsifying the hypotheses (Popper, 1959) and considers the rejection of the null hypotheses as providing empirical support. Lastly, the obtained findings were interpreted and related back to the initial research questions.

As the above illustrates, this thesis aims at explaining and predicting phenomena (axiology), which is reflected in the formulation of specific hypotheses. Quantitative methods (questionnaire surveys; methodology) serve this purpose best and follow from my philosophical stance. The choice of method should, however, also be aligned with the stage of the literature in order to ensure a strong methodological fit (Edmondson & McManus, 2007). As I noted in the previous section, the authentic leadership literature is in its mature stage, suggesting the use of quantitative methods (e.g., to clarify authentic leadership theory. Importantly, this thesis contributes through its integration of the leadership and work-family interface literatures, which can also be considered to be in its mature stage. Namely, various definitions of WFB have been offered throughout the last decades (e.g., Frone, 2003), contributing considerably to the theoretical refinement and understanding of this construct. In light of this multitude of definitions and measures, research is strongly needed that advances WFB research through linking it to key antecedents and consequences. As previous research findings together with their underlying theories suggest specific antecedents (e.g., FSSB and FFPs as border-keepers; Clark, 2000) and consequences (well-being and performance: Marks & MacDermid, 1996), testing these assumptions with quantitative data seems most appropriate. Hence, quantitative methods (questionnaire surveys) seem to best fulfil the aims of this research.

4.3.2 Research design and research strategy

The research design occupies an important position within the hypothetico-deductive method, as it connects the theoretical world to the real world (i.e. test of theoretical assumptions with empirical data; Lee & Lings, 2007). In order to answer the theoretically-derived research questions and to enable me to falsify the proposed hypotheses through statistical methods (see section data analysis), survey designs were used in both studies to generate empirical evidence.

4.3.2.1 Multi-wave research design

The choice of the research design was, on the one hand, informed by the research questions and, on the other hand, by an attempt to achieve a balance between internal and external validity. More specifically, the proposed hypotheses entailed causal relationships between the constructs (e.g., FSSB positively influences WFB) and, as such, variance in the dependent variable (DV; WFB) is explained through the independent variable (IV; FSSB). The ideal research design to test these relationships needs to therefore allow statements regarding causality and to provide sufficient variance in the IVs.

Both experiments and survey designs are, within a quantitative methodology, appropriate for addressing the objectives of my research. In experiments, variance in the IV is manipulated and its effect on the DV compared with a control group. Due to the high standardization, only variation in the IV (experimental vs. control group) can account for the observed changes in the DV, providing a strict test of the hypothesised causal relationship (Lee & Lings, 2007). This very strong internal validity (i.e. exclusion of alternative explanations) comes at the cost of a strong external validity (i.e. generalisability of findings), especially in lab experiments using student samples (see e.g., Kirkpatrick & Locke, 1996). While field experiments (i.e. natural setting and in this case company context; see e.g., Dvir et al., 2002) possess a slightly higher external validity, they are also not suited to test my complex hypothesized model (manipulation of

too many IVs necessary) and the degree to which a manipulation of some of my IVs would be meaningful (e.g., WFB), is questionable.

I therefore consider survey designs, which involve that data are collected through asking questions (Babbie, 1990), as most appropriate for testing the proposed hypotheses. Within survey designs, cross-sectional (data collected at a single point in time) and longitudinal design (data collected from the same sample at multiple points in time) can be distinguished and data can be obtained from a single or multiple sources (e.g., employees and their colleagues). However, collecting data at multiple time points and from multiple sources can be time-consuming and organisational access difficult to obtain. Consequently, the majority of social science studies uses cross-sectional survey designs (Lee & Lings, 2007), which is particularly prominent in the work-family interface literature (Greenhaus & Allen, 2011). As variance in the IV can't be manipulated, data need to be collected from multiple subjects (10-20 per variable; Tabachnick & Fidell, 1996) to receive a sufficient range of the IV to falsify the proposed hypotheses. While the inclusion of control variables increases the internal validity through the exclusion of alternative explanations (e.g., differences in levels of WFB not due to FSSB but participant gender), the assessment of IVs and DVs at the same time point by the same source makes the findings vulnerable to extraneous variance in the form of common method variance (Podsakoff et al., 2003). Common method variance refers to variance being caused by the measurement method as opposed to the variables (Podsakoff et al., 2003) and is problematic as it limits the conclusions that can be drawn about the hypothesized model. Sources of common method variance are, amongst others, the common source (i.e. predictor and outcome rated by the same subject; e.g., consistency motif and transient mood states) and items characteristics (e.g., same response format), which might systematically influence the observed correlations. Another important shortcoming of cross-sectional designs is that statements concerning causality or change, which are often a fundamental part of hypotheses, can't be rectified (e.g., Bono & McNamara, 2011). Longitudinal research designs allow for statements concerning

causality/change if the DV is measured at multiple points (Cook, Campbell & Day, 1979) and the hypotheses are consequently tested with the initial level of the DV being included as a control variable, providing a conservative test of the model.

Beyond the aforementioned pitfalls of longitudinal data collection, barriers also include a prolonged phase of data collection (e.g., number and length of intervals between measurement points) and increased difficulty of obtaining organisational access. This situation is worsened for the test of the cross-level model, as the high drop-out rates that accompany longitudinal research (e.g., de Leeuw, 2005) pose an elevated risk for achieving a sufficient sample size (i.e. number participants per team and of teams; e.g., Hox, 2010). The sample size is of special relevance for detecting effects, as too small a sample might lead to a wrongful acceptance of the null hypothesis (type 2 error; Bryman, 2001). Consequently, I decided to employ a multi-wave survey design (two measurement points) in both studies (see below for details). This constituted a middle way between a cross-sectional and longitudinal design that should, in part, reduce the biasing effect of common method variance through the temporal separation of predictor and outcomes.

4.3.2.2 Research strategy

In the previous chapter, the hypothesized model was deductively developed based on the literature and work-family border/role accumulation theories (Clark, 2000; Marks & MacDermid, 1996; Sieber, 1974). As the majority of work-family interface research examines individual-level models, I proposed an individual-level model, which I tested in Study 1. I however also argued that, as employees increasingly work in teams and share the same supervisor, team members form similar perceptions regarding contextual characteristics (e.g., supervisory leadership style; Salancik & Pfeffer, 1978). These characteristics are best captured at the team-level (i.e. team authentic leadership and team availability of FFPs) to account for the variance due to team membership (Preacher et al., 2010). The individual-level model has consequently been extended to a cross-level

model (justified through theory and research that considers both authentic leadership and availability of FFPs as higher-order constructs; e.g., Yammarino et al., 2008; Allen et al., 2014) and Study 2 was used to test this model. I however decided, in line with previous research (e.g., Odle-Dusseau et al., 2015) and the conceptualisation of the construct (e.g., Hammer et al., 2007), to treat FSSB solely as individual-level variable as team members' perceptions of FSSB are proposed to differ from each other.

4.3.2.3 Research design Study 1 and 2

Regarding the research design of Study 1, a survey design was used that involved participants completing two online questionnaires four weeks apart. Specifically, WFB satisfaction/effectiveness and their antecedents were assessed at Time 1 (ALQ, FSSB and availability of FFPs), while the consequences of WFB (life satisfaction, health and job performance) were captured at Time 2. Through the temporal separation of WFB and its outcomes, the biasing effect of common method variance on the outcomes was reduced (Podsakoff et al., 2003), increasing my confidence in the obtained findings. However, while these outcomes should logically and theoretically (role accumulation theories: Marks & MacDermid, 1996) succeed WFB, as they were only assessed at Time 2, reversed causality can't be excluded as an explanation (Cook et al., 1979). Notably, since the antecedents of WFB satisfaction/effectiveness were captured at the same time in order to limit reduction of the final sample due to drop-out, the obtained findings need to be interpreted with caution as they might be inflated (Lindell & Whitney, 2001). The decision for the time-wise separation of WFB satisfaction/effectiveness and their consequences as compared to WFB and their antecedents was based on the assumption that the antecedents represent relative stable constructs (e.g., ALQ), while WFB and the outcomes are considered to be more dynamic (Maertz & Boyar, 2011). Additionally, the dearth of longitudinal studies of WFB (Greenhaus & Allen, 2011) meant that I had no point of reference concerning the time lag in which to expect WFB to influence the outcomes. As the time lag of four weeks was chosen based on my assumptions and

practical reasons (i.e. reduced sample attrition due to e.g., redundancies), the lack of theoretical justification can have potential biasing effects on the findings (Gollob & Reichardt, 1987; Rothbard & Edwards, 2003). To further enhance the internal validity of the research design, various control variables were included (e.g., age and gender).

Study 2 used a research design similar to Study 1, which can however be considered more rigorous as supervisor ratings were provided for job performance at Time 2, and as employees were nested in teams. Knowledge about the nested structure allows the variance due to team membership to be partialed out with MLM (Preacher et al., 2010), increasing the internal validity of the findings. Additionally, and as argued before, as team constructs represent the team's view, they more objectively portray situational characteristics such as the availability of FFPs, further contributing to internal validity. Furthermore, the case can be made that employees' (team's) perceptions of these situational characteristics are most relevant for the proposed relationships (e.g., supervisors' ratings of their own leadership style are inflated; Bass & Yammarino, 1991). While alternatives to some of the self-ratings were not viable (e.g., medical assessment of physical health), Study 2 expanded Study 1 by capturing job performance with supervisor ratings at Time 2. Self-ratings of job performance are particularly susceptible to self-inflation bias (i.e. employees rate their own performance better than their supervisors do; Heidemeier & Moser, 2009) so that supervisor's ratings constitute a more objective assessment. Furthermore, through the use of an additional source of data, common method variance is further reduced, strengthening confidence in the obtained findings. Ethical approval had been obtained from the Aston University Research Ethics Committee. The application, as well as the approval, are included in the appendix (Appendix A).

4.4 Data collection and analysis

4.4.1 Sampling method

In order to test the theoretically-derived hypothesized model in the 'real world', samples need to be drawn from the population. In line with my post-positivist perspective and my aim to generate generalizable knowledge, the samples need to be representative of the population.

In quantitative sampling, probability sampling can be distinguished from non-probability sampling (Lee & Lings, 2007). Probability sampling (here: simple random sampling) entails that a perfect random sample is drawn from a perfect list of all members of the population. Apart from the fact that this perfect list does not exist, since I aimed in this thesis to test my model with employees from the UK and Germany to enhance the generalizability of my findings, probability sampling would have exceeded the financial and temporal scope of this thesis. This is, however, not problematic as the majority of organisational research (Lee & Lings, 2007) relies on non-probability sampling. The use of convenience samples is encouraged by Calder, Phillips and Tybout (1982), who state that in order to generalise a theory, the sample merely needs to allow for its falsification. While this means, for example, in the case of role accumulation theories (Marks & MacDermid, 1996) that employees do not necessarily have to have a paid job (i.e. vagueness of the fulfilment of multiple roles that leads to a balance), the following considerations influenced my sampling strategy. As per the definition of WFB by Greenhaus and Allen (2011), on which this research draws, the examination of WFB requires that employees are in work (full-time or part-time). Additionally, to comprehensibly test the proposed effects of authentic leadership and FSSB, employees need to have one hierarchically superior line manager, while the test of the cross-level model in Study 2 necessitates that employees work in teams and that supervisor performance ratings can be obtained.

Furthermore, sample size plays a crucial role in the test of the hypothesized model as it influences the statistical power to detect significant effects, reducing the risk of Type 2 error. Hence, beyond the criteria specified above, the samples of Study 1 and Study 2 need to meet the following requirements: As the sample of Study 1 was used to test the individual-level version of the hypothesised model, the recommendation of 10-20 complete datasets (Time 1 and Time 2) per variable (Tabachnick & Fidell, 1996) implies a final sample of 80 to 160 participants (hypothesized model includes 8 variables). On the contrary, the sample of Study 2 was used to test the cross-level version of the hypothesized model. The higher level dictates the sample size requirements in MLM and 30 teams are considered the minimum (Hox, 2010; Maas & Hox, 2005). The essential sample size of the lower level (individual level) was theoretically guided by the mentioned definition of teams by Kozlowski and Bell (2003). Consequently, complete datasets (participants Time 1 and Time 2 and supervisors Time 2) for at least two members per team were considered as the minimum requirement for inclusion in the analysis. Hence, at least 60 complete datasets from 30 teams were considered necessary to rigorously test the hypothesized model. Additionally, while I aimed at collecting these data from the UK and Germany, my sampling strategy also involved that the participants were drawn from various companies and industries (i.e. to enhance the external validity of my findings).

4.4.2 Participants

Over 200 companies in Germany and the UK across a range of sectors and industries were contacted via mail, personal contacts, and professional networks (e.g., LinkedIn) in a quest to obtain the necessary data to test the hypothesized model. A non-probability convenience sampling approach was used, which was guided by the above stated criteria and the practicality to attend meetings to negotiate organisational access (limited to the South of Germany and within a 150 miles' radius of Birmingham, UK). Obtaining the necessary sample for Study 2 proved particularly difficult, as employees had to be nested within teams and supervisor performance ratings were required. In

multiple cases, access was refused by organisational work councils in Germany as the matching of employee and supervisor data meant that supervisors had to be provided with employees' personal codes.

The Study 1 sample, which was used to test the individual-level model, comprised 174 employees (German sample: 146; UK sample: 28) that had completed both Time 1 and Time 2 questionnaires. Notably, the UK sample was made up of employees of a UK University and the German sample of workers that were signed up to a crowdsourcing website (workhub.de) and worked mostly full-time (89.7%) in a variety of industries (e.g., service sector, military). The sample met the above specified criteria (full-time/part-time work) and no anomalies with regard to demographics were observed. As the sample size also met the above mentioned requirements (Tabachnick & Fidell, 1996), this sample was considered appropriate to test the theoretically-derived individual-level model and to be representative of the wider population (see Calder et al., 1982).

The Study 2 sample comprised 106 employees from 4 companies (different industries) belonging to 27 teams (UK: 2 companies, 5 teams, 16 employees; Germany: 2 companies, 21 teams, 90 employees). The final dataset (participant ratings Time 1 and Time 2; supervisor ratings Time 2) fulfilled the above criteria as the participants were all in employment (69.8 % full-time), were all part of teams (mean final team size = 4), and all had one supervisor, who provided ratings. The participants worked in a number of professions (e.g., clerk or health professional) and, as no anomalies concerning demographics were observed, the findings of the test of the cross-level model should be generalizable to the wider population. It needs to be, however, noted that the minimum higher-level sample size of 30 (Hox, 2010; Maas & Hox, 2005) could not be achieved as teams had to be excluded due to missing Time 2 and/or supervisor data. While this small sample size does not have implications for the discovered significant effects, the related lack of statistical power can lead to the false rejection of truly significant hypotheses (Type 2 error; Bryman, 2001).

4.4.3 Data analysis

The statistical software package MPlus Version 7.4 (Muthén & Muthén, 2015a) was used to analyse the data for Study 1 and Study 2. This choice was justified by Mplus' ability to run CFAs, to analyse single-level data with hierarchical linear regressions, and multilevel data with MLM.

First, the distinctiveness of the variables of the measurement model was confirmed with CFAs through a comparison of its fit with plausible alternative models. The superior fit of the measurement model in both studies laid the foundation for the subsequent test of the hypothesized model.

To test the individual-level model with the data from Study 1, a series of hierarchical regression analyses were run. The analyses included the test of direct, mediation, and moderation effects, as well as moderated mediation and serial moderated mediation to test the proposed relationships. I drew on Stride, Gardner, Catley and Thomas (2015) as a resource to form the MPlus syntax codes.

To test the cross-level model, nested data were collected in Study 2. Specifically, employees (individual level) were nested in teams (team level) and this hierarchical structure, which is common in organisations, provided the framework for the data analysis (Klein & Kozlowski, 1998). As the independence of observations is violated in clustered data (Preacher, Zhang, & Zyphur, 2011), MLM is the appropriate analysis strategy. MLM takes this nested structure into account by separating within and between variance in individual ratings (i.e. after the nested structure has been indicated) and allows for the examination of cross-level relationships. While authentic leadership and the availability of FFPs are often examined as individual-level variables (e.g., Jensen & Luthans, 200; Butts et al., 2013), based on the assumption that they constitute contextual characteristics that should be similarly perceived by all team members (SIP; Salancik & Pfeffer, 1978), they were, in line with previous research (e.g., Hsiung, 2012), examined as team-level constructs. The aggregation to the team-level was statistically justified by

the high within-group consensus ($r_{wg(j)}$, ICC(1) and ICC(2)). Consequently, the individual and cross-level hypotheses could be tested with MLM.

4.5 Conclusion

This chapter provided a review of the history of the philosophy of science and discussed the two main paradigms of positivism and interpretivism concerning their ontology, epistemology, axiology and methodology. A discussion of my research philosophy (post-positivism) was followed by an examination of the authentic leadership and work-family interface literatures (both mature stage; Edmondson & McManus, 2007). In line with my philosophical perspective and to increase methodological fit, I opted to use a quantitative research design. Subsequently, different quantitative research designs were compared and the multi-wave survey designs of both studies, as well as the rationale for conducting two studies (research strategy), was outlined. Finally, the sampling method, sample, and data analytic techniques were described.

The succeeding two chapters describe the test of the hypothesized model (see Figure 1). Study 1 examined the individual-level relationships, while Study 2 examined the cross-level relationships.

CHAPTER FIVE – STUDY ONE

TEST OF THE INDIVIDUAL-LEVEL MODEL

5.1 Introduction

As previously noted, I conducted two studies to separately test the individual and cross-level hypotheses depicted in Figure 1 and formally proposed in the preceding chapter. This chapter describes the methodology used in Study 1. Specifically, it describes the sample and data collection procedure, measures of the study constructs, the linear hierarchical regression analysis (Mplus) used to test the individual-level hypotheses, and presents the study's findings.

5.2 Method

5.2.1 Sample and data collection procedure

5.2.1.1 Data collection method

To test the individual-level hypotheses, data were collected via online questionnaires from 174 employees in the UK and Germany across two time points (4 weeks' apart). The sample was made up of employees of a University in the UK and employees registered on a German crowdsourcing website. The Time 1 survey consisted of measures of authentic leadership, FSSB, availability of FFPs, WFB effectiveness, WFB satisfaction and demographics (gender, age, organisational tenure, full or part-time employment, marital status, number of children and age of the youngest child). The Time 2 survey assessed respondents' life satisfaction, health and job performance. At each time point, respondents were given a week to complete the questionnaires with the online questionnaires becoming unavailable after this period.

After organisational access had been granted (see below for the detailed procedure for the UK and German part of the sample and see Appendix B for the conversation with the UK University), potential respondents received an email with the link to the Time 1

online questionnaire (online survey platform: www. surveygizmo.com) through either an email newsletter (UK part of the sample) or through the crowdsourcing website that I used (www.workhub.de; German part of the sample). In this initial email, participants were also informed about the content, design (multi-wave data collection with a time lag of four weeks), the voluntary nature of participation in the study, and assured of the confidentiality of their responses. Additionally, in order to incentivise participation in the study, respondents were informed that they would receive a reward (for details see below) if they completed questionnaires at both time points. At Time 1, employees were asked to create a personal code (UK sample) or to enter the username they were registered under on the crowdsourcing website. At the end of the Time 1 survey, participants were asked to enter their email address (only employees from the UK sample), to enable me to send them the link for the Time 2 survey. Four weeks later, all respondents who had participated in the Time 1 survey were contacted via an email sent by me (UK sample) or the crowdsourcing website (German sample), asking them to participate in the Time 2 survey. At the start of the Time 2 survey, respondents were asked to either re-enter their personal code (or to recreate; UK sample) or their crowdsourcing website's username. This personal code/username served the purpose of enabling me to match respondents' Time 1 and Time 2 questionnaires while ensuring their anonymity. The UK respondents who completed both the Time 1 and Time 2 surveys were entered into a prize draw, while the respondents from the crowdsourcing website were paid for the completion of one or both questionnaires (for details see below).

5.2.1.2 Sample

At Time 1, 287 employees participated (German crowdsourcing sample: 245; UK University sample: 42). Of these 287 responses, 32 (German sample) had to be deleted as respondents participated multiple times and 19 (German sample) due to respondents not passing the two instructional manipulation checks (IMCs; see below), resulting in a final Time 1 sample of 236 participants (German sample: 194; UK sample: 42). At Time 2, 200 employees participated (German sample: 166; UK sample: 34). Of these, 14

responses (German sample) were deleted due to duplicate user names and 2 (German sample) due to respondents failing the Time 2 IMCs.

The matching of the Time 1 (236 employees) and Time 2 (184 employees) datasets via respondents' usernames or codes resulted in a final sample of 174 employees (German sample: 146; UK sample: 28). This represented an effective response rate of 73.7% of all useable responses from Time 1 (236 participants). To ensure that there were no demographic differences between respondents across the two time points, I conducted 2-tailed t-tests and chi-square tests (95% CI). No significant differences were found between respondents at Time 1 that did or did not participate at Time 2. It was, however, found that the UK and German sample differed with regard to age ($t(172) = 3.13$, $p < .01$; UK: M = 35.68 years, SD = 10.95 years and Germany: M = 30.34 years, SD = 8.00 years), gender ($\chi^2(1) = 18.79$, $p < .001$; UK: 82.1% female and Germany: 37.7% female), full-time employment ($\chi^2(1) = 3.15$, $p < .10$; UK: 0% part-time and Germany:10.3% part-time), marital status ($\chi^2(3) = 8.66$, $p < .05$; UK: 92.% married or in a relationship and Germany: 74% married or in a relationship) and age of the youngest child ($t(64) = 2.59$, $p < .05$; UK: M = 6.08 years, SD = 6.92 years and Germany: M = 11.38 years, SD = 9.50 years). In order to account for these differences, I controlled for the variables age, gender, type of employment and company in all analyses. While the inclusion of other control variables (e.g., marital status or number of children) would have been justified based on the above findings, only these control variables were selected to ensure the comparability of the Study 1 and Study 2 findings (see the section control variables for a detailed discussion).

Of the 174 respondents that formed my final sample, 55.2% were male (96 participants) and 44.8% were female (78 participants). The average age of the respondents was 31 years (SD = 8.75 years; 19 – 62 years), they had on average worked for their current employer for 5 years (SD = 5.10; 0 – 32 years) and the majority of the employees worked full-time (159 as compared to 15; 91.4% vs. 8.6%). Most of the

respondents indicated that they were in a relationship (73 = 42%) or married (61 = 35.1%) with a minority being single (32 = 21.3%) or divorced (3 = 1.7%). Respondents had on average one child (66 participants had children; SD = .94; 0 to 5 children) with the average age of the youngest child being 7 years old (SD = 7.71; 0 – 32 years).

5.2.1.2.1 British sample – university employees

The UK sample (28 employees) consisted of employees from an English University located in central England (county: West Midlands). After having initially contacted the HR department to negotiate access, I was allowed to advertise my study and recruit participants in the weekly university-wide newsletter which included the link to the Time 1 online questionnaire.

At the start of the survey, potential respondents were asked to create a personal code (first letter of the city employees were born in, first letter of their mother's first name and first and last letter of their father's first name). At the end of the survey, respondents were asked to provide their email address, which enabled me to inform them about the start of the Time 2 survey, but which was stored in a separate dataset to the questionnaire data to ensure respondents' anonymity. Respondents who had completed the Time 2 survey were again asked to provide their email address at the end of the survey (stored separately to dataset). To incentivise participation at both time points, £50 and £100 were raffled between all employees that completed both questionnaires (two matching email addresses) and employees' email addresses were hence used to inform winners of the outcome of the draw.

The university respondents worked in various administrative (e.g., clerk) and academic (e.g., research associate) positions. They were between 24 and 62 years old (M = 35.86, SD = 10.95) and 82.1% (23) were female. They had worked at the University for an average of 5.57 years (0 - 26 years) on a full-time basis. The majority of the respondents were married (16 = 57.1%) or in a relationship (10 = 35.7%), while only two employees were single (7.1%) and none was divorced. The majority of the participants

had no children (15 = 53.6%) with the remaining having between one and three children, aged between zero and 32 years old.

5.2.1.2.2 German sample – crowdsourcing sample

The German sample (146 employees) was recruited via a crowdsourcing website (www.workhub.de). Crowdsourcing entails individuals' use of their spare time to create content and/or to solve problems (Howe, 2006), such as filling out online surveys or translating short paragraphs. In exchange for the completion of such small tasks (Human Intelligence Task, HIT), employees receive small monetary rewards (hourly wage: 1.40 dollars; Paolacci, Chandler, & Ipeirotis, 2010). Mechanical Turk (MTurk) is the biggest website for crowdsourcing.

I chose crowdsourcing as an additional source of data as I was not able to obtain further data from companies in the UK or Germany. The population of crowdsourcing websites has been found to be as representative of the general population as that yielded by other forms of participant recruitment (e.g., Paolacci et al., 2010). Furthermore, studies based on datasets from crowdsourcing websites (e.g., www.studyresponse.net) have been published in top-tier journals (e.g., Arnold, Connelly, Walsh, & Martin Ginis, 2015; Yam, Fehr, & Barnes, 2014). Crowdsourcing is hence a rapid and inexpensive way to recruit participants and allows for a short time between theory development and theory testing.

I chose www.workhub.de as a crowdsourcing company because they have over 100.000 registered users and a vast experience in collecting data for such companies as BMW and Uber. After having agreed the target sample with the crowdsourcing website (German-speaking, full-time employees), a selected pool of users consequently received an email from the crowdsourcing company, which included the link to the online questionnaire (www.surveygizmo.com) and emphasized that only questionnaires that were conscientiously completed (see below) would be reimbursed.

At the beginning of the Time 1 and Time 2 surveys, respondents were asked to enter their workhub (crowdsourcing website) username, which allowed me to match respondents' Time 1 and Time 2 surveys and exclude employees that had participated multiple times. Users are registered with their address and other personal details on the crowdsourcing website, preventing participants from opening multiple accounts/having multiple user names and participating multiple times undetected (it was due to an error on the crowdsourcing website that users participated multiple times and had to be consequently excluded from the final data set). Respondents who completed the Time 1 questionnaire and had passed the IMCs (see below), received four weeks later the link to the Time 2 survey through the crowdsourcing website. At the end of each survey, respondents received a payment code, which varied depending on whether respondents had passed the IMCs (correct vs. false payment code) and between survey 1 and 2. Respondents then used these payment codes on the crowdsourcing website to request payment for the successful completion of the questionnaires. Only respondents who entered the correct payment code received payment. After the survey had ended, the crowdsourcing company billed me for all the participants that had been reimbursed for the participation in the first, second or both surveys plus 20% premium for their services.

Precautions to ensure data quality

As compared to more traditional forms of data collection (see UK sample), it has been recommended that researchers who use crowdsourcing take precautions to ensure the quality of their data. Accordingly, I followed recommendations by Goodman, Cryder, and Cheema (2013) and specified certain characteristics of the sample beforehand (e.g., full-time employees). I also did not include questions that have one correct answer that could be looked up. Importantly, to ensure that respondents paid close attention when completing the surveys and that those who randomly ticked boxes were screened out, I added two IMC questions in each survey (in the middle and at the end of the survey; common practice). These questions asked respondents to select a specific answer (e.g.,

“Please tick the box ‘often’ now“). As it can be assumed that respondents who failed either of these questions did not pay attention to the survey, these respondents were excluded from the final data set (19 employees at Time 1 and 2 at Time 2) and received a different payment code (‘false code’) at the end of the surveys.

Financial reimbursement

Respondents on crowdsourcing websites are usually financially compensated for the time invested. The pay per completed task is usually very low (e.g., transcription of media to text offered on MTurk for $0.17). As the time spent completing the survey should from an ethical perspective be fairly rewarded, I paid participants two Euros for the completion of the Time 1 survey (10 minutes) and two Euros for the completion of the Time 2 survey (5 minutes). The rather high pay for Time 2 was chosen as an incentive to encourage respondents to complete both surveys. At the beginning of each survey, respondents were made aware that only fully and conscientiously completed surveys (passed IMCs) would be paid for and that it was only possible to get paid once for each survey.

Crowdsourcing sample

The German respondents (146) from the crowdsourcing website were employed in a variety of occupations such as office clerks, military, paralegal, etc.. They were between 19 and 55 years (M = 30.34, SD = 8.00) old and 37.7% (55) were female. These participants had worked for their current employer (not the crowdsourcing website) for an average of 5 years (0 - 32 years) and 89.7% (131) were in full-time employment. This high percentage of part-time employees was unexpected, as one of the requirements for participation in this study, on which basis the crowdsourcing website had selected potential participants, was that they were in full-time employment. This discrepancy can be explained through changes in the type of employment which employees had not yet updated in their profiles on the crowdsourcing website. In order to account for potential differences between part-time and full-time employees, type of employment was included

as a control variable in all analyses. The majority of these employees were married or in a relationship (108 = 74%) and about a fourth reported being either single (35 = 24%) or divorced (3 = 2.1%). The majority of the participants had no children (93 = 63.7%), with the remaining having between one and five children who were between zero and 29 years old.

5.2.2 Measures

The questionnaires were administered in their original English version to the University sample and in German to the sample from the crowdsourcing website. To ensure that both questionnaires captured the same content, where available, validated German versions of the respective questionnaires were used (authentic leadership and health). For FSSB, availability of FFPs, WFB effectiveness, WFB satisfaction, life satisfaction, and job performance, I followed (Brislin, 1980) recommended translation and back-translation procedure. I translated the questionnaires into German and a bilingual native German speaker back-translated the German version into English. Finally, the original English version and the back-translated English version of the questionnaires were compared by an academic with a background in organisational behaviour. Due to slight differences between both versions, the German questionnaires were amended to fully capture the content of the original questionnaires. Authentic leadership, FSSB, availability of FFPs, WFB effectiveness, WFB satisfaction and demographics were assessed at Time 1. Life satisfaction, health, and job performance were assessed four weeks later (Time 2). The questionnaires are included in the appendix (Appendices C-D).

5.2.2.1 Time 1 measures

Authentic leadership. I used Walumbwa and colleagues' (2008) 16-item Authentic Leadership Questionnaire to measure authentic leadership. The official German translation from the publisher Mindgarden, Inc. was used for the German sample. Response options ranged from (1) ‘not at all’ to (5) ‘frequently, if not always.’ Sample

items for the four dimensions are: “My leader is eager to receive feedback to improve interactions with others” (self-awareness, 4 items), “My leader solicits views that challenge his or her deeply held positions (balanced processing, 3 items), “My leader is willing to admit mistakes when they are made” (relational transparency, 5 items) and “My leader makes decisions based on his or her core beliefs” (internalised moral perspective; 4 items). The scale's higher-order, multidimensional structure as well as its content, discriminant and convergent validity were reported by Walumbwa and associates (2008) and a reliability of α = .94 by, for example, Peus and colleagues (2011) for the German translation.

CFA authentic leadership

I justified the use of a second-order authentic leadership construct (all items loaded on their respective dimensions and these dimensions loaded on the second-order authentic leadership construct) empirically through a CFA on the combined sample (n = 174). A CFA shows the fit of a proposed factor model to the data by comparing a population covariance matrix estimated from the hypothesized model with the observed covariance matrix derived from the collected data (Schreiber, Nora, Stage, Barlow, & King, 2006) using a Chi-square test. As the Chi-square test is, however, especially influenced by the sample size, other goodness-of-it indices are used to assess how well the hypothesised measurement model fits the data (Marsh, Balla, & McDonald, 1988). Indices that are more robust and less easily influenced by, for example, the sample size include the Tucker-Lewis Index (TLI), the Confirmatory Fit Index (CFI) and the root-mean-square error of approximation (RMSEA). According to Hu and Bentler (1998) and Browne and Cudeck (1993), values above .90 for CFI and TLI and below .08 for RMSEA indicate a good fit. The CFAs revealed that my proposed model (second-order authentic leadership construct) fit the data equally well ($\chi2(100) = 211.83$, $p < .001$, $\chi2/df = 2.12$, TLI = .93, CFI = .94, RMSEA = .08) as a four-factor model including the four authentic leadership dimensions ($\chi2(98) = 205.16$, $p < .001$, $\chi2/df = 2.09$, TLI = .93, CFI = .94 and RMSEA = .08). In order to compare the fit of these two non-nested models, I used the

Bayesian information criterion (BIC). As a better fit is indicated by a smaller BIC (Schreiber et al., 2006), the BIC of 7244.03 of the second-order model supports its use over the four-factor model (BIC = 7247.68). Hence, the four authentic leadership dimensions were combined to assess authentic leadership. The scale's alpha reliability in this study is .95.

FSSB. I used Thomas and Ganster's (1995) 9-item scale to measure supervisor's family-supportive behaviours. However, several items of this scale did not include any reference to the nonwork context and hence displayed more generic supervisor support and therefore may be less relevant for employees' experience of the work-family interface (Kossek et al., 2011). In order to highlight the work-family focus of these supervisory behaviours, four of the 9 items were adapted: "Listens to my problems" amended to "Listens to my personal/domestic problems", "Shares ideas or advice" amended to "Shares ideas or advice in relation to the integration of work and family/private life", ""Helps me to figure out how to solve a problem" amended to "Helps me to figure out how to solve personal/domestic problems" and "Is understanding and sympathetic" amended to "Is understanding and sympathetic towards my private life". The wording of the remaining five items of the scale was not adapted as they already included reference to the nonwork context (e.g., "Switches schedules (hours, overtime hours, vacation) to accommodate my family responsibilities"). Response options ranged from (1) 'never' to (5) 'very often'. The scale's alpha reliability in this study is .78.

Availability of FFPs. I used Galinsky, Bond and Swanberg's (1993) list to assess the availability of family-friendly practices. Respondents were provided with nine such practices and were asked to indicate whether their organisation offered the respective practice (0 = no/not sure, 1 = yes). Hence, if employees were not sure whether their organisation provided the respective practice, I counted this as having the same effect as an unavailable practice (see e.g., Bagger & Li, 2014). The FFPs included job sharing, flexible work schedules, flexible work places, parental leave, emergency leave,

compressed work week, unpaid holiday, organisational financial help with childcare and on-site childcare. The list originally contained the practice ‘part-time work’, which was, however, not considered as this was also a control variable (type of employment, see below) in this study. FFPs that were not available were coded as 0, and FFPs that were available coded as 1. The total amount of FFPs available was added up (count variable), with scores ranging from 0 to 9 (e.g., Bagger & Li, 2014). As being offered one family-friendly practice does not follow from being offered another family-friendly practice (i.e. it is a formative rather than a reflective construct; Diamantopoulos & Siguaw, 2006), no reliability was calculated for the summative score.

WFB. In line with Greenhaus and Allen's (2011) definition of WFB as constituting both satisfaction and high performance (effectiveness) at work and at home, I used Valcour’s (2007) 5-item scale to assess WFB satisfaction and Carlson and associates’ (2009) 6-item scale to assess WFB effectiveness. Response options for the WFB satisfaction scale ranged from (1) ‘absolutely unsatisfied’ to (5) ‘absolutely satisfied.’ A sample item is: “How satisfied are you with how well your work life and your personal or family life fit together?” Response options for the WFB effectiveness scale ranged from (1) ‘strongly disagree’ to (5) ‘strongly agree.’ A sample item is: I am able to negotiate and accomplish what is expected of me at work and in my family”.

CFA work-family balance

I conducted CFAs to confirm the proposed factor structure that WFB satisfaction and WFB effectiveness are two separate, but correlated factors. To do so, I compared the fit of the following models: A correlated two-factor model, an uncorrelated (orthogonal) two-factor model and a model in which all items loaded on an overall WFB factor. As expected, the correlated-two factor model showed a good fit ($\chi 2(43) = 111.64$, $p < .001$, $\chi 2/df = 2.60$, TLI = .91, CFI = .89, RMSEA = .096) and fit the data better than the uncorrelated two-factor model ($\chi 2(44) = 150.88$, $p < .001$, $\chi 2/df = 3.43$, TLI = .83, CFI = .86, RMSEA = .096) and the unidimensional model ($\chi 2(44) = 265.36$, $p < .001$, $\chi 2/df = 6.03$, TLI = .64, CFI = .72, RMSEA = .170). The decision to treat both WFB satisfaction

and WFB effectiveness as two separate, but correlated constructs was further strengthened by their high correlation (r = .53, p < .01). The alpha reliability of the two constructs in this study is .82 for WFB satisfaction and WFB effectiveness, respectively.

5.2.2.2 Time 2 measures

Life satisfaction. I used the 5-item Satisfaction with Life scale by Diener and colleagues (1985) to measure life satisfaction. For the German sample, I used a validated German translation of the scale (Gläsmer, Grande, Brähler, & Roth, 2015), which has been used in academic research (e.g., Schmidt, Brähler, Petermann, & Koglin, 2015) to measure the construct.. Response options ranged from (1) 'strongly disagree' to (5) 'strongly agree'. A sample item which required respondents to indicate how satisfied they have been with their lives in the last four weeks is: "In most ways, my life is close to my ideal". The scale's alpha reliability in this study is .90.

Health. I used the Short-Form 12 Physical and Mental Health Summary Scales (SF-12; Ware, Kosinski, & Keller, 1995) to measure health. For the German sample, I used the German translation of the SF-12 (German Standard Version 1.0; Gandek et al., 1998), which has been shown to have adequate psychometric properties. The SF-12 is a short and hence efficient way to assess overall health and has been used in over 1,700 published studies (e.g., Manczak, Zapata-Gietl, & McAdams, 2014). Employees answered the questions which capture the sub-dimensions of mental (Sample item: "During the last four weeks, have you felt peaceful and calm") and physical health (Sample item: "The following questions are about activities you might do during a typical day. Has your health limited you in the last four weeks in these activities? If so, how much? Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf.") on response options ranging from (1) 'yes, limited a lot' to (3) 'no, not limited at all'. Other response formats that the scale uses, include: (1) 'excellent' to (5) 'poor, (1) 'yes' to (2) 'no' and (1) 'not at all' to (5) 'extremely'. The official scoring software (Health Outcomes Scoring Software 4.0), which uses scoring algorithms to calculate the overall score for health-related quality of life (α = .77), was used. A high value on this

scale represents good health. It's worth pointing out that a minimal change I made to the questionnaire (added one response option to item 12 so that items 9 to 12 had the same response format) without the consent or approval of OptumInsight Life Sciences (QualityMetric), might impair the validity or reliability of the measure. As this change was minimal and only affected one item, I do not expect the scale's reliability to have been adversely affected.

Job performance. I used six items taken from the 11-item scale by Tsui, Pearce, Porter and Tripoli (1997) to assess task performance. These six items were selected as they contained an element of comparison of the respondent's performance to the performance of their co-workers. The remaining five items were excluded as they focused on core job tasks which varied for the respondents of this study because of their different occupational backgrounds.

I also used this scale in the second study to assess supervisor-rated performance. To ensure consistency and to reduce noise in the way in which the two studies tested the hypotheses, I reformulated the items of this scale to be able to use it to assess self-rated performance. Other-ratings are the preferred way of measuring performance, as performance ratings, as opposed to ratings of WFB, life satisfaction and health, are more validly rated by others as compared to individuals themselves (Heidemeier & Moser, 2009). In addition to potential common method bias (Podsakoff et al., 2003), self-ratings of performance are prone to self-inflation bias because employees rate their own performance better than their supervisors do (Heidemeier & Moser, 2009). I addressed the problem of common method bias through the temporal separation of predictor and outcome variables. With regard to self-inflation, the discrepancy between self and other agreement of performance has been shown to depend on demographic characteristics such as age and gender (Ostroff, Atwater, & Feinberg, 2004). I therefore controlled for these demographics in the analyses.

Response options ranged from (1) ‘strongly disagree’ to (5) ‘strongly agree’. A sample item which respondents answered in regard to the last four weeks is: “The quality of my work is much higher than average“ (reformulated from “The quality of this employees’ work is much higher than average“). The scale's alpha reliability in this study is .87.

Control variables included age (years), gender (1 = male; 2 = female), company (1 = ‘UK sample’ and 2 = ‘German sample’) and type of employment (1 = ‘part-time’ and 2 = ‘full-time’). These variables have been shown to be related to the outcome variables of this study as well as to WFB (Aryee et al., 2005; Beham, Präg, & Drobnic, 2012; Byron, 2005). Significant relationships between the controls and the named variables further justified their inclusion (see Table 1, Spector & Brannick, 2011). ‘Company’ was not only included to control for potential effects of the two forms of participant recruitment (crowdsourcing vs. organisational recruitment) and to account for differences between the two samples in regard to other demographic variables (e.g., marital status), but also to control for potential differences between employees from Germany and the UK. The inclusion of this control variable is reinforced by a recent study (Abendroth & den Dulk, 2011) that examined WFB across Europe and found that employees from the UK had the lowest WFB satisfaction, and a significantly lower WFB than German employees (moderate levels of WFB satisfaction). As the impact of other demographic variables such as marital status and number of children is plausible, the analyses were rerun with these additional two control variables. Since the obtained findings did not significantly change and as the control variables had to be restricted in Study 2 to age, gender, type of employment and company due to computation issues when more control variables were included (i.e. relatively small sample size for multilevel analysis and the use of dummy variables for the four companies; Hox, 2010), I also only included these control variables in the final analysis of Study 1 to ensure comparability between the results of both studies.

5.2.3 Data analysis

All analyses were conducted using MPlus Version 7.4 (Muthén & Muthén, 2015a). MPlus is a statistical modelling program that enables researchers to analyse a variety of statistical models such as single-level (Study 1) and multilevel (Study 2) data, including cross-level effects (Study 2), via hierarchical linear regressions.

First, the distinctiveness of the study variables at Time 1 and Time 2 was tested using CFAs. To do so, various alternative models were compared with the hypothesized eight-factor model (authentic leadership, FSSB, availability of FFPs, WFB satisfaction/effectiveness, life satisfaction, health and job performance).

Second, the hypotheses were tested using hierarchical linear regression analyses. An advantage of MPlus with regard to testing the hypothesized model is the simultaneous test of mediation and moderation, including multiple mediators and moderators. When developing the syntax codes to test these models, I used Stride and colleagues (2015) as a resource as these authors made a number of syntax codes which are closely aligned with the models tested in these studies available. To examine the significance of the indirect effects, bootstrapping with 5000 iterations was utilized, providing a 95% confidence intervals. Bootstrapping has been advocated as the prime method for testing mediation and moderation (Preacher & Hayes, 2008). The interactions were plotted using an Excel spreadsheet (Dawson, 2015).

Table 1*: Means, standard deviations, correlations and internal consistencies (Study 1)*

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Company	1.84	.37												
2. Employment type	1.91	.281	-.14											
3. Age	31.23	8.75	-.23**	.13										
4. Gender	1.45	.50	-.33**	.07	.05									
5. Authentic leadership	3.51	.90	-.19*	.22**	.09	.11	(.95)							
6. FSSB	3.43	.64	-.06	.17*	.04	.11	.57**	(.78)						
7. FFPs availability	3.66	1.59	-.12	.10	.16*	.08	.20**	.30**						
8. WFB satisfaction	3.55	.70	.06	.25**	.07	-.01	.27**	.31**	.34**	(.82)				
9. WFB effectiveness	3.79	.59	-.04	.43**	.03	.11	.37**	.35**	.18*	.53**	(.82)			
10. Life satisfaction	3.36	.91	.05	.10	.04	.13	.19*	.35**	.30**	.33**	.40**	(.90)		
11. Health	48.86	5.67	.33	.05	.04	-.11	.25**	.22**	.24**	.30**	.24**	.43**	(.77)	
12. Job performance	3.86	.63	-.01	-.08	.03	.13	.02	.07	.04	-.01	.19*	.19*	.04	(.87)

Note. n = 174. Correlations ≥ 0.16 are significant with $p < .05$; correlations ≥ 0.20 are significant with $p < .01$. Internal consistencies (Cronbach's alpha) in brackets. FSSB = Family-supportive supervisor behaviours. FFPs = Family-friendly practices. WFB = Work-family balance. Company: 1 = UK sample, 2 = German sample; employment type: 1 = part-time, 2 = full-time; gender: 1 = male, 2 = female.

5.3 Results

Means, standard deviations, correlations and internal consistencies (Cronbach's alpha) between the measures from Study 1 are reported in Table 1.

5.3.1 Confirmatory factor analyses

CFAs were conducted to compare the hypothesized 8-factor model (authentic leadership, FSSB, availability of FFPs, WFB satisfaction, WFB effectiveness, life satisfaction, health and job performance) to other alternative models. The sample size compared to the number of parameters (measurement items) was rather small (N:q = 2.56) compared to the ratio of 5 that has been recommended (Bentler & Chou, 1987). As this ratio negatively impacts overall fit measures (Jackson, 2003), I used item parceling techniques to improve the sample-size-to-parameter ratio.

5.3.1.1 Parceling

Parceling involves summing or averaging items from one scale together into parcels and using these parcels as indicators of the latent variables (Bandalos & Finney, 2001). It is a technique that is widely used to improve the sample-size-to-item ratio (e.g., van Dierendonck, Stam, Boersma, de Windt, & Alkema, 2014; Leroy et al., 2015). Its use is justified and recommended if the scales have a well-known factor structure and the research examines relationships between latent variables (Bandalos, 2002; Little, Cunningham, Shahar, & Widaman, 2002; Nasser & Wisenbaker, 2003). As the purpose of the CFAs in this study was to understand the relationships between latent variables, parceling is an accepted way of increasing the sample-size-to-item ratio (Little et al., 2002). As per Nasser & Wisenbaker (2003) recommendation, the items were randomly selected into 4 to 6 parcels per factor, while ensuring that the parcels were comprised of the same number of items (if this was in line with the factor structure of the variable). Hence, the scale for authentic leadership was captured by four parcels (16 items, four parcels containing the items of one dimension each). As the scales for WFB satisfaction,

WFB effectiveness, life satisfaction, and job performance only comprised five to six items, the items were used as indicators of the underlying constructs.

Table 2 shows the parcels per factor, their standardised loadings and the average variance extracted. After parceling, the sample-size-to-parameter ratio improved to N:q = 4.55. While this N:q was still below the recommended 5 (Bentler & Chou, 1987), not parceling WFB satisfaction, WFB effectiveness, life satisfaction and job performance allowed me to follow the above discussed recommendation (Nasser & Wisenbaker, 2003). The average variance-extracted (AVE) per factor was calculated with the following formula: AVE = SSI / (SSI+SEV) with SSI being the squared sum of all standardised factor loadings per scale and SEV the sum of all error variances per scale. The AVE for each of the scales, for which parcels were used, was above .73 (average AVE across all scale: .91), which is above the recommended value of 0.5 by Bagozzi and Yi (1988).

5.3.1.2 Measurement model

Beyond the indices reported in the previous CFAs, in order to compare the fit of the hypothesized model solution with other theoretically plausible nested models, chi-square difference tests were calculated. The CFAs revealed that the hypothesized eight-factor measurement model had a good fit ($\chi^2(637) = 905.60$, $p < .001$, $\chi^2/df = 1.42$, TLI = .91, CFI = .92 and RMSEA = .049) and fit the data better than other plausible solutions: A seven-factor model combining WFB satisfaction and WFB effectiveness ($\chi^2(644) = 1078.75$, $p < .001$, $\chi^2/df = 1.86$, $\Delta\chi^2 = 173.15$***, TLI = .85, CFI = .86 and RMSEA = .062), a seven-factor model that combined authentic leadership and FSSB ($\chi^2(644) = 1060.23$, $p < .001$, $\chi^2/df = 1.65$, $\Delta\chi^2 = 154.63$***, TLI = .86, CFI = .87 and RMSEA = .061), a six-factor model combining authentic leadership, FSSB, and availability of FFPs ($\chi^2(650) = 1125.53$, $p < .001$, $\chi^2/df = 1.73$, $\Delta\chi^2 = 219.93$***, TLI = .84, CFI = .85 and RMSEA = .065), a six-factor model that combined all Time 2 measures (life satisfaction, health and job performance; $\chi^2(650) = 1463.88$, $p < .001$, $\chi^2/df = 2.25$, $\Delta\chi^2 = 558.28$***, TLI = .72, CFI = .75 and RMSEA = .085), and a single-factor model that combined all

eight factors into one factor ($\chi 2(699) = 3331.07$, $p < .001$, $\chi 2/df = 4.77$, $\Delta\chi 2 = 2425.47$***, TLI = .171, CFI = .175 and RMSEA = .147.

5.3.2 Hypotheses tests

Authentic leadership, FSSB, WFB satisfaction, WFB effectiveness, availability of FFPs and control variables were assessed at Time 1 and life satisfaction, health and job performance at Time 2. In all analyses, the respective outcome variables were regressed on the control variables (age, gender, company and type of employment). All analyses were run separately for WFB satisfaction and WFB effectiveness and for the outcomes of life satisfaction, health, and job performance, as a model comprising all variables simultaneously would, due to the complexity of the relationships, not converge. Therefore, six models each were run to test Hypotheses 3a-c, 4a-c and 5a-c. While no link between WFB satisfaction and performance had been proposed in Hypotheses 3, 4 and 5, the link was tested in order to confirm my prediction.

Table 2: *Study variables, indicators, standardised loadings and AVE*

Study variable	*Standardized loading*	*Variance extracted (AVE)*
Authentic leadership		.97
Parcel 1	.86	
Parcel 2	.86	
Parcel 3	.87	
Parcel 4	.91	
FSSB		.93
Parcel 1	.73	
Parcel 2	.66	
Parcel 3	.74	
Parcel 4	.85	
Availability of FFPs		.73
Parcel 1	.38	
Parcel 2	.55	
Parcel 3	.54	
Parcel 4	.41	
WFB satisfaction		.91
Item 1	.78	
Item 2	.74	
Item 3	.75	
Item 4	.49	
Item 5	.66	
WFB effectiveness		.91
Item 1	.38	
Item 2	.61	
Item 3	.72	
Item 4	.58	
Item 5	.84	
Item 6	.89	
Health		.90
Parcel 1	.57	
Parcel 2	.59	
Parcel 3	.83	
Parcel 4	.73	
Life satisfaction		.95
Item 1	.82	
Item 2	.87	
Item 3	.83	
Item 4	.83	
Item 5	.65	
Job performance		.93
Item 1	.89	
Item 2	.83	
Item 3	.70	
Item 4	.81	
Item 5	.65	
Item 6	.67	

Note. *n* = 174. FSSB = Family-supportive supervisor behaviours. FFPs = Family-friendly practices. WFB = Work-family balance.

5.3.2.1 WFB satisfaction/WFB effectiveness as outcomes

The findings for Hypotheses 1a-b are displayed in Table 3a. To test hypotheses 1a-b, the outcome variables (FSSB and WFB satisfaction/effectiveness) were regressed

on the respective predictors. These results showed that Hypothesis 1a received support, with authentic leadership being positively related to FSSB (b = .40, SE = .05, p < .001). FSSB, in turn, was positively related to WFB satisfaction (b = .30, SE = .08, p < .001) and WFB effectiveness (b = .26, SE = .06, p < .001), lending support to Hypothesis 1b.

Consequently, and as suggested in Hypothesis 1c, FSSB was tested as a mediator of the indirect authentic leadership-WFB relationship. To test this, WFB satisfaction/effectiveness was regressed on FSSB, FSSB was regressed on authentic leadership, and both direct and indirect effects were modelled. The results revealed (Table 3b) that FSSB did indeed mediate the relationship between authentic leadership and WFB satisfaction (b = .09, SE = .04, p < .01, [.024, .166]) and between authentic leadership and WFB effectiveness (b = .07, SE = .03, p < .05, [.003, .131]). Taken together, Hypothesis 1c received empirical support.

Table 3a: *Hierarchical linear regression results for the test of the direct effect of authentic leadership/FSSB on FSSB/WFB satisfaction and WFB effectiveness (H1a-b)*

Direct effect of authentic leadership on FSSB			
Variable	*FSSB*		
	B	*SE*	*p*
Constant	1.38	.46	.003
Company	.14	.12	.229
Employment type	.11	.15	.440
Age	.00	.01	.953
Gender	.10	.09	.240
Authentic leadership	.40	.05	.000

Direct effect of FSSB on WFB satisfaction/effectiveness						
Variable	*WFB satisfaction*			*WFB effectiveness*		
	B	*SE*	*p*	*B*	*SE*	*p*
Constant	1.00	.57	.083	1.11	.45	.014
Company	.21	.15	.139	.08	.11	.511
Employment type	.53	.18	.003	.82	.14	.000
Age	.01	.01	.389	-.00	.01	.752
Gender	-.02	.10	.814	.08	.08	.342
FSSB	.30	.08	.000	.26	.06	.000

Note. *n* = 174. Unstandardized regression coefficients are reported. FSSB = Family-supportive supervisor behaviours, WFB = Work-family balance. Company: 1 = UK sample, 2 = German sample; employment type 1 = part-time, 2 = full-time; gender: 1 = male, 2 = female.

Table 3b: *Hierarchical linear regression results for the test of the indirect effect of authentic leadership on WFB satisfaction/ WFB effectiveness via FSSB (H1c)*

Indirect effect of authentic leadership on WFB satisfaction via FSSB						
Variable	*FSSB*			*WFB satisfaction*		
	B	*SE*	*p*	*B*	*SE*	*p*
Constant	.28	.03	.000	.41	.04	.000
Company				.25	.17	.149
Employment type				.49	.21	.019
Age				.01	.01	.374
Gender				-.02	.10	.826
Authentic leadership	.41	.04	.000	.100	.07	.173
FSSB				.23	.09	.008

Bootstrap results for the indirect effect of authentic leadership on WFB satisfaction

Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
.09	.04	.009	.024	.166

Indirect effect of authentic leadership on WFB effectiveness via FSSB

Variable	*FSSB*			*WFB effectiveness*		
	B	*SE*	*p*	*B*	*SE*	*p*
Constant	.28	.03	.000	.25	.04	.000
Company				.12	.14	.395
Employment type				.78	.11	.000
Age				-.00	.01	.713
Gender				.08	.08	.294
Authentic leadership	.41	.04	.000	.13	.06	.042
FSSB				.17	.08	.040

Bootstrap results for the indirect effect of authentic leadership on WFB effectiveness

Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
.07	.03	.038	.003	.131

Note. *n* = 174. Unstandardized regression coefficients are reported. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. FSSB = Family-supportive supervisor behaviours, WFB = Work-family balance. Company: 1 = UK sample, 2 = German sample; employment type 1 = part-time, 2 = full-time; gender: 1 = male, 2 = female.

In order to test the moderating effect of availability of FFPs on the relationship between FSSB and WFB satisfaction/effectiveness (H2a), the outcomes were regressed on FSSB, availability of FFPs and their interaction term. The findings showed (Table 4) that availability of FFPs moderated the positive relationship between FSSB and WFB satisfaction (b = -.13, SE = .04, p < .01), but not between FSSB and WFB effectiveness (b = -.09, SE = .05, p = .062). An inspection of the simple slopes showed that the relationships between FSSB and WFB satisfaction was significant (positive), when

availability of FFPs was one SD below the mean (*b* = .41, *SE* = .10, *p* < .001), but not significant when it was one SD above the mean (*b* = .01, *SE* = .08, *p* = .888). Hence, the pattern of results revealed a positive slope when availability of FFPs was low, but a non-significant slope when availability of FFPs was high. This suggests that the availability of FFPs can compensate for low levels of FSSB, but has no effect on WFB satisfaction in situations characterised by high levels of FSSB (Figure 2). Taken together, Hypothesis 2a received only partial support, as availability of FFPs was confirmed as a moderator of the FSSB-WFB satisfaction link, but not of the FSSB-WFB effectiveness link. Furthermore, the obtained moderation effect did not reflect the predicted pattern (enhancing effect of FSSB and availability of FFPs).

To examine the conditional indirect effects (H2b), I run moderated-mediation models to test the effect of authentic leadership on WFB satisfaction/effectiveness via FSSB at different values of the moderator availability of FFPs. To do so, the syntaxes written to test H1c and H2a were combined. The findings showed (Table 5) that authentic leadership indirectly influenced WFB satisfaction through FSSB for low levels of availability of FFPs (*b* = .14, *SE* = .08, *p* = .063. [.004, .309]), but not for high levels of availability (*b* = -.03, *SE* = .08, *p* = .751, [-.193, .118]). The findings regarding WFB effectiveness were similar (*b* = .24, *SE* = .07, *p* < .01, [.115, .408] and *b* = .07, *SE* = .09, *p* = .411, [-.111, .242]), while they can't be interpreted due to the non-significant interaction between FSSB and availability of FFPs (*b* = -.14, *SE* = .08, *p* = *.088*). Taken together, Hypothesis 2b received mixed support, as the indirect effect of authentic leadership on WFB satisfaction via FSSB was found to be moderated by the availability of FFPs. However, contrary to expectation, the availability of FFPs did not enhance this link (n.s. slope when the availability was high), but the indirect effect was stronger when the availability of FFPs was at low levels, signifying that authentic leadership only increased WFB satisfaction via FSSB when the organisation offered no family support. Furthermore, the conditional indirect effect of authentic leadership on WFB effectiveness has to be regarded as non-significant due to the non-significant interaction.

Table 4: *Hierarchical linear regression results for the test of availability of FFPs as a moderator of the relationship between FSSB and WFB satisfaction and WFB effectiveness (H2a)*

Variable	*WFB satisfaction*		
	B	*SE*	*p*
Constant	-.54	-76	.479
Company	.29	.16	.074
Employment type	.436	.176	.013
Age	.00	.01	.872
Gender	-.04	.10	.715
FSSB	.67	.16	.000
Availability FFPs	.56	.14	.000
FSSB*Availability FFPs	-.13	.04	.001

Bootstrap results for the effect of FSSB on WFB satisfaction at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
- 1 SD 2.07)	.41	.10	.000	.229	.604
M (3.66)	.21	.07	.002	.067	.333
+ SD (5.25)	.01	.08	.888	-.147	.179

Variable	*WFB effectiveness*		
	B	*SE*	*p*
Constant	.05	.72	.945
Company	.11	.14	.398
Employment type	.76	.10	.000
Age	-.00	.01	.541
Gender	.07	.08	.337
FSSB	.57	.19	.003
Availability FFPs	.34	.17	.048
FSSB*Availability FFPs	-.09	.05	.062

Bootstrap results for the effect of FSSB on WFB effectiveness at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
- 1 SD 2.07)	.38	.10	.000	.200	.598
M (3.66)	.24	.07	.000	.107	.366
+ SD (5.25)	.10	.10	.995	-.101	.285

Note. n = 174. Unstandardized regression coefficients are reported. Bootstrap sample size = 5,000. LL = lower limit; CI = confidence interval; UL = upper limit. FSSB = Family-supportive supervisory behaviours. FFPs = Family-friendly practices. WFB = Work-family balance. Company: 1 = UK, 2 = Germany; employment type 1 = part-time, 2 = full-time; gender: 1 = male, 2 = female.

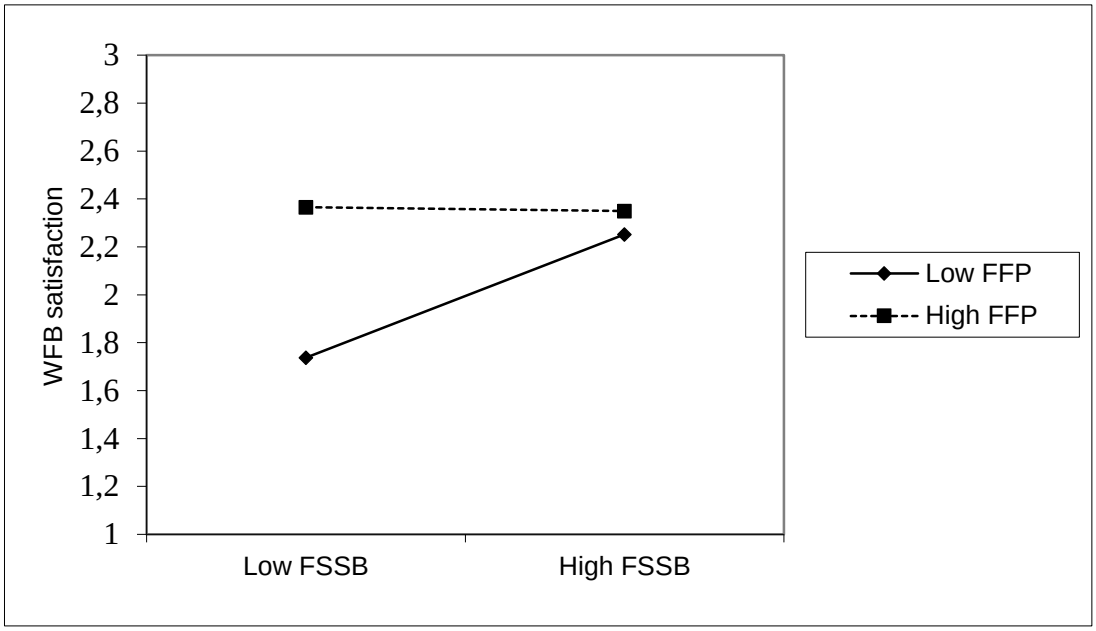

Figure 2. Interaction between family-friendly supervisor behaviours (FSSB, unstandardized) and availability of family-friendly practices (FFP, unstandardized) on work-family balance (WFB) satisfaction.

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Table 5: *Hierarchical linear regression results for the test of moderated mediation (H2b)*

Variable	FSSB			WFB satisfaction		
	B	*SE*	*p*	*B*	*SE*	*p*
Constant	2.14	.18	.000	-.17	1.17	.883
Company				.20	.21	.331
Employment type				.30	.26	.247
Age				.00	.01	.994
Gender				-.14	.16	.391
Authentic leadership	.38	.05	.000	.03	.11	.776
FSSB				.67	.30	.023
Availability FFPs				.64	.25	.012
FSSB*Availability FFPs				-.14	.07	.044

Bootstrap results for the indirect effect of authentic leadership on WFB satisfaction at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
- 1 SD (2.07)	.14	.08	.063	.004	.309
M (3.66)	.06	.07	.363	.363	.187
+ SD (5.25)	-.03	.08	.751	.751	.118

Variable	FSSB			WFB effectiveness		
	B	*SE*	*p*	*B*	*SE*	*p*
Constant	2.14	.18	.000	-.60	1.08	.578
Company				.07	.18	.708
Employment type				.62	.16	.000
Age				-.00	.01	.734
Gender				-.08	.12	.495
Authentic leadership	.38	.05	.000	-.01	.10	.967
FSSB				.94	.30	.002
Availability FFPs				.51	.29	.083
FSSB*Availability FFPs				-.14	.08	.088

Bootstrap results for the indirect effect of authentic leadership on WFB effectiveness at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
- 1 SD (2.07)	.24	.07	.001	.115	.408
M (3.66)	.16	.06	.013	.048	.303
+ SD (5.25)	.07	.09	.411	-.111	.242

Note. *n* = 174. Unstandardized regression coefficients are reported. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. FSSB = Family-supportive supervisory behaviours. FFPs = Family-friendly practices. WFB = Work-family balance. Company: 1 = UK, 2 = Germany; employment type 1 = part-time, 2 = full-time; gender: 1 = male, 2 = female.

5.3.2.2 Life satisfaction, health and job performance as outcomes

The findings for Hypotheses 3a-c are displayed in Table 6. To test the hypotheses, the outcomes were regressed separately on the predictors. Hypothesis 3a was supported with both WFB satisfaction and WFB effectiveness leading to increased life satisfaction (b = .42, SE = .10, p < .001 and b = .66, SE = .12, p < .001). With regard to H3b, WFB satisfaction and WFB effectiveness were also positively related to health (b = 2.50, SE = .61, p < .001 and b = 2.71, SE = .77, p < .001). Concerning H3c, namely the effect of WFB effectiveness on job performance, the findings revealed that WFB effectiveness had a positive significant effect (b = .28, SE = .09, p < .01). WFB satisfaction was, as expected, not positively related to performance (b = .01, SE = .07, p = .935). Taken together, the findings support H3a-c, as a positive relationship was found between WFB satisfaction/effectiveness and life satisfaction and health and between WFB effectiveness and job performance.

Table 6: *Hierarchical linear regression results for the test of the effect of WFB satisfaction and WFB effectiveness on life satisfaction, health and job performance (H3a-c)*

Variable	*Life satisfaction*			*Life satisfaction*		
	B	*SE*	*p*	*B*	*SE*	*p*
Constant	.93	.73	.208	.48	.72	.505
Company	.21	.19	.276	.25	.19	.180
Employment type	.05	.24	.851	-.30	.25	.235
Age	.00	.01	.740	.01	.01	.458
Gender	.29	.14	.037	.22	.13	.101
WFB satisfaction	.42	.10	.000			
WFB effectiveness				.66	.12	.000
Variable	*Health*			*Health*		
	B	*SE*	*p*	*B*	*SE*	*p*
Constant	43.04	4.63	.000	42.62	4.76	.000
Company	-.33	1.21	.786	.00	1.22	.997
Employment type	-.52	1.52	.734	-1.41	1.64	.392
Age	.01	.05	.796	.03	.05	.553
Gender	-1.29	.87	.136	-1.56	.88	.077
WFB satisfaction	2.50	.61	.000			
WFB effectiveness				2.71	.77	.000
Variable	*Job performance*			*Job performance*		
	B	*SE*	*p*	*B*	*SE*	*p*
Constant	3.73	.54	.000	3.25	.53	.000
Company	.07	.14	.643	.05	.14	.738
Employment type	-.20	.18	.265	-.45	.18	.015
Age	.00	.01	.600	.00	.01	.549
Gender	.19	.10	.061	.16	.10	.109
WFB satisfaction	.01	.07	.935			
WFB effectiveness				.28	.09	.001

Note. *n* = 174. Unstandardized regression coefficients are reported. FSSB = Family-supportive supervisory behaviours. WFB = Work-family balance. Company: 1 = UK sample, 2 = German sample; employment type 1 = part-time, 2 = full-time; gender: 1 = male, 2 = female.

5.3.2.3 Serial mediation and moderated serial mediation

First, serial mediation models were consequently tested (H4a-c), which predicted that authentic leadership would influence life satisfaction and health via FSSB and WFB satisfaction/effectiveness and performance via FSSB and WFB effectiveness sequentially. To do so, the outcomes were regressed on either WFB satisfaction or WFB effectiveness and this term was multiplied with the regression of either WFB satisfaction or WFB effectiveness on FSSB and with the regression of FSSB on authentic leadership. The tests of the indirect effects of authentic leadership revealed (Table 7a-b) that authentic leadership indirectly positively influenced life satisfaction through WFB satisfaction *(b* = .05, *SE* = .02, *p* < .05) and WFB effectiveness (*b* = .08, *SE* = .03, *p* < .01), lending support to H4a. Similar findings were obtained for health (H4b; WFB satisfaction: *b* = .29, *SE* = .10, *p* < .01; WFB effectiveness: *b* = 28, *SE* = .13, *p* < .05,). Authentic leadership was also indirectly related to job performance via WFB effectiveness (H4c; *b* = .04, *SE* = .02, *p* < .05), while, as expected, no indirect effect was found for WFB satisfaction (*b* = .00, *SE* = .01, *p* = .985). Taken together, these findings lend support to H4a-c by showing that authentic leadership was positively related to life satisfaction and health through FSSB and WFB satisfaction/effectiveness, but only to job performance through FSSB and WFB effectiveness (H4c).

Table 7a: *Hierarchical linear regression results for the indirect effect of authentic leadership on life satisfaction, health and job performance via FSSB and WFB satisfaction (serial mediation, H4a-b)*

Variable	*FSSB*			*WFB satisfaction*			*Life satisfaction*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Constant							.71	.07	.000
Company							.26	.17	.137
Employment type							-.00	.29	.988
Age							.00	.01	.756
Gender							.28	.14	.047
Authentic leadership	.41	.04	.000				.12	.09	.162
FSSB				.34	.07	.000			
WFB satisfaction							.38	.11	.001

Variable	*FSSB*			*WFB satisfaction*			*Health*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Constant							40.3	5.67	.000
Company							.19	1.07	.860
Employment type							-1.04	1.89	.582
Age							.01	.06	.845
Gender							-1.38	.87	.112
Authentic leadership	.41	.04	.000				1.27	.61	.001
FSSB				.34	.07	.000			
WFB satisfaction							2.10	.65	.001

Variable	*FSSB*			*WFB satisfaction*			*Job performance*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Constant							3.68	.58	.000
Company							.08	.14	.586
Employment type							-.20	.19	.276
Age							.00	.01	.598
Gender							.19	.10	.072
Authentic leadership	.41	.04	.000				.02	.06	.708
FSSB				.34	.07	.000			
WFB satisfaction							.-.00	.08	.985

Bootstrap results for the indirect effect of authentic leadership via WFB satisfaction

Variable	*Effect*	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
Life satisfaction	.05	.02	.014	.019	.103
Health	.29	.10	.005	.119	.532
Performance	.00	.01	.985	-.022	.021

Note. *n* = 174. Effects based on unstandardized regression coefficients. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. FSSB = Family-supportive supervisory behaviours. WFB = Work-family balance. Company: 1 = UK sample, 2 = German sample; Employment type 1 = part-time, 2 = full-time; gender: 1 = male, 2 = female.

Table 7b: *Hierarchical linear regression results for the indirect effect of authentic leadership on life satisfaction, health and job performance via FSSB and WFB effectiveness (serial mediation, H4a-c)*

Variable	*FSSB*			*WFB satisfaction*			*Life satisfaction*		
	B	*SE*	*p*	*B*	*SE*	*p*			
Constant							.35	.07	.000
Company							.28	.18	.117
Employment type							-.31	.29	.285
Age							.01	.01	.467
Gender							.22	.13	.103
Authentic leadership	.41	.04	.000				.07	.09	.429
FSSB				.33	.07	.000			
WFB satisfaction							.63	.15	.000

Variable	*FSSB*			*WFB satisfaction*			*Health*		
	B	*SE*	*p*	*B*	*SE*	*p*			
Constant							40.3	5.58	.000
Company							.49	1.16	.675
Employment type							-1.59	1.87	.394
Age							.02	.06	.672
Gender							-1.59	.88	.07
Authentic leadership	.41	.04	.000				1.27	.60	.035
FSSB				.33	.07	.000			
WFB satisfaction							2.04	.84	.014

Variable	*FSSB*			*WFB satisfaction*			*Job performance*		
	B	*SE*	*p*	*B*	*SE*	*p*			
Constant							.37	.03	.000
Company							.03	.14	.819
Employment type							-.44	.20	.026
Age							.00	.01	.528
Gender							.16	.10	.113
Authentic leadership	.41	.04	.000				-.04	.06	.562
FSSB				.33	.07	.000			
WFB satisfaction							.30	.10	.003

Bootstrap results for the indirect effect of authentic leadership via WFB effectiveness

Variable	*Effect*	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
Life satisfaction	.08	.03	.003	.036	.147
Health	.28	.13	.029	.074	.584
Performance	.04	.02	.017	.011	.074

Note. *n* = 174. Effects based on unstandardized regression coefficients. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. FSSB = Family-supportive supervisory behaviours. WFB = Work-family balance. Company: 1 = UK sample, 2 = German sample; employment type 1 = part-time, 2 = full-time; gender: 1 = male, 2 = female.

To test the full moderated serial mediation model, I examined the indirect effects of authentic leadership on life satisfaction, health and job performance via FSSB and WFB satisfaction/effectiveness at different values of the moderator availability of FFPs (H5a-c; Table 8a-b). To do so, the syntaxes developed to test serial mediation (H4a-c) and moderation (H2a) were combined. It needs to be noted that the following conditional indirect effects of authentic leadership were interpreted as the interaction between FSSB and availability of FFPs was significant for both components of WFB (satisfaction: *b* = -.13, *SE* = .04, *p* < .01; effectiveness: *b* = -.11, *SE* = .05, *p* = .031).

The findings showed that authentic leadership was indirectly related to life satisfaction through WFB satisfaction at low values of availability of FFPs (*b* = .07, *SE* = .03, *p* < .05, [.027, .136]), but not at high values of FFPs (*b* = .01, *SE* = .02, *p* = .720, [-.019, .042]). Similar findings were obtained for WFB effectiveness (-1SD: *b* = .12, *SE* = .04, *p* < .01, [.059, .208]; +1SD: *b* = .03, *SE* = .03; *p* = .319, [-.016, .102]).

Concerning health, authentic leadership had an indirect effect through WFB satisfaction when availability of FFPs was low (*b* = .37, *SE* = .14, *p* < .01, [.160, .743]), but not when it was high (*b* = .03, *SE* = .08, *p* = .709, [-.129, .209]). Similar findings were again obtained for WFB effectiveness (-1SD: *b* = .40, *SE* = .19, *p* < .05, [.096, .860]; +1SD: *b* = .10, *SE* = .10, *p* = .315; [-.043, .365]).

Regarding job performance, authentic leadership had a positive indirect effect on performance via WFB effectiveness at low levels of availability of FFPs (-1SD: *b* = .06, *SE* = .02, *p* < .01 [.021, .104]), but not at high levels (+1SD: *b* = .01, *SE* = .02, *p* = .381 [-.006, .054]). As expected, the indirect effect of authentic leadership on job performance via FSSB and WFB satisfaction was not significant for both low and high levels of availability of FFPs (-1SD: *b* = -.00, *SE* = .01, *p* = .985, [-.029, .027]; +1SD: *b* = .00, *SE* = .00, *p* = .995, [-.008, .006]).

Taken together, while the indirect effect of authentic leadership on life satisfaction, health and job performance via FSSB and WFB satisfaction and WFB effectiveness was moderated, the interactions did not follow the expected pattern. I had proposed that the indirect effect of authentic leadership on the outcomes would be stronger, if the organisational availability of FFPs was high. On the contrary, the findings showed that the indirect effect was stronger when the availability of FFPs was at low levels.

Table 8a: *Hierarchical linear regression results for the test of availability of FFPs as a moderator of the indirect effect of authentic leadership on life satisfaction, health and job performance via FSSB and WFB satisfaction (H5a-b)*

Variable	*FSSB*			*WFB satisfaction*			*Life satisfaction*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Constant	2.00	.16	.000	.71	.58	.222	.71	.78	.395
Company							.26	.17	.137
Employment type							-.00	.29	.988
Age							.00	.01	.756
Gender							.28	.14	.047
Authentic leadership	.41	.04	.000				.12	.09	.162
FSSB				.70	.17	.000			
Availability FFPs				.57	.15	.000			
FSSB*Availability FFPs				-.13	.04	.003			
WFB satisfaction							.38	.11	.001
Variable	*FSSB*			*WFB satisfaction*			*Health*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Constant	.28	.03	.000	.39	.04	.000	27.5	3.8	.000
Company							.19	1.07	.860
Employment type							-1.0	1.89	.582
Age							.01	.06	.845
Gender							-1.4	.87	.112
Authentic leadership	.41	.04	.000	.70	.17	.000	1.27	.61	.037
FSSB				.57	.15	.000			
FSSB*Availability FFPs				-.13	.04	.003			
WFB satisfaction							2.1	.65	.001
Variable	*FSSB*			*WFB satisfaction*			*Job performance*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*

Constant	.28	.03	.000	.39	.04	.000	3.68	.58	.000
Company							.08	.14	.586
Employment type							-.21	.19	.28
Age							.00	.01	.598
Gender							.19	.10	.072
Authentic leadership	.41	.04	.000	.70	.17	.000	.02	.06	.708
FSSB				.57	.15	.000			
FSSB*Availability FFPs				-.13	.04	.003			
WFB satisfaction							-.00	.08	.985

Bootstrap results for the effect of authentic leadership on life satisfaction at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
- 1 SD (2.07)	.07	.03	.013	.027	.136
M (3.66)	.04	.02	.032	.011	.077
+ 1 SD (5.25)	.01	.02	.720	-.019	.042

Bootstrap results for the effect of authentic leadership on health at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
- 1 SD (2.07)	.37	.14	.009	.160	.743
M (3.66)	.20	.08	.014	.071	.399
+ 1 SD (5.25)	.03	.08	.709	-.129	.209

Bootstrap results for the effect of authentic leadership on job performance at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
- 1 SD (2.07)	.00	.01	.985	-.029	.027
M (3.66)	.00	.01	.986	-.015	.016
+ 1 SD (5.25)	.00	.00	.995	-.008	.006

Note. *n* = 174. Effects based on unstandardized regression coefficients. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. FSSB = Family-supportive supervisory behaviours. FFPs = Family-friendly practices. WFB = Work-family balance. Company: 1 = UK sample, 2 = German sample; employment type 1 = part-time, 2 = full-time; gender: 1 = male, 2 = female.

Table 8b: Hierarchical linear regression results for the test of availability of FFPs as a moderator of the indirect effect of authentic leadership on life satisfaction, health and job performance via FSSB and WFB effectiveness (H5a-c)

Variable	*FSSB*			WFB effectiveness			*Life satisfaction*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Constant	.28	.03	.000	.28	.03	.000	.67	.07	.000
Company							.28	.18	.117
Employment type							-.31	.29	.285
Age							.01	.01	.467
Gender							.22	.13	.103
Authentic leadership	.41	.04	.000				.07	.09	.429
FSSB				.71	.20	.000			
Availability FFPs				.43	.19	.024			
FSSB*Availability FFPs				-.11	.05	.031			
WFB effectiveness							.63	.15	.000

Variable	*FSSB*			WFB effectiveness			*Health*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Constant	.28	.03	.000	.28	.03	.000	28.3	3.78	.000
Company							.49	1.16	.675
Employment type							-1.6	1.9	.394
Age							.02	.06	.672
Gender							-1.6	.88	.070
Authentic leadership	.41	.04	.000	.71	.20	.000	1.27	.60	.035
FSSB				.43	.19	.024			
FSSB*Availability FFPs				-.11	.05	.031			
WFB effectiveness							2.06	.84	.014

Variable	*FSSB*			WFB effectiveness			*Job performance*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Constant	.28	.03	.000	.28	.03	.000	.37	.03	.000
Company							.03	.14	.819
Employment type							-.44	.20	.026
Age							.00	.01	.528
Gender							.16	.10	.113
Authentic leadership	.41	.04	.000	.71	.20	.000	-.04	.06	.562
FSSB				.43	.19	.024			
FSSB*Availability FFPs				-.11	.05	.031			
WFB effectiveness							.30	.10	.003

Bootstrap results for the effect of authentic leadership on life satisfaction at availability FFPs = M ± 1*SD*

Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI

- 1 SD (2.07)	.12	.04	.001	.059	.208
M (3.66)	.07	.03	.003	.032	.130
+ 1 SD (5.25)	.03	.03	.319	-.016	.102

Bootstrap results for the effect of authentic leadership on health at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
- 1 SD (2.07)	.40	.19	.036	.096	.860
M (3.66)	.25	.11	.028	.065	.514
+ 1 SD (5.25)	.10	.10	.315	-.043	.365

Bootstrap results for the effect of authentic leadership on job performance at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
- 1 SD (2.07)	.06	.02	.007	.021	.104
M (3.66)	.04	.02	.023	.009	.069
+ 1 SD (5.25)	.01	.02	.381	-.006	.054

Note. *n* = 174. Effects based on unstandardized regression coefficients. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. FSSB = Family-supportive supervisory behaviours. FFPs = Family-friendly practices. WFB = Work-family balance. Company: 1 = UK, 2 = Germany; employment type 1 = part-time, 2 = full-time; gender: 1 = male, 2 = female.

5.4 Discussion

The findings of the hierarchical linear regressions based on a sample of British and German respondents (n = 174) across two time points showed that authentic leadership positively influenced employees' life satisfaction, health and job performance through enabling employees to successfully juggle work and nonwork demands (WFB).

Firstly, CFA results confirmed that WFB satisfaction and WFB effectiveness were indeed distinct, but correlated aspects of WFB (Wayne et al., 2015) and that they should hence be examined separately. Accordingly, a definition of WFB should include both satisfaction and performance (effectiveness) aspects and that the development of a theory-driven scale based on the definition by Greenhaus and Allen (2011) should reflect this multi-dimensionality. Additionally, in light of the findings obtained for job performance,

further theory building is needed that considers the potentially different relationships of both WFB components with various outcomes.

Secondly, the results of the hierarchical linear regressions mostly supported the hypothesized model, with 9 out of 14 hypotheses being fully supported by the results and the remaining 5 partially (i.e. significant interaction, but compensating instead of enhancing effect). Consistent with the predictions of work-family border theory (Clark, 2000), FSSB mediated the positive effect of authentic leadership on WFB satisfaction and WFB effectiveness. Availability of FFPs however only moderated link between FSSB and WFB satisfaction and the conditional indirect effect of authentic leadership on WFB satisfaction (moderated mediation). Importantly, contrary to my prediction, FSSB and availability of FFPs did not complement each other (Adler & Kwon, 2002), as FFPs did not enhance the influence of FSSB on WFB satisfaction. Instead, FSSB had a stronger effect when the availability of FFPs was low as compared to high. One possible explanation is that either of these family-supportive resources is sufficient to increase WFB satisfaction and that having more of the same type of support does not necessarily lead to a proportional enhancement in WFB. Similar findings were recently reported by Bagger and Li (2014) concerning the interaction of FSSB and the availability of FFPs on job performance and organizational citizenship behaviour. They explained their findings in terms of a compensatory effect (Friedman & Greenhaus, 2000), whereby one source of workplace family support is only important when another source of support is absent.

Third, I found support for the positive effect of WFB satisfaction and WFB effectiveness on life satisfaction and health, suggesting that employees who successfully balance work and nonwork domains have an increased well-being (Marks & MacDermid, 1996; Sieber, 1974). As role accumulation theories (Marks & MacDermid, 1996) provide, in my view, no support for the assumption that satisfaction with WFB should be related

to job performance, I argued that only WFB effectiveness should predict job performance. The findings support the hypotheses and are in line with those reported by Wayne and colleagues (2015), illustrating the need to examine WFB satisfaction and WFB effectiveness separately.

Lastly, the test of the indirect effects revealed that authentic leadership was indirectly related to life satisfaction and health through FSSB and WFB satisfaction/effectiveness. Importantly, I also obtained support for the indirect effect of authentic leadership on job performance, which, as predicted, was significant for WFB effectiveness but not for WFB satisfaction. Hence, authentic leadership impacts employees' life satisfaction and health through the underlying processes of FSSB and WFB satisfaction/effectiveness and job performance through the mediators of FSSB and WFB effectiveness. I also went one step further and examined potential boundary conditions of this indirect effect (serial moderated mediation). Contrary to my prediction, the findings revealed that the indirect effects of authentic leadership on the outcomes were only significant when the availability of FFPs was low rather than high. Therefore, authentic leadership is less relevant for life satisfaction, health and performance via FSSB and WFB when the organisation offers formal family support (availability of FFPs).

In the next chapter, I will describe Study 2 which provides a cross-level test of the relationships examined in Study 1.

CHAPTER SIX - STUDY TWO

TEST OF THE CROSS-LEVEL MODEL

6.1 Introduction

Study 2 aimed at replicating the findings obtained in Study 1, while addressing some potential limitations. A special focus of this Study was hence to examine whether the CFAs would replicate the findings obtained in Study 1 for WFB (WFB effectiveness and WFB satisfaction as two separate, but correlated factors) and whether WFB effectiveness and WFB satisfaction would show different patterns of relationships with the outcomes. Furthermore, Study 1 had revealed that the availability of FFPs did moderate the relationship between FSSB and WFB satisfaction, and in turn, between authentic leadership, FSSB and WFB satisfaction, but that this was a compensatory rather than an enhancing effect (which had been hypothesized) and did not apply to WFB effectiveness. Hence, Study 2 set out to clarify the interplay between FSSB and availability of FFPs on WFB, but considered authentic leadership and availability of FFPs as team-level constructs. This was done to pay tribute to the fact that employees nowadays often work in teams and that employees, due to exposure to the same social cues (Salancik & Pfeffer, 1978), form similar perceptions (Schneider & Reichers, 1983) of the sources of these social cues. Hence, a cross-level version of the initial model was tested (see Figure 1).

Employees from Study 1 were mostly individuals who worked full-time and who were subscribed to a crowdsourcing website. Although crowdsourcing samples are said to be representative of the general population (Paolacci et al., 2010), it is only possible to collect self-report data. Self-report data carries the risk of common method bias (Podsakoff et al., 2003), while self-reported performance is particularly prone to self-inflation bias (Heidemeier & Moser, 2009). Furthermore, as employees were from various organisations and hence couldn't be grouped into teams led by the same supervisor, it

had not been possible to account for variance that affects all team members equally (e.g., office relocation; nested model) and that hence potentially biases findings. To address these shortcomings, data in Study 2 were collected from 106 employees nested in 27 teams from four companies from the UK and Germany across two time points. Additionally, supervisors of each team provided job performance ratings for individual team members. Multilevel modeling with Mplus was used to test the hypotheses.

6.2 Method

6.2.1 Sample and data collection procedure

6.2.1.1 Data collection method

The data were collected via online (three companies) and paper-and-pencil (one company) questionnaires from 106 employees and their 27 supervisors across two time points (four weeks' apart). The 106 employees belonged to 27 teams drawn from four companies in the UK (2 companies, 5 teams, 16 employees) and Germany (2 companies, 21 teams, 90 employees) and each team had one supervisor. The two UK companies were located in Central and North of England (counties: West Midlands and Merseyside) and belonged to the food and healthcare industries. The two German companies were located in the South of Germany (counties: Bavaria and Baden-Wuerttemberg) and belonged to the pharmaceutical and healthcare industries. At Time 1, respondents completed the same individual measures as in Study 1 (authentic leadership, FSSB, availability of FFPs, WFB satisfaction, WFB effectiveness and demographics). At Time 2, respondents completed measures of life satisfaction and health and supervisors rated respondents' job performance (all scales identical to Study 1).

I started negotiating access with companies in November 2012, collected the first wave of data from the first company in November 2013 and concluded the data collection in December 2014. I approached the different companies through emails, professional networks and via personal contacts. Respondents and their participating organisations were informed that the study aimed to understand employees' experience of the work-

family interface. The participating organisations were promised and indeed received a feedback report in exchange for participation in my study with recommendations on how to increase FSSB (Hammer, Kossek, Anger, Bodner, & Zimmerman, 2011). After consenting to participate in the study and after the data protection agreements had been signed (see below), I received organisational organigrams or Excel sheets that detailed the hierarchical structure of the workforce of each of the participating companies (employees, teams and teams' supervisors) and included employees' email addresses (except for the employees that participated in the paper-and-pencil data collection; see below). Parts of the communication with the companies have been included in the appendix (Appendix B).

At Time 1, I either sent an email that included the link to the online-questionnaire to all employees that I was granted access to or distributed the questionnaires through a family member directly to the employees. Four weeks later, at Time 2, employees again received an email with the link to the second online questionnaire or received the Time 2 paper-and-pencil questionnaire. At Time 2, supervisors also received either an email with a link to the supervisor questionnaire or the paper-and-pencil version of this questionnaire. For all questionnaires, respondents and supervisors had one week to complete the questionnaire and they received a mid-week email, which encouraged them to complete the questionnaire. All questionnaires included information about the content, design, voluntary nature and confidentiality of the study and asked respondents for their consent before participating. Additionally, respondents and supervisors were asked to enter a personal code which I had allocated to them (in line with the organisational structure; different procedure for paper-and pencil; see below) and emailed them previously. Supervisors were also asked to enter individual employees' codes when rating the performance of the individual employees. The codes enabled me to match respondent's questionnaires at Time 1 and Time 2 with their supervisor's ratings of their job performance (Time 2; further details below), while ensuring the confidentiality of responses.

To increase completion of both Time 1 and Time 2 questionnaires, one German company sponsored tickets to a local basketball game, while the other German company donated a monetary contribution to the teams' kitty if at least five team members completed both questionnaires. While not being offered a reward did not affect the completion of the second questionnaire in one of the UK companies (87.5% and 83.3% response rate in the German companies vs. 85% response rate in the UK company), it might have affected the response rate in the other UK company (52.9% response rate).

6.2.1.2 Sample

I was initially given access to and contacted 283 employees from 44 teams. However, at Time 1, only 179 employees from 40 teams participated (63.25% participation rate; average initial team size = 4.5; 1 to 14 team members), out of which one response had to be removed as he/she had not provided information for one of the control variables (gender). At Time 2, 146 respondent questionnaires (38 teams) and ratings for 135 respondents (38 teams) from 38 supervisors were collected. The matching of respondents' Time 1 and Time 2 questionnaires via personal codes yielded a total sample size of 139 participants (37 teams), representing a response rate of 77.65%. Based on the definition of a team (Kozlowski & Bell, 2003), supervisors should have rated the performance of at least two respondents for the team to be included in the analysis. This exclusion of cases when less than two completed questionnaires were available per team was necessary, as the data were analysed by accounting for employees' team membership (nested; see below) and relationships between team and individual-level variables were tested (cross-level). The matching of these 139 questionnaires with the Time 2 supervisor questionnaires in the context of the above definition of a team resulted in complete data sets for 106 respondents from 27 teams belonging to 4 companies, representing an effective response rate of 59.22% of all Time 1 responses. On average, teams consisted of 4 employees (Mean = 3.93, SD = 1.96), with team sizes ranging from 2 to 10.

I run 2-tailored t-tests and chi-square tests (95% CI) to test whether there were any differences concerning demographics (e.g., age, gender) between the respondents from Time 1 who responded at Time 2 (139) and those who did not respond at Time 2 (39). No significant differences were found. As the data were collected from two countries, from four companies, and via two methods (online and paper-and-pencil questionnaires), I run 2-sided t-tests, chi-square tests (95% CI) and ANOVAs using the final data set (106 employees; 27 teams) to test whether there were any differences regarding demographics between the sub-samples. Concerning the comparison of respondents from the UK and Germany, significant differences were found concerning age ($t(104) = 2.60$, $p < .05$; UK: M = 35.0, SD = 11.83 and Germany: M = 42.27, SD = 10.02), organisational tenure ($t(104) = 2.48$, $p < .05$; UK: M = 4.81, SD = 5.02 and Germany: M = 9.95 , SD = 7.99), number of children ($t(99) = 2.69$, $p < .01$; UK: M = .53, SD = .92 and Germany: M = 1.38, SD = 1.16) and type of employment ($\chi^2(1) = 8.15$, $p < .01$; UK: 100% fulltime and Germany: 58% fulltime). ANOVAs revealed that respondents from the four companies differed with regard to tenure in the team ($F(3) = 6.58$, $p < .001$), number of children ($F(3) = 9.39$, $p < .001$) and age of youngest child ($F(3) = 7.15$, $p < .001$). Chi-square tests revealed that they also differed in regard to gender ($\chi^2(6) = 24.98$, $p < .001$), marital status ($\chi^2(12) = 24,45$, $p < .01$) and whether they worked full or part-time ($\chi^2(3) = 101.40$, $p < .001$). A comparison of the respondents who participated online or via paper-and-pencil revealed that they were significantly different from each other with regard to all demographic variables except for organisational tenure (gender: $\chi^2(2) = 24.43$, $p < .001$, age: $t(104) = -3.94$, $p < .001$, team tenure: $t(103) = -4.27$, $p < .001$, marital status: $\chi^2(4) = 18.90$, $p < .01$, number of children: $t(99) = -3.88$, $p < .001$, age of youngest child: $t(63) = -3.95$, $p < .001$ and type of employment: $\chi^2(1) = 101.40$, $p < .001$). Notably, only employees from the German company who completed the paper-and-pencil questionnaires (Company D) worked part-time (part-time: 32; full-time: 1), while all other employees worked full-time. As the form of data collection was captured by the variable company, and as the company variables (three dummy variables for four companies)

overlapped with the country of the company (two companies per country), I decided to only control for company to account for the significant differences (via three dummy variables).

Seventy-one % (76) of the sample were female, 28% (30) male. Respondents reported an average age of 41.17 years (SD = 10.58, 22-62 years), had an average organisational tenure of 9.2 years (SD = 7.82, 0-31 years), and an average team tenure of 6.2 years (SD = 6.54, 0-30 years). The majority of the respondents were married (61 = 58.1%) or in a relationship (20 = 18.9%), while considerably less were single (16 = 15.1%), divorced (4 = 3.8%) or widowed (4 = 3.8%). Thirty-six employees had no children (34%), 18 one child (17%), 36 two children (34%) and 11 (10.3%) more than two children, while the average age of their youngest child, if they had children, was 13.49 years (SD = 9.99, 0-38 years). The majority of the respondents worked full-time (74 = 69.8%) while a minority (32 = 30.2%) worked part-time (less than 35 hours a week).

6.2.1.2.1 Online data collection sample

I collected data via online questionnaires from three of the four companies (UK and Germany; 73 employees from 21 teams, 21 supervisors), using the same online survey platform (www.surveygizmo.com) as in Study 1. The average number of employees per team was 3.4 and ranged from two to five members.

The 73 online respondents were between 24 and 61 years old (M = 38.62, SD = 10.00) and 58.9% (43) were female. They had worked for their organisation for an average of 8.23 years (0 - 31 years) on a full-time basis. The majority of the respondents were married (35 = 47.9%) or in a relationship (19 = 26%), while 15 respondents were single (20.5%) and three divorced or widowed (4.1%; one respondent had missing data for marital status). Respondents had on average one child (M = .97, SD = 1.15), with the number of children ranging from 0 to 6 (four respondents had missing data for number of children). The average age of the respondents' youngest child ranged from 0 to 33 years.

6.2.1.2.2 Paper-and-pencil data collection sample

I collected data from 33 respondents (6 teams) and their 6 supervisors from one German company through paper-and-pencil questionnaires. The average number of respondents per team was 5.5 (team size 2-10 members). At Time 1, a relative handed out envelopes containing a questionnaire and an empty envelope to each member of the six teams. To protect employees' anonymity and as requested by the organisation, while also allowing me to match the Time 1 and Time 2 respondent and Time 2 supervisor questionnaires, each of these questionnaires contained a code that was made up of six characters (name of the company, number of the team and an employee number). At Time 2, respondents again received sets of envelopes and questionnaires, but were this time asked to write their personal code provided at Time 1 at the top right hand corner of the questionnaire. At Time 2, supervisors received questionnaires with codes of their employees and were requested to rate their performance. To enable supervisors to do so, respondents told supervisors their personal codes, meaning that the matching of respondents' codes and their names was not known to me (as requested by the company). This did not pose a threat to respondents' confidentiality as supervisors had no access to respondents' questionnaires. Respondents and supervisors were given one week to complete the questionnaires, to seal them in the provided envelopes and to drop them in a central collection box.

The 33 paper-and-pencil respondents were between 22 and 62 years old (M = 46.82, SD = 9.73) and 97% (42) were female (one response missing). They had worked for their organisation for an average of 11.27 years (0 - 30 years) on a part-time basis (except for one respondent who worked full time). The majority of the respondents were married or in a relationship (27 = 81.8%), while 6 respondents were single, divorced or widowed (18.2%). Respondents had on average one child (M = .97, SD = 1.15), with the number of children ranging from 0 to 6 (four respondents had missing data for number of children). The average age of the respondents' youngest child ranged from 0 to 33 years.

6.2.2 Measures

As in Study 1, the questionnaires were administered in their original English version to the respondents from the two UK companies and in German to the respondents from the two German companies. To ensure that the questionnaires distributed to the German respondents captured the same content as the original English scales, when available, validated German versions of the English language measures were used (authentic leadership and health). For FSSB, availability of FFPs, WFB satisfaction, WFB effectiveness, life satisfaction and job performance, the German versions of the scales developed in Study 1 were used.

In contrast to Study 1, I analysed in this study relationships between individual-level and team-level variables. The team-level variables were created by aggregating the individual team members' responses. The individual level variables were FSSB, WFB satisfaction, WFB effectiveness (all completed at Time 1), life satisfaction and health (both completed at Time 2) and job performance (completed at Time 2 by the supervisor) and the team-level variables were team authentic leadership and team availability of FFPs (both completed at Time 1). Additionally, respondents provided their demographics at Time 1. The questionnaires are included in the appendix (Appendices C-E).

6.2.2.1 Time 1 measures

Team authentic leadership. I used the same 16-item measure (Walumbwa et al., 2008) that I had used in Study 1 to assess authentic leadership at the individual level. The scale's alpha reliability in this study is .94. As demonstrated in previous research for authentic leadership (e.g., Leroy et al., 2015) and other leadership constructs (e.g., Cole, Bedeian, & Bruch, 2011), leadership can be conceptualized as a group-level phenomenon, with team members holding shared perceptions of their supervisors' leadership behaviour. Following a direct consensus model (Chan, 1998), the group-means of the individual team members' responses were used to operationalize team authentic leadership. To justify this statistically, it had to be shown that the individual

ratings within the teams were similar enough to represent the teams and to be aggregated to next higher level (team). To justify the aggregation, the within-group agreement (rwg(j); James, Demaree, & Wolf, 1984, 1993), which assesses the interchangeability of team members' ratings, was calculated. Additionally, the intra-class correlations (ICC) ICC(1) and ICC(2) were calculated. ICC(1) assesses the amount of variance explained by team membership while ICC(2) assesses the reliability of the team-level mean differences (Bliese, 1998). The mean $r_{wg(j)}$ for authentic leadership was .83, which signified a strong agreement within the team (LeBreton & Senter, 2008). *ICC(1)* was .27, which meant that 27% of the variance was due to team membership, signifying a large effect (LeBreton & Senter, 2008). The *ICC(2)* value was only .60 which, although rather low, is still deemed acceptable (Glick, 1985). Furthermore, ICC(2) is strongly influenced by the team size (Bliese & Halverson, 1998). As the average size of the teams in the sample is rather low (average of 4 members), low ICC(2) values are to be expected. Additionally, the F-test for the team effect was also significant ($F(26, 80) = 2.49$, $p < .01$), lending further support to the aggregation. Taken together, I concluded that it was both theoretically and statistically justified to aggregate authentic leadership to the team-level.

FSSB. The same 9-item measure (Thomas & Ganster, 1995) as in Study 1 was used to assess FSSB, and the same changes were made to the items to more specifically capture supervisors' efforts to assist employees in the integration of work and nonwork domains. The scale's alpha reliability in this study is .83.

Team availability of FFPs. I used the same list as in Study 1 (9 items) taken from Galinsky and colleagues (1993) to measure the availability of FFPs. As in Study 1, respondents indicated whether these FFPs were available to them in their company. As some of the participating companies informed me that they did not offer some of the practices (information from HR departments; the two German companies did not offer job sharing, compressed work week, unpaid holiday and financial help with childcare; and one of the UK companies did not offer on-site childcare), I did not include questions

regarding their availability in the respective respondents' questionnaires. Instead, when a company did not offer a FFP, I coded the availability as (0) 'no'. Hence, employees were presented with a list of 5 to 9 practices. This procedure was seen as a more accurate way of assessing FFPs as employees did not confuse an unavailable FFPs with informal benefits provided by, for example, their supervisor. However, the average availability of FFPs that employees reported was very similar to the ones reported in Study 1 (FFPs as summative variables; Study 1: 3.66 and Study 2: 3.55), signifying that the exclusion of some of the FFPs from some of the questionnaires did not bias the average levels of availability of FFPs. The individual ratings of team members were aggregated to the team-level to represent team's perceived availability of FFPs, following a direct consensus model (Chan, 1998). This was justified statistically by calculating $r_{wg(j)}$ as well as ICC(1) and ICC(2*).* Both $r_{wg(j)}$ = *.99 and ICCs (ICC(1)* = .79 and *ICC(2)* = .94) supported the aggregation of availability of FFPs to the team level. As availability was assessed as a count variable, no reliability is reported here.

WFB. I used the same two scales as in Study 1 to measure WFB satisfaction (5 items; Valcour, 2007) and WFB effectiveness (6 items; Carlson et al., 2009). Respondents answered these items with regard to their own WFB. As in Study 1, I conducted CFAs to confirm that WFB satisfaction and WFB effectiveness were two distinct, but correlated factors. The CFAs showed that the correlated two-factor model had a good fit ($\chi 2(43) = 121.41$, $p < .001$, $\chi 2/df = 2.82$, TLI = .91, CFI = .93, RMSEA = .194) and fit the data better than an uncorrelated two factor model ($\chi 2(44) = 222.79$, $p < .001$, $\chi 2/df = 5.06$, TLI = .80, CFI = .84, RMSEA = .195) and a unidimensional model, in which all items loaded on an overall WFB factor ($\chi 2(44) = 221.73$, $p < .001$, $\chi 2/df = 5.04$, TLI = .80, CFI = .84, RMSEA = .194). The inter-correlation between WFB satisfaction and WFB effectiveness ($r = .79$, $p < .01$) lent further support to treating both variables as two separate, but related constructs. The internal consistency of WFB satisfaction and effectiveness is $\alpha = .94$ and $\alpha = .92$ respectively.

6.2.2.2 Time 2 measures

Life satisfaction. Life satisfaction was measured with the same 5-item scale (Diener et al., 1985) as in Study 1. Employees reported their life satisfaction with regard to the last four weeks. The internal consistency is α = .86.

Health. The 12-item SF-12 (Ware et al., 1995) was again used to measure health. Participants answered the questions that captured mental and physical health with regard to the last four weeks. The official scoring software (Health Outcomes Scoring Software 4.0) was used to create an overall score for health. The same minor change to the response format as in Study 1 was made. Cronbach's alpha for the scale is α = .83.

Job performance. I used the same 6-item scale as in Study 1 (Tsui et al., 1997) to measure job performance. This time, however, I kept the original format of the scale and asked supervisors to rate the performance of their employees. Response options ranged from (1) 'strongly disagree' to (5) 'strongly agree'. A sample item is: "The quality of the work of this employee is much higher than average". Supervisors rated between 2 and 10 employees. Cronbach's alpha for this scale is α = .80.

Controls variables included at the within level (individual level) were age (years), gender ((1) 'male' and (2) 'female') and employment status ((1) 'part-time' and (2) 'full-time'). At the between level (team level), I included the team size (number of team members per team in the final data set) and three company dummy variables (as four companies participated in this study) as control variables. The inclusion of the first three variables was justified in Study 1 and is affirmed by their significant relationships with several of the considered outcome variables (see Table 9; Spector & Brannick, 2011). I controlled for team size as the teams had differing numbers of team members (2 – 10) and as team size showed significant relationships with WFB satisfaction/WFB effectiveness and job performance. Team size is often included in multilevel or team-level research (e.g., De Jong & Elfring, 2010) and variations in team size have been shown to influence performance (Kirkman & Rosen, 1999). Given that the four participating

companies were from different industries and countries (Germany and the UK) and the three company dummy variables were significantly related to the outcome variables, I controlled for company (dummy variables) to account for the influence of country and industry.

6.2.3 Data analysis

As in Study 1, all analyses were conducted using MPlus Version 7.4 (Muthén & Muthén, 2015a). As compared to Study 1, employees of Study 2 were members of teams and authentic leadership and availability of FFPs (see below) were examined as team-level variables (team authentic leadership and team availability of FFPs). Consequently, MCFA should be used instead of CFA, which is a single-level analysis. MCFA considers the nested nature of the data and the multilevel nature of constructs by decomposing the total sample covariance matrix into pooled within-group and between-group covariance matrices. These two matrices are then used to analyse the factor structure at each level and to evaluate the fit of different models (Dedrick & Greenbaum, 2011). To evaluate the fit of the hypothesized eight-factor model (individual-level: FSSB, WFB satisfaction, WFB effectiveness, life satisfaction, health, job performance; team-level: team authentic leadership and team availability of FFPs), it should have been compared to the MCFA results of other plausible models. Unfortunately, while the measurement model converged and showed a reasonable fit ($\chi 2(1406) = 6302.92$, $p < .001$, $\chi 2/df = 4.48$, TLI = .83, CFI = .84 and RMSEA = .074), the models for other plausible solutions did not converge, most likely due to the small sample size (Dedrick & Greenbaum, 2011). Consequently, I had to resort to CFAs.

In order to test the hypotheses while accounting for the biasing effect of shared variance due to team membership (nested model; e.g., homogenous perceptions due to office relocation; Preacher et al., 2010) and to test the cross-level effect of team authentic leadership and team availability of FFPs on individual team members' attitudes and behaviours, MLM was used. MLM is based on the assumption that lower-level cases

(e.g., individual) are nested within high-level collectives (e.g., teams) and that observations are hence dependent (Aguinis, Gottfredson, & Culpepper, 2013; Snijders & Bosker, 2012). Consequently, the variance in lower-level variables (here: individual employee) consists of variance that is due to the team context (between-level variance) and variance that is due to individual differences (within-level variance), while the higher-level variables (here: team) only have team variance (between-level variance). In MPlus, this separation of variance into its components is automatically done when using MLM and indicating the nested structure (cluster = team). FSSB, WFB satisfaction, WFB effectiveness, life satisfaction, health and job performance were conceptualised as Level 1 variables, while team authentic leadership and team availability of FFPs were conceptualised as Level 2 variables (aggregated ratings of Level 1 measures). As a Level 2 variable can only influence the between-level variance of a level-1 variable when examining relationships between team and individual level variables, the between level coefficient should be reported (Preacher et al., 2010).

Detailed information regarding the statistical procedure is provided in the results section and all syntaxes are included in Appendix F. Similar codes to the codes I have used for mediation, moderation and serial mediation have been published (Preacher et al., 2011; Preacher et al., 2010), while the code for moderated mediation was approved in a personal email communication with a leading multilevel scholar (K. Preacher, personal communication, October 8, 2015). The same Excel sheet (Dawson, 2015) as in Study 1 was used to plot the interaction effects. Concerning the control variables, at the within level, the respective outcome variable was regressed on the control variables of age, gender and employment type and at the between-level on the three company dummy variables and team size. As in Study 1, all analyses were conducted separately for WFB satisfaction and WFB effectiveness and for the three outcome variables.

6.3 Results

Means, standard deviations, correlations and internal consistencies (Cronbach's alpha) between the measures from Study 2 are reported in Table 9.

6.3.1 Confirmatory factor analyses

6.3.1.1 Parceling

Before testing the hypotheses and as in Study 1, I conducted CFAs to compare the hypothesized eight-factor model (authentic leadership, FSSB, availability of FFPs, WFB satisfaction, WFB effectiveness, life satisfaction, health and job performance) with other plausible models. In order to improve the inadequate sample-size-to-item ratio (Bentler & Chou, 1987; N:q = 1.57), I used item parcels. Consistent with Study 1, four parcels comprising the items of one of the dimensions each were formed for authentic leadership. Four parcels were also formed for FSSB, availability of FFPs and health, while no parcels were formed for WFB effectiveness, life satisfaction, and job performance, as the number of items was too small to converge with the recommendation of 4 to 6 parcels per factor (Nasser & Wisenbaker, 2003). Table 10 details the parcels per factor, their standardised loadings and the average variance extracted. Through parceling, the sample-size-to-parameter ratio improved (N:q = 2.79), but was still significantly below the recommended value of 5 (Bentler & Chou, 1987). However, it was not possible to improve the ratio further as forming more parcels per factor would have been against the recommendation by Nasser and Wisenbaker (2003). The AVE was >.71 across all scales (average AVE: .88), which is above the value recommended by Bagozzi and Yi (1988).

Table 9: *Means, standard deviations, correlations and internal consistencies for all study variables (Study 2)*

Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1. Age														
2. Gender	.50													
3. Employment type	-.40**	-.41**												
4. FSSB	.22*	.07	-.51**	(.83)										
5. WFB satisfaction	.17	.18	-.42**	.48**	(.94)									
6. WFB effectiveness	.16	.07	-.36**	.41**	.79**	(.92)								
7. Life satisfaction	.14	.10	-.29**	.29**	.49**	.52**	(.86)							
8. Health	-.11	-.20*	.19*	.07	.22*	.29**	.36**	(.83)						
9. Job performance	.16	.25**	-.54**	.41**	.12	.09	.17	-.08	(.80)					
10. Company dummy 1	.36**	.42**	-.98**	.53**	.44**	.38**	.31**	-.18	.52**					
11. Company dummy 2	-.16	-.33**	.71**	-.27**	-.15	-.18	-.03	.35**	-.46**	-.73**				
12. Company dummy 3	-.33**	-0.00	.26**	-.31**	-.40**	-.30**	-.37**	-.24*	-.05	-.26**	-.42**			
13. Team size	.22*	.38**	-.60**	.52**	.42**	.32**	.17	-.15	.37**	.63**	-.41**	-.19		
14. Team authentic leadership	.24*	.21*	-.57**	.56**	.48**	.36**	.27**	-.03	.43**	.58**	-.37**	-.35**	.53**	(.94)
15. Team availability of FFP	-.10	-.37**	.74**	-.29**	-.16	-.14	-.03	.33**	-.41**	-.76**	.87**	-.34**	-.47**	-.30**

Table 9

Continued

Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
M	41.2	1.72	1.7	3.66	3.5	3.53	3.79	49.2	3.73	0.31	0.54	0.13	4.87	3.79	3.39
SD	*10.6*	*0.45*	*0.46*	*0.72*	*1.01*	*0.81*	*0.73*	*6*	*0.63*	*0.47*	*0.5*	*0.34*	*2.42*	*0.5*	*1.51*

Note. n = 106. Variables 1-9 individual level, 10-15 team level. Correlations between individual and team-level variables based on biased n = 106. Correlations ≥ 0.19 are significant with $p < .05$; correlations ≥ 0.25 are significant with $p < .01$. Internal consistencies (Cronbach's alpha) in brackets. FSSB = Family-supportive supervisor behaviours; FFPs = Family-friendly practices, WFB = Work-family balance. Gender: 1 = male, 2 = female; employment type: 1 = part-time, 2 = full-time; company: 1 = yes, 2 = no.

6.3.1.2 Measurement model

While the fit of the CFA of the measurement model was not very good, likely due to the small sample size and the related small sample size-to-parameter ratio ($\chi 2$(637) = 2094.49, p < .001, $\chi 2/df$ = 3.29, TLI = .58, CFI = .62 and RMSEA = .147), it was still considerably better than the fit of alternative models: A seven-factor model combining WFB satisfaction and WFB effectiveness ($\chi 2$(644) = 2199.70, p < .001, $\chi 2/df$ = 3.42, $\Delta \chi 2$ = 105.21***, TLI = .55, CFI = .59 and RMSEA = .0151), a seven-factor model that combined authentic leadership and FSSB ($\chi 2$(644) = 2306.04, p < .001, $\chi 2/df$ = 3.58, $\Delta \chi 2$ = 211.55***, TLI = .52, CFI = .56 and RMSEA = .156), a six-factor model combining authentic leadership, FSSB and availability of FFPs ($\chi 2$(650) = 2761.86, p < .001, $\chi 2/df$ = 4.25, $\Delta \chi 2$ = 667.37***, TLI = .40, CFI = .44 and RMSEA = .175), a six-factor model that combined all Time 2 measures (life satisfaction, health and performance; $\chi 2$(650) = 2202.02, p < .001, $\chi 2/df$ = 3.39, $\Delta \chi 2$ = 107.53***, TLI = .56, CFI = .59 and RMSEA = .150) and a single-factor model that combined all eight factors into one factor ($\chi 2$(665) = 3346.23, p < .001, $\chi 2/df$ = 5.03, $\Delta \chi 2$ = 1251.74***, TLI = .253, CFI = .293 and RMSEA = .195). Hence, the model that assumed that all constructs were distinctive (measurement model) received the best support.

Table 10: *Study variables, their indicators, standardised loadings and AVE*

Study variable	*Standardized loading*	*Variance extracted (AVE)*
Authentic leadership		.92
Parcel 1	.80	
Parcel 2	.81	
Parcel 3	.77	
Parcel 4	.66	
FSSB		.93
Parcel 1	.71	
Parcel 2	.89	
Parcel 3	.14	
Parcel 4	-.47	
Availability of FFPs		.91
Parcel 1	.90	
Parcel 2	.91	
Parcel 3	.81	
Parcel 4	-.83	
WFB satisfaction		.97
Item 1	.93	
Item 2	.86	
Item 3	.92	
Item 4	.88	
Item 5	.82	
WFB effectiveness		.95
Item 1	.81	
Item 2	.90	
Item 3	.83	
Item 4	.68	
Item 5	.87	
Item 6	.83	
Health		.90
Parcel 1	-.20	
Parcel 2	.88	
Parcel 3	-.98	
Parcel 4	.42	
Life satisfaction		.71
Item 1	.36	
Item 2	.24	
Item 3	.59	
Item 4	.81	
Item 5	.36	
Job performance		.76
Item 1	.26	
Item 2	.21	
Item 3	.63	
Item 4	1.05	
Item 5	.36	
Item 6	.48	

Note. *n* = 106. FSSB = Family-supportive supervisor behaviours. FFPs = Family-friendly practices. WFB = Work-family balance.

6.3.2 Hypotheses tests

6.3.2.1 WFB satisfaction/WFB effectiveness as outcomes

The findings for Hypotheses 1a-b are displayed in Table 11a. To test the direct effect of team authentic leadership on FSSB (H1a), FSSB was regressed at the between level on team authentic leadership. As predicted, team authentic leadership was positively related to FSSB (b = .45, SE = .13, p < .01), supporting Hypothesis 1a.

To test the direct effect of FSSB on WFB satisfaction and WFB effectiveness (H1b), I specified a random slope for each outcome at the within level and examined the mean of this slope at the between level. A random slope as compared to a within effect was used (e.g., H3a), as this relationship was hypothesised to be moderated by a team-level construct and therefore to vary across teams. In support of Hypothesis 1b, FSSB was positively related to WFB satisfaction (b = .36, SE = .16, p < .05) and WFB effectiveness (b = .33, SE = .15, p < .05).

Hypothesis 1c suggested FSSB as a mediator of the team authentic leadership-WFB satisfaction/effectiveness link. To test this, I run a 2-1-1 MLM model with random slopes (Preacher et al., 2010), which combined the computations for Hypotheses 1a and 1b. As team authentic leadership has only between-level variance and therefore can only affect the between-level components of FSSB and WFB satisfaction/effectiveness (see above), the indirect effect of team authentic leadership was calculated by multiplying the slope that regressed FSSB on team authentic leadership with the between effect of FSSB on WFB satisfaction and WFB effectiveness. Preacher and colleagues (2010) state that this between effect should be formed in this circumstance by adding the within effect (called ‘bw’; random slope) and the contextual effect (called ‘bb’; effect of FSSB on WFB satisfaction/WFB effectiveness at the between). The results revealed (Table 11b) that FSSB did indeed mediate the relationship between authentic leadership and both WFB satisfaction (b = 1.42, SE = .48, p < .01, [.467, 2.366]) and WFB effectiveness (b = 1.11, SE = .36, p < .01, [.407, 1.805]).

Table 11a: *Hierarchical linear regression results for the test of the direct effect of team authentic leadership/FSSB on FSSB/WFB satisfaction and WFB effectiveness (H1a-b)*

Variable	FSSB		
	B	*SE*	*p*
Within level			
Age	.00	.01	.888
Gender	-.31	.12	.007
Employment type	.23	.21	.263
Between level			
Company 1	1.01	.39	.009
Company 2	.42	.23	.063
Company 3	.22	.29	.444
Team size	.08	.03	.014
Team authentic leadership	.45	.13	.001

Variable	WFB satisfaction			WFB effectiveness		
	B	*SE*	*p*	*B*	*SE*	*p*
Within level						
Age	-.01	.01	.246	-.01	.01	.488
Gender	.18	.29	.543	-.10	.19	.610
Employment type	.17	.43	.696	.30	.25	.233
FSSB*	.36	.16	.029	.33	.15	.029
Between level						
Company 1	-.95	.19	.000	-.74	.15	.000
Company 2	-.30	.68	.659	.07	.61	.915
Company 3	-1.53	.40	.000	-.82	.31	.008
Team size	.05	.09	.554	.03	.05	.596
FSSB	1.89	.22	.000	1.72	.16	.000

Note. *n* = 106. Unstandardized regression coefficients are reported. *Random slope formed between FSSB and WFB satisfaction/effectiveness. FSSB = Family-supportive supervisory behaviours. WFB = Work-family balance. Gender: 1 = male, 2 = female; employment type: 1 = part-time, 2 = full-time; company: 1 = yes, 2 = no.

Table 11b: *Hierarchical linear regression results for the test of the indirect effect of authentic leadership on WFB satisfaction/WFB effectiveness via FSSB (H1c)*

Variable	FSSB			WFB satisfaction		
	B	*SE*	*p*	*B*	*SE*	*p*
Within level						
Age				-.01	.01	.452
Gender				.14	.60	.809
Employment type				.17	.59	.770
FSSB*				.34	.26	.203
Between level						
Company 1				-.59	.60	.326
Company 2				.00	.82	.996
Company 3				-1.14	1.00	.254
Team size				.05	.11	.623
Team authentic leadership	.73	.17	.000	.55	.62	.377
FSSB				1.61	.52	.002

Bootstrap results for the indirect effect of authentic leadership on WFB satisfaction

Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
1.42	.48	.003	.467	2.366

Variable	FSSB			WFB effectiveness		
	B	*SE*	*p*	*B*	*SE*	*p*
Within level						
Age				-.01	.01	.529
Gender				-.11	.21	.594
Employment type				.30	.29	.303
FSSB*				.32	.16	.047
Between level						
Company 1				-.63	.22	.004
Company 2				.16	.65	.809
Company 3				-.71	.30	.020
Team size				.03	.05	.594
Team authentic leadership	.73	.17	.000	.57	.29	.051
FSSB				1.21	.32	.000

Bootstrap results for the indirect effect of authentic leadership on WFB effectiveness

Effect	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
1.11	.36	.002	.407	1.805

Note. *n* = 106. Unstandardized regression coefficients are reported. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. *Random slope formed between FSSB and WFB satisfaction/effectiveness. FSSB = Family-supportive supervisor behaviours. WFB = Work-family balance. Gender: 1 = male, 2 = female; employment type 1 = part-time, 2 = full-time; company: 1 = yes, 2 = no.

Hypothesis 2a predicted that the team availability of FFPs would moderate the relationship between FSSB and WFB satisfaction/effectiveness in such a way that the relationship would be stronger for high compared to low values of the moderator. Transferring this to MLM and in line with recommendations (Aguinis et al., 2013; Muthén & Muthén, 2015a; Muthén & Muthén, 2015b), the random slope between FSSB and WFB satisfaction/effectiveness (H1b) was regressed on team availability of FFPs to obtain the interaction. To calculate the simple slopes, the within effect (bw; random slope) was added to the interaction term.

The analysis revealed (Table 12) that the interaction was not significant when predicting WFB satisfaction (b = -.13, SE = .14, p = .364), but significant when predicting WFB effectiveness (b = -.18, SE = .08, p < .05). An inspection of the simple slopes showed that the relationship between FSSB and WFB effectiveness was significant (positive), when the moderator was one SD below the mean (b = .62, SE = .18, p < .01), but not significant when the moderator was one SD above the mean (b = .06, SE = .17, p = .701). Hence, Hypothesis 2a received mixed support, as an interaction was revealed for WFB effectiveness, but the interaction did not follow the proposed pattern (enhancing effect). The interaction is depicted in Figure 3.

Table 12: *Hierarchical linear regression results for the test of team availability of FFPs as a moderator of the relationship between FSSB and WFB satisfaction and WFB effectiveness (2a)*

Variable	WFB satisfaction		
	B	*SE*	*p*
Within level			
Age	-.01	.01	.413
Gender	.17	.90	.850
Employment type	.15	.79	.847
FSSB*			
Between level			
Company 1	-.48	2.45	.846
Company 2	-.93	.30	.002
Company 3	-1.45	.58	.013
Team size	.04	.13	.792
FSSB	2.66	.61	.000
Team availability of FFPs	.48	.67	.471
FSSB x Team availability of FFPs	-.13	.14	.364

Bootstrap results for the effect of FSSB on WFB satisfaction at team availability FFPs = M ± 1*SD*

Effect	*Boot*	*SE*	*p*
- 1 SD (1.88)	.570	.21	.007
M (3.39)	.374	.24	.115
+ SD (4.90)	.179	.40	.656

Variable	WFB effectiveness		
	B	*SE*	*p*
Within level			
Age	-.00	.01	.681
Gender	-.13	.20	.513
Employment type	.31	.21	.149
FSSB*	.96	.31	.002
Between level			
Company 1	.57	.52	.276
Company 2	-.48	.22	.032
Company 3	-.10	.42	.809
Team size	.01	.05	.762
FSSB	2.98	.19	.000
Team availability of FFPs	.86	.31	.005
FSSB x Team availability of FFPs	-.18	.08	.020

Bootstrap results for the effect of FSSB on WFB effectiveness at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*
- 1 SD (1.88)	.618	.18	.001
M (3.39)	.341	.13	.000
+ SD (4.90)	.064	.17	.701

Note. *n* = 106. Unstandardized regression coefficients are reported. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. *Random slope formed between FSSB and WFB satisfaction/effectiveness. FSSB = Family-supportive supervisor behaviours. WFB = Work-family balance. FFPs = Family-friendly practices. Gender: 1 = male, 2 = female; employment type 1 = part-time, 2 = full-time; company: 1 = yes, 2 = no.

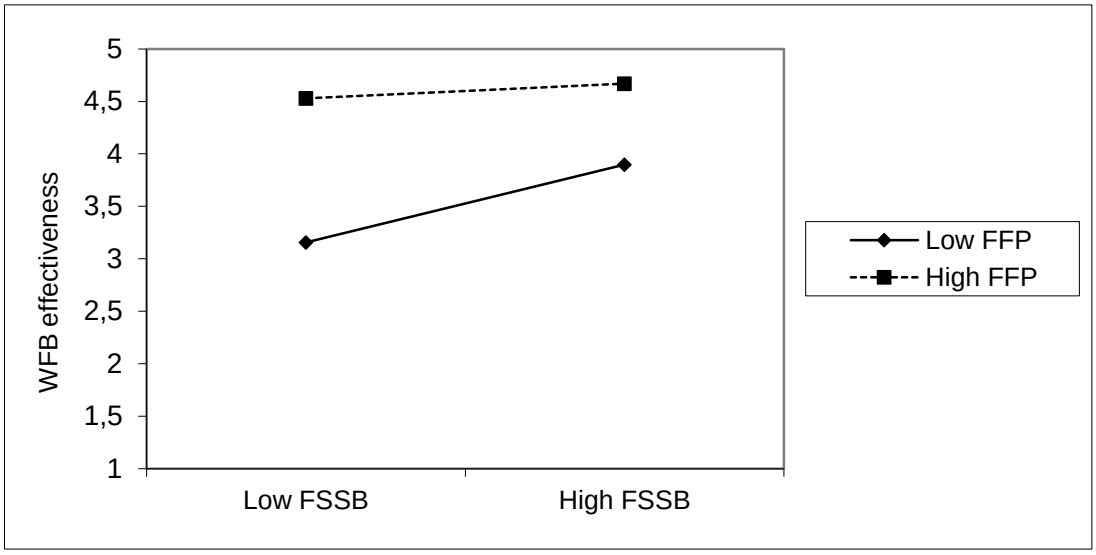

Figure 3. Interaction between family-friendly supervisor behaviours (FSSB, unstandardized) and team availability of family-friendly practices (FFP, unstandardized) on work-family balance (WFB) effectiveness.

To combine the findings regarding mediation and moderation, I run a moderated mediation model (H2b, Table 13) by integrating the syntaxes for mediation (H1c) and moderation (H2a). As both interactions were non-significant in the moderated mediation (WFB satisfaction: b = -.15, SE = .09, p = .092 and WFB effectiveness: b = -.13, SE = .08, p = .119), the simple slopes were not interpreted and the moderated mediation consequently refuted. Consequently, Hypothesis 2b was rejected.

Table 13: *Hierarchical linear regression results for the test of moderated mediation (H2b)*

Variable	FSSB			WFB satisfaction		
	B	*SE*	*p*	*B*	*SE*	*p*

Within level						
Age				.01	.01	.380
Gender				.14	.20	.494
Employment type				.16	.29	.583
FSSB*						
Between level						
Company 1				-.53	.38	.164
Company 2				-.13	.51	.856
Company 3				-1.02	.63	.106
Team size				.04	.07	.618
Team authentic leadership	.73	.17	.000	.11	.52	.835
FSSB				2.77	.30	.000
Team availability of FFPs				.49	.35	.157
FSSB x Team availability of FFPs				-.15	.09	.092

Bootstrap results for the indirect effect of authentic leadership on WFB satisfaction at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*
- 1 SD (1.88)	.425	.17	.010
M (3.39)	.260	.11	.018
+ SD (4.90)	.094	.13	.456

Variable	FSSB			WFB effectiveness		
	B	*SE*	*p*	*B*	*SE*	*p*
Within level						
Age				-.00	.01	.713
Gender				-.14	.20	.475
Employment type				.31	.20	.123
FSSB*				.88	.32	.006
Between level						
Company 1				-.36	.32	.255
Company 2				.66	.52	.198
Company 3				.01	.46	.989
Team size				.02	.05	.772
Team authentic leadership	.73	.17	.000	-.11	.56	.840
FSSB				.88	.32	.000
Team availability of FFPs				.83	.33	.011
FSSB x Team availability of FFPs				-.13	.08	.119

Bootstrap results for the effect of authentic leadership on WFB effectiveness at availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*
- 1 SD (1.88)	.37	.16	.020
M (3.39)	.23	.11	.040
+ SD (4.90)	.09	.13	.519

Note. *n* = 106. Unstandardized regression coefficients are reported. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. *Random slope formed between FSSB and WFB satisfaction/effectiveness. FSSB = Family-supportive supervisor behaviours. FFPs = Family-friendly practices. WFB = Work-family balance. Gender: 1 = male, 2 = female; employment type 1 = part-time, 2 = full-time; company: 1 = yes, 2 = no.

6.3.2.2 Life satisfaction, health and job performance as outcomes

To test the hypotheses pertaining to the relationships between WFB satisfaction/effectiveness and life satisfaction, health and performance, a 1-1 fixed slope model (Preacher et al., 2010) was calculated. The effects of WFB satisfaction/effectiveness on the outcomes at the within level were examined. Hypotheses 3a-b predicted that WFB satisfaction/effectiveness would have a positive effect on life satisfaction and health, while Hypothesis 3c stated that only WFB effectiveness should be positively related to job performance. It was found (Table 14) that WFB satisfaction was positively related to life satisfaction (b = .29, SE = .08, p < .001) and health (b = 1.93, SE = .67, p < .01), as was WFB effectiveness (life satisfaction: b = .40, SE = .09, p < .001, health: b = 2.81, SE = .58, p < .001). In contrast, neither WFB satisfaction nor WFB effectiveness were related to performance (b = -.07, SE = .06, p = .288 and b = -.06, SE = .07, p = .349). Hence, Hypothesis 3a and 3b were supported and 3c was rejected.

Table 14: *Hierarchical linear regression results for the test of the effects of WFB satisfaction and WFB effectiveness on life satisfaction, health and performance (H3a-c)*

Variable	*Life satisfaction*			*Life satisfaction*		
	B	*SE*	*p*	*B*	*SE*	*p*
Within level						
Age	-.00	.01	.721	-.00	.01	.697
Gender	-.03	.19	.888	.06	.17	.721
Employment type	.08	.36	.819	-.00	.41	.998
WFB satisfaction	.29	.08	.000			
WFB effectiveness				.40	.09	.000
Between level						
Company 1	.46	.63	.464	.34	1.76	.846
Company 2	.79	.53	.137	.58	.29	.047
Company 3	.15	1.15	.895	-.17	2.84	.954
Team size	-.06	.05	.221	-.04	.11	.731
WFB satisfaction	.43	.54	.429			
WFB effectiveness				.40	2.19	.856
Variable	*Health*			*Health*		
	B	*SE*	*p*	*B*	*SE*	*p*
Within level						
Age	-.05	.05	.383	-.05	.08	.537
Gender	-1.91	1.04	.067	-1.30	1.17	.268
Employment type	2.82	2.51	.261	2.15	15.16	.887
WFB satisfaction	1.93	.67	.004			
WFB effectiveness				2.81	.58	.000
Between level						
Company 1	8.71	1.89	.000	9.74	22.12	.660
Company 2	8.47	2.81	.003	6.68	5.68	.239
Company 3	5.13	3.77	.173	6.09	36.66	.868
Team size	-.46	.29	.114	-.45	1.46	.759
WFB satisfaction	2.54	1.67	.128			
WFB effectiveness				4.72	36.64	.892
Variable	*Job performance*			*Job performance*		
	B	*SE*	*p*	*B*	*SE*	*p*
Within level						
Age	-.03	.01	.651	-.00	.01	.926
Gender	.06	.14	.653	.08	.15	.600
Employment type	-1.04	.29	.000	-.67	.58	.249
WFB satisfaction	-.07	.06	.288			
WFB effectiveness				-.06	.07	.349
Between level						
Company 1	-1.35	.89	.131	-2.84	2.42	.241
Company 2	-1.47	.69	.034	.15	1.01	.883
Company 3	-1.76	1.70	.300	-4.08	4.04	.312
Team size	.10	.09	.244	.18	.16	.258
WFB satisfaction	-.66	.85	.439			
WFB effectiveness				-2.90	3.15	.357

Note. *n* = 106. Unstandardized regression coefficients are reported. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. WFB = Work-family balance. Gender: 1 = male, 2 = female; employment type 1 = part-time, 2 = full-time; company: 1 = yes, 2 = no.

6.3.2.3 Serial mediation and moderated serial mediation

Before testing the indirect effect of authentic leadership on life satisfaction, health and performance via FSSB and WFB satisfaction/effectiveness, I tested the direct effect of team authentic leadership on all outcomes. To do so, I regressed the outcomes on team authentic leadership at the between level. The findings revealed that team authentic leadership had no direct effect on life satisfaction (b = .10, SE = .23, p = .652), health (b = 1.40, SE = 1.22, p = .251) and job performance (b = .21, SE = .20, p = .305). To test the indirect effect of team authentic leadership on the outcomes (H4a-c), the regression of the outcome variables on WFB satisfaction/effectiveness at the between-level was multiplied with the syntax terms used to test mediation in H1c. The findings are displayed in Table 15a-b.

With regard to life satisfaction, it was found that the indirect effect through WFB satisfaction/effectiveness was significant (b = .71, SE = .24, p < .01 and b = .70, SE = .20, p < .01). Concerning health, the indirect effect was not significant for WFB satisfaction (b = 4.54, SE = 4.64, p = .328), but was significant for WFB effectiveness (b = 4.57, SE = 1.98, p < .05). With regard to job performance, the indirect effect of team authentic leadership via the mediators and WFB satisfaction was not significant (b = -.08, SE = .20, p = .680), as it was the case for WFB effectiveness (b = -.09, SE = .26, p = .731). Taken together, H4a received full support, H4b partial support and H4c was rejected.

Table 15a: *Hierarchical linear regression results for the indirect effect of team authentic leadership on life satisfaction, health and job performance via FSSB and WFB satisfaction (serial mediation, H4a-b)*

Variable	*FSSB*			*WFB satisfaction*			*Life satisfaction*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							-.03	.01	.698
Gender							-.03	.21	.883
Employment type							.11	.41	.795
FSSB*							.36	.16	.021
WFB satisfaction							.27	.09	.002
Between level									
Company 1							.29	.34	.385
Company 2							.73	.52	.161
Company 3							-.10	.46	.833
Team size							-.05	.03	.030
Team authentic leadership	.73	.17	.000				-.08	.21	.718
FSSB				2.68	.24	.000			
WFB satisfaction							.32	.08	.000

Variable	*FSSB*			*WFB satisfaction*			*Health*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							-.05	.09	.578
Gender							-2.0	1.60	.214
Employment type							3.14	3.19	.325
FSSB*							.35	.28	.215
WFB satisfaction							1.77	1.25	.159
Between level									
Company 1							-.53	.64	.414
Company 2							8.71	8.82	.323
Company 3							9.03	6.28	.150
Team size							5.02	9.98	.615
Team authentic leadership	.73	1.06	.487				-.49	.200	.014
FSSB				2.59	1.49	.082	.24	3.29	.943
WFB satisfaction							2.10	.77	.007

Variable	FSSB			WFB satisfaction			Performance		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							.00	.01	.795
Gender							.14	.15	.379
Employment type							-.19	1.05	.855
FSSB*							.33	.17	.049
WFB satisfaction							-.07	.05	.191
Between level									
Company 1							3.59	2.39	.134
Company 2							-.49	.23	.035
Company 3							-.07	1.11	.949
Team size							-.27	.38	.480
Team authentic leadership	.15	.18	.383				.02	.05	.693
FSSB				2.35	.16	.000	.15	.18	.383
WFB satisfaction							-.04	.10	.678

Bootstrap results for the indirect effect of authentic leadership via WFB satisfaction

Variable	*Effect*	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
Life satisfaction	.71	.24	.003	.243	1.17
Health	4.54	4.64	.328	-4.55	13.63
Performance	-.08	.20	.680	-.483	.315

Note. n = 106. Unstandardized regression coefficients are reported. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. *Random slope formed between FSSB and WFB satisfaction/effectiveness. FSSB = Family-supportive supervisor behaviours. WFB = Work-family balance. Gender: 1 = male, 2 = female; employment type 1 = part-time, 2 = full-time; company: 1 = yes, 2 = no.

Table 15b: *Hierarchical linear regression results for the indirect effect of team authentic leadership on life satisfaction, health and job performance via FSSB and WFB effectiveness (serial mediation, H4a-c)*

Variable	*FSSB*			*WFB effectiveness*			*Life satisfaction*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							-.00	.01	.678
Gender							.05	.18	.791
Employment type							.04	.27	.881
FSSB*							.36	.17	.037
WFB satisfaction							.38	.12	.001
Between level									
Company 1							.40	.35	.252
Company 2							.70	.43	.099
Company 3							-.05	.48	.911
Team size							-.05	.02	.048
Team authentic leadership	.73	.11	.000				.02	.25	.931
FSSB				1.94	.26	.037			
WFB effectiveness							.42	.14	.002

Variable	*FSSB*			*WFB effectiveness*			*Health*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							-.05	.08	.538
Gender							-1.45	1.06	.172
Employment type							2.29	2.29	.318
FSSB*							.35	.19	.062
WFB satisfaction							2.68	1.01	.008
Between level									
Company 1							9.59	3.33	.004
Company 2							8.45	3.92	.031
Company 3							5.43	4.74	.252
Team size							-.45	.245	.068
Team authentic leadership	.73	.21	.001				.96	1.31	.464
FSSB				1.88	.28	.000			
WFB effectiveness							2.81	.73	.000

Variable	*FSSB*			*WFB effectiveness*			*Performance*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							.00	.01	.816
Gender							.10	.15	.539
Employment type							-.25	1.13	.825
FSSB*							.33	.18	.074
WFB satisfaction							-.07	.07	.277
Between level									
Company 1							-.49	.28	.076
Company 2							-.13	1.34	.920
Company 3							-.22	.42	.594
Team size							.02	.04	.715
Team authentic leadership	.73	.13	.000				.18	.30	.548
FSSB WFB effectiveness				1.69	.26	.000	-.06	.18	.726

Bootstrap results for the indirect effect of authentic leadership via WFB effectiveness

Variable	*Effect*	*Boot SE*	*p*	*Boot* LL 95% CI	*Boot* UL 95% CI
Life satisfaction	.70	.20	.001	.299	1.10
Health	4.57	1.98	.021	.699	8.44
Performance	-.09	.26	.731	-.604	.423

Note. n = 106. Unstandardized regression coefficients are reported. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. *Random slope formed between FSSB and WFB satisfaction/effectiveness. FSSB = Family-supportive supervisor behaviours. WFB = Work-family balance. Gender: 1 = male, 2 = female; employment type 1 = part-time, 2 = full-time; company: 1 = yes, 2 = no.

Finally, I tested the full moderated serial mediation model (H5a-c; Table 16a-b), which examined the indirect effect of team authentic leadership on life satisfaction, health and job performance via FSSB and WFB satisfaction/effectiveness at different levels of the moderator team availability of FFPs. To test this statistically, the syntaxes for serial mediation (H4a-c) and for cross-level moderation (H2a) were combined and the analyses were run for all three outcomes separately. I consulted an expert in the field (K. Preacher, personal communication, October 8, 2015) to double-check the correctness of this approach. The analyses revealed that the interactions of FSSB and team availability of FFPs on WFB satisfaction/effectiveness were not significant (b = -.13, SE = .09, p = .142; b = -.29, SE = .07, p = .253), when the conditional indirect of team authentic leadership on life satisfaction was examined. Consequently, serial moderated mediations were excluded. On the contrary, the interactions were

significant for both WFB satisfaction (*b* = -.33, *SE* = .09, *p* < .001) and WFB effectiveness (*b* = -.35, *SE* = .08, *p* < .001), when the conditional indirect effect of team authentic leadership on health was examined (H5b). The analyses of the simple slopes, however, revealed that the indirect effect was significant for low levels of the team availability of FFPs (-1SD: *b* = 1.48, *SE* = .76, *p* = .051 and *b* = 1.95, *SE* = .58, *p* < .01), but not for high levels (+1SD: *b* = -.23, *SE* = .47, *p* = .623 and *b* = -.50, *SE* = .72, *p* = .488). Regarding Hypothesis 5c (the conditional indirect effect of team authentic leadership on job performance), the interactions between FSSB and team availability of FFPs on WFB satisfaction/effectiveness were significant (*b* = -.20, *SE* = .08, *p* < .05; *b* = -.29, *SE* = .12, *p* < .05). As the simple slopes for the conditional indirect effect of team authentic leadership on performance were, however, not significant for low (-1SD: *b* = -.00, *SE* = .04, *p* = .972 and *b* = -.01, *SE* = .07, *p* = .941) and high levels (+1SD: *b* = .00, *SE* = .00, *p* = .990 and *b* = .00, *SE* = .01, *p* = .935), the conditional indirect effects via WFB satisfaction/effectiveness were considered not significant. Taken together, as no conditional indirect effects of team authentic leadership on life satisfaction and performance via FSSB and WFB satisfaction/effectiveness were found, Hypothesis 5a and 5c are rejected. While conditional indirect effects on health were found via FSSB and both WFB satisfaction and WFB effectiveness, the obtained findings did not follow the expected pattern. Team authentic leadership was only related to health when team availability of FFPs was low, signifying that team availability of FFPs did not enhance the effect, but that team authentic leadership compensated for low levels of FFPs.

Table 16a: *Hierarchical linear regression results for the test of team availability of FFPs as a moderator of the indirect effect of team authentic leadership on life satisfaction, health and performance via FSSB and WFB satisfaction (H5a-b)*

Variable	*FSSB*			*WFB satisfaction*			*Life satisfaction*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							-.00	.01	.728
Gender							-.03	.18	.867
Employment type							.08	.40	.837
WFB satisfaction							.26	.09	.005
Between level									
Company 1							.50	.28	.080
Company 2							.98	.51	.057
Company 3							.25	.57	.658
Team size							-.06	.03	.010
Team authentic leadership	.73	.16	.000	-.28	.62	.651			
FSSB				4.10	.20	.000			
Team availability FFPs				.92	.35	.009			
FSSB x Team availability of FFPs				-.13	.09	.142			
WFB satisfaction							.32	.09	.001

Variable	*FSSB*			*WFB satisfaction*			*Health*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							-.05	.07	.438
Gender							-1.9	1.48	.183
Employment type							3.13	3.48	.368
WFB satisfaction							1.84	1.14	.107
Between level									
Company 1							9.74	2.29	.000
Company 2							10.9	4.92	.026
Company 3							7.36	3.62	.042
Team size							-.58	.23	.011
Team authentic leadership	.73	.16	.000	.03	.64	.962			
FSSB				3.77	.27	.000			
Team availability FFPs				.91	.38	.016			
FSSB x Team availability of FFPs				-.33	.09	.000			
WFB satisfaction							2.38	1.01	.019

Variable	FSSB			WFB satisfaction			Performance		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							.00	.01	.791
Gender							.14	.15	.335
Employment type							-.19	1.06	.861
WFB satisfaction							-.06	.06	.273
Between level									
Company 1							-.48	.31	.114
Company 2							.01	1.17	.995
Company 3							-.15	.58	.793
Team size							.01	.04	.748
Team authentic leadership	.73	.16	.000	.39	.50	.434			
FSSB				3.24	.18	.000			
Random slope				.96	.31	.002			
Team availability FFPs				.85	.34	.011			
FSSB x Team availability of FFPs				-.20	.08	.011			
WFB satisfaction							-.00	.08	.972

Bootstrap results for the indirect effect of team authentic leadership on life satisfaction at team availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*
- 1 SD (1.88)	.12	.06	.034
M (3.39)	.07	.04	.069
+ 1 SD (4.9)	.03	.05	.580

Bootstrap results for the indirect effect of team authentic leadership on health at team availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*
- 1 SD (1.88)	1.48	.76	.051
M (3.39)	.63	.33	.059
+ 1 SD (4.9)	-.23	.47	.623

Bootstrap results for the indirect effect of team authentic leadership on job performance at team availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*
- 1 SD (1.88)	-.00	.04	.972
M (3.39)	-.00	.02	.972
+ 1 SD (4.9)	.00	.00	.990

Note. *n* = 106. Unstandardized regression coefficients are reported. Bootstrap sample size = 5,000. LL = lower limit; CI = confidence interval; UL = upper limit. *Random slope formed between FSSB and WFB satisfaction/effectiveness. FSSB = Family-supportive supervisor behaviours. FFPs = Family-friendly practices. WFB = Work-family balance. Gender: 1 = male, 2 = female; employment type 1 = part-time, 2 = full-time; company: 1 = yes, 2 = no.

Table 16b: *Hierarchical linear regression results for the test of team availability of FFPs as a moderator of the indirect effect of team authentic leadership on life satisfaction, health and job performance via FSSB and WFB effectiveness (H5a-c)*

Variable	*FSSB*			*WFB effectiveness*			*Life satisfaction*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							-.00	.01	.689
Gender							.10	.21	.793
Employment type							.03	.43	.949
WFB effectiveness							.39	.12	.002
Between level									
Company 1							.50	.83	.547
Company 2							.86	.75	.253
Company 3							.16	1.24	.898
Team size							-.06	.04	.163
Team authentic leadership	.73	.36	.044	-.39 3.67	.61	.525			
FSSB				1.21	.39	.000			
Random slope				.85	.46	.008			
Team availability FFPs				-.39	.61	.525			
FSSB x Team availability of FFPs				-.29	.07	.253			
WFB effectiveness							.43	.12	.000

Variable	*FSSB*			*WFB effectiveness*			*Health*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							-.05	.05	.308
Gender							-	.99	.141
Employment type								5.94	.676
WFB effectiveness								.73	.000
Between level									
Company 1								1.63	.000
Company 2							2.48	5.46	.062
Company 3							2.67	2.56	.006
Team size								.20	.011
Team authentic leadership	.73	.16	.000	-.06 3.56	.57	.918	10.0 10.2		
FSSB					.18	.000	7.06		
Random slope				1.49	.29	.000	-.51		
Team availability FFPs				.86	.34	.012			
FSSB x Team availability of FFPs				-.35	.08	.000			
WFB effectiveness							3.20	.82	.000

Variable	*FSSB*			*WFB effectiveness*			*Job performance*		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Within level									
Age							.00	.01	.790
Gender							.11	.16	.489
Employment type							-.18	1.06	.864
WFB satisfaction							-.07	.08	.382
Between level									
Company 1							-.54	.42	.200
Company 2							-.01	1.31	.994

Company 3							-.16	.75	.834
Team size							.01	.05	.858
Team authentic leadership	.73s	.17	.000	-.04	.51	.945			
FSSB				3.14	.26	.000			
Random slope				1.26	.34	.000			
Team availability FFPs				.83	.49	.089			
FSSB x Team availability of FFPs				-.29	.12	.018			
WFB effectiveness							-.01	.13	.941

Bootstrap results for the effect of team authentic leadership on life satisfaction at team availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*
- 1 SD (1.88)	.23	.10	.031
M (3.39)	.10	.16	.529
+ 1 SD (4.9)	-.03	.23	.910

Bootstrap results for the indirect effect of team authentic leadership on health at team availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*
- 1 SD (1.88)	1.95	.58	.001
M (3.39)	.73	.42	.081
+ 1 SD (4.9)	-.50	.72	.488

Bootstrap results for the indirect effect of team authentic leadership on job performance at team availability FFPs = M ± 1*SD*

	Effect	*Boot SE*	*p*
- 1 SD (1.88)	-.01	.07	.941
M (3.39)	-.00	.03	.943
+ 1 SD (4.9)	.00	.01	.935

Note. *n* = 106. Unstandardized regression coefficients are reported. Bootstrap sample size = 5,000. *LL* = lower limit; *CI* = confidence interval; *UL* = upper limit. *Random slope formed between FSSB and WFB satisfaction/effectiveness. FSSB = Family-supportive supervisor behaviours. FFPs = Family-friendly practices. WFB = Work-family balance. Gender: 1 = male, 2 = female; employment type 1 = part-time, 2 = full-time; company: 1 = yes, 2 = no.

6.4 Discussion

The objective of this chapter, compared to Study 1, was to provide a cross-level test of the hypothesised model by collecting data from employees nested in teams and from team's supervisors. In contrast to Study 1, cross-level effects of team authentic leadership and teams' perceptions of the availability of FFPs were examined and the variance due to team membership was accounted for. The test of the hypotheses with MLM in MPlus on a dataset of 106 employees from 27 teams mostly replicated the findings of Study 1, with team authentic leadership positively influencing employees' life satisfaction and health via FSSB and WFB (only WFB effectiveness for health).

Firstly, the findings of the CFAs largely replicated those of Study 1 by showing that WFB satisfaction and WFB effectiveness are distinct, but correlated components of WFB and that empirical studies that only assess one of them do not fully capture the WFB construct.

Secondly, the MLM findings lend support to the cross-level version of the hypothesised model, with 6 out of 14 hypotheses being fully supported and further 3 hypotheses receiving mixed support. The hypotheses regarding the antecedents of WFB satisfaction and WFB effectiveness were based on work-family border theory (Clark, 2000) and the empirical evidence showed that team authentic leadership was positively related to individual perceptions of FSSB which, in turn, was positively related to WFB satisfaction and WFB effectiveness (mediation). While Study 1 had revealed that individual perceptions of the availability of FFPs moderated the relationship of FSSB and WFB satisfaction, Study 2 found support for an interaction between the two variables when predicting WFB effectiveness. However, the interaction pattern replicated the compensatory effect revealed in Study 1 (Friedman & Greenhaus, 2000) and not the expected enhancing effect. Hence, FSSB and team availability of FFPs did not complement each other in the prediction of WFB

effectiveness, but interacted in a compensatory manner, mirroring recent empirical findings regarding their joint effect on organizational citizenship behaviour and performance (Bagger & Li, 2014). Contrary to expectation and contrary to the findings obtained in Study 1, team authentic leadership showed no conditional indirect effect on WFB satisfaction/effectiveness via FSSB at different levels of team availability of FFPs.

Furthermore, and as in Study 1, I found support for the theoretically derived assumption (role accumulation theories; Marks & MacDermid, 1996; Sieber, 1974) that WFB satisfaction and WFB effectiveness would be positively related to life satisfaction and health. Contrary to what had been predicted and to the findings obtained in Study 1, as well as those by Wayne and colleagues (2015), WFB effectiveness was not related to supervisor-rated job performance.

Lastly, I integrated the previous hypotheses and showed that team authentic leadership was positively related to employees' life satisfaction through FSSB and WFB satisfaction/effectiveness, extending the findings of Study 1 by revealing cross-level effects of team authentic leadership. Interestingly, team authentic leadership was only positively related to health through FSSB and WFB effectiveness (and not through WFB satisfaction) and was not indirectly related to job performance via WFB effectiveness as expected (and as confirmed in Study 1). Taken together, these findings affirm the positive indirect effect of authentic leadership/team authentic leadership on life satisfaction, while the findings did not confirm the effect of WFB effectiveness on job performance. Whereas team authentic leadership had no indirect effect on health through WFB satisfaction, this finding might be due to a potential boundary condition. In this way, team authentic leadership exhibited conditional indirect effects on health through both WFB satisfaction and WFB effectiveness (serial moderated mediation) such that the relationship was only significant when team availability of FFPs was low as compared to high. While these findings replicate the

findings obtained in Study 1, they do not show the proposed pattern (enhancing effect of the availability of FFPs). On the contrary, results of the serial moderated mediations could not be replicated for life satisfaction and job performance via both WFB satisfaction and WFB effectiveness.

In the next chapter, the findings of Study 1 and Study 2 are integrated and reviewed in light of the underlying theories and previous empirical evidence. Additionally, theoretical and practical implications of the findings and limitations of the study are discussed, and some directions for future research are suggested.

CHAPTER SEVEN – GENERAL DISCUSSION

7.1 Introduction

The last two decades or so have seen a revitalisation of work-family research with scholars moving away from the earlier focus on the positive or negative consequences that work and family have on each other (e.g., work-family conflict and work-family enrichment; Greenhaus & Beutell, 1985; Greenhaus & Powell, 2006), towards a focus on WFB (e.g., Allen & Kiburz, 2012; Carlson et al., 2009; Greenhaus & Allen, 2011). Yet, the advancement of research in this domain is limited by the multitude of elusive definitions (Greenhaus & Allen, 2011) and the various ways in which researchers assess WFB (e.g., Greenhaus et al., 2003, Greenhaus et al.,2011), which limits the comparability of the findings regarding its antecedents and consequences. To overcome these limitations, this thesis builds on the seminal work by Wayne and colleagues (2015) and considers two conceptualizations (WFB satisfaction and effectiveness; Grzywacz & Carlson, 2007; Valcour, 2007) as components of WFB that capture Greenhaus and Allen's (2011) definition of the construct.

Accordingly, this thesis reported two studies (Study 1 and Study 2) that tested a theory-driven model (work-family border and role accumulation theories; Clark, 2000; Marks & MacDermid, 1996; Sieber, 1974), which integrated the leadership and work-family interface literatures to propose antecedents and consequences of WFB satisfaction and effectiveness. Study 1 tested the individual-level model and Study 2 tested a cross-level version of the model. This model proposed that (team) authentic leadership would increase WFB through FSSB and (team) availability of FFPs and that WFB satisfaction and WFB effectiveness, in turn, would be positively related to life satisfaction, health and job performance (only WFB effectiveness should be positively related to job performance). In the following sections, an integrated summary of the findings of

the two studies is provided, followed by a discussion of their theoretical and practical implications, limitations and strengths of this thesis, and recommendations for future research.

7.2 Summary of key findings

As shown in Table 17, the findings of Study 1 and 2 fully supported 9 out of 14 and 6 out of 14 hypotheses, respectively. Mixed support was obtained for a further 5 hypotheses in Study 1 and a further 3 in Study 2.

Distinctive features of the two studies include the use of individual ratings of authentic leadership and availability of FFPs in Study 1, while the individual ratings of these constructs were aggregated to the team level in Study 2 to represent team-level constructs. Furthermore, all analyses were run for WFB satisfaction and effectiveness separately, which reflects the conceptualisation of both as separate, but related components of WFB. CFA results in both studies showed support for the proposed multi-dimensional nature of WFB. CFAs were also used to test the fit of the hypothesized model (including either self-rated or supervisor-rated job performance), which showed that the proposed eight-factor model had a superior fit above other plausible models, emphasising the distinctiveness of the study variables.

7.2.1 Antecedents of WFB

The findings obtained from both studies showed that (team) authentic leadership was positively related to FSSB, lending support to Hypothesis 1a. Also, FSSB was positively related to both WFB satisfaction and WFB effectiveness, confirming Hypothesis 1b. (Team) authentic leadership was, in turn, indirectly positively related to WFB satisfaction and WFB effectiveness, confirming that authentic leadership impacts employees' WFB through the expression of family-supportive behaviours (Hypothesis 1c). Furthermore, both studies found support for the moderating role of (team) availability of FFPs of the relationship between FSSB and WFB. However, Study 1 only found support for a moderation of the FSSB-WFB

satisfaction link and Study 2 only for the FSSB-WFB effectiveness link (Hypothesis 2a).

Notably, contrary to expectation (enhancing effect), the relationship was in both cases stronger if the (team) availability was low rather than high. I interpreted this as evidence of compensation in that (team) availability of FFPs compensated for low levels of FSSB and vice versa and that both together did not lead to increased WFB as predicted. Taken together, Hypothesis 2a received mixed empirical support, as a moderation was only found in half of the cases and as the interactions showed a pattern contrary to what had been predicted.

Concerning the conditional indirect effect of authentic leadership on WFB satisfaction/effectiveness via FSSB, Study 1 revealed that this effect was significant (positive) for WFB satisfaction, when the availability of FFPs was low rather than high. Hence, a pattern opposed to prediction was found (compensatory effect). While no conditional indirect was discovered for WFB effectiveness in Study 1, Study 2 was not able to support any of the two proposed moderated mediations. Consequently, Hypothesis 2b received weak support, as it had been predicted that the indirect effect of (team) authentic leadership would be stronger, if (team) availability of FFPs was high rather than low.

Table 17: *Overview of the results from Study 1 and Study 2 of the test of the hypothesized model*

Hypothesis	*Study 1 – Individual-level model*	*Study 2 – Cross-level model*
H1a: (Team) authentic leadership is positively related to FSSB.	Supported	Supported
H1b: FSSB is positively related to employee WFB satisfaction and WFB effectiveness.	Supported	Supported
H1c: The positive relationship between (team) authentic leadership and employee WFB satisfaction/effectiveness is mediated by FSSB.	Supported	Supported
H2a: The relationship between FSSB and employee WFB satisfaction/effectiveness is moderated by the (team) availability of FFPs in such a way that the relationship will be stronger, when availability is high as compared to low.	Mixed support for WFB satisfaction	Mixed support for WFB effectiveness
H2b: The positive indirect effect of (team) authentic leadership on WFB satisfaction/ effectiveness via FSSB is stronger if the (team) availability of FFPs is high as compared to low.	Mixed support for WFB satisfaction	No support
H3a: WFB satisfaction and WFB effectiveness are positively related to life satisfaction.	Supported	Supported
H3b: WFB satisfaction and WFB effectiveness are positively related to health.	Supported	Supported
H3c: WFB effectiveness is positively related to job performance.	Supported	Not supported
H4a: (Team) authentic leadership is positively related to employee life satisfaction via FSSB and employee WFB satisfaction/effectiveness.	Supported	Supported
H4b: (Team) authentic leadership is positively related to employee health via FSSB and employee WFB satisfaction/effectiveness.	Supported	Supported for WFB effectiveness
H4c: (Team) authentic leadership is positively related to employee performance via FSSB and employee WFB effectiveness.	Supported	Not supported
H5a: The positive effect of (team) authentic leadership on employee life satisfaction via FSSB and employee WFB satisfaction/ effectiveness is stronger when the (team) availability of FFPs is high as compared to low.	Mixed support for both components	Not supported
H5b: The positive effect of (team) authentic leadership on employee health via FSSB and employee WFB satisfaction/effectiveness is stronger when the (team) availability of FFPs is high as compared to low.	Mixed support for both components	Mixed support for both components
H5c: The positive effect of (team) authentic leadership on employee performance via FSSB and employee WFB effectiveness is stronger when the (team) availability of FFPs is high as compared to low.	Mixed support	Not supported

Note. *n* (Study 1) = 174, *n* (Study 2) = 106 (27 teams). FSSB = Family-supportive supervisor behaviour; FFPs = Family-friendly practices; WFB = Work-family balance.

7.2.2 Outcomes of WFB

It was found in both studies that WFB satisfaction and WFB effectiveness were positively related to life satisfaction and health, supporting Hypothesis 3a and 3b. Regarding performance, I had predicted that only WFB effectiveness would be positively related to performance because this reflects, as compared to WFB satisfaction, the idea that WFB is characterised by high performance at work and at home (Carlson et al., 2009). Whereas Study 1 supported this assumption for self-rated job performance, Study 2 found no link between WFB effectiveness and supervisor-rated jobperformance. Hence, H3c received only partial support. As expected, WFB satisfaction was not related to job performance in both studies.

7.2.3 Serial mediation and serial moderated mediation

Hypotheses 4a-c were concerned with the positive effect of (team) authentic leadership on life satisfaction, health and performance via FSSB and WFB satisfaction/effectiveness. The findings revealed that (team) authentic leadership exhibited a positive indirect effect on life satisfaction via FSSB and WFB effectiveness in both studies, but only a significant indirect effect via WFB satisfaction in Study 1, partially supporting Hypothesis 4a. While the indirect effect on health (Hypothesis 4b) was also significant via both WFB satisfaction and WFB effectiveness in Study 1, only the indirect effect of team authentic leadership through WFB effectiveness was significant in Study 2. Hence, Hypothesis 4b received mixed support. Regarding job performance, the positive indirect effect of team authentic leadership via FSSB and WFB effectiveness was confirmed in Study 1 for self-rated performance, but could not be replicated for team authentic leadership and supervisor-rated performance in Study 2. Therefore, Hypothesis 4c received mixed support. As expected, (team) authentic leadership had no indirect effect on performance via FSSB and WFB satisfaction in both studies.

Lastly, it was found in Study 1 that the indirect effect of authentic leadership on life satisfaction and health via FSSB and WFB satisfaction/effectiveness, and on performance via FSSB and WFB effectiveness was moderated by availability of FFPs (H5a-c). Contrary to expectation, this effect was not stronger (enhancing effect) when the availability was high, but rather weaker (compensatory effect). Consequently, authentic leadership only indirectly affected life satisfaction, health, and performance when the availability of organisational family support was low. Similar findings were obtained for Study 2. However, team availability of FFPs only moderated the indirect effect of team authentic leadership on health via FSSB and WFB satisfaction/effectiveness and not on life satisfaction or performance. Regarding health, team authentic leadership compensated, as in Study 1, for low levels of team availability of FFPs. Taken together, Hypothesis 5a and 5c received weak support and Hypothesis 5b mixed support, as interaction effects were found, but they did not enhance the indirect effects of (team) authentic leadership on the outcomes as expected, but rather diminished them. As predicted, no conditional indirect effect of (team) authentic leadership on job performance via WFB satisfaction was found in both studies.

7.3 Theoretical implications

This study contributes to the work-family and leadership literatures in several ways. Firstly, work-family research has taken important steps towards portraying individuals' work-family experiences by focusing on WFB instead of the limited views that work-family conflict and work-family enrichment (and other positive work-family constructs) offer. However, to progress WFB research, it needs to be ascertained what comprises WFB and how to best assess it. This thesis contributes to this discussion by proposing that Greenhaus and Allen's (2011) definition of WFB, that highlights employees' satisfaction and effectiveness in work and family roles, is best captured through both WFB satisfaction (Valcour, 2007) and WFB effectiveness (Grzywacz & Carlson, 2007). The proposition that WFB satisfaction and WFB

effectiveness constitute two correlated, but separate components of WFB (see Wayne et al., 2015) received empirical support (CFAs) across the two studies reported in this thesis. This finding has important implications for work-family research. Namely, this study contributes to the theoretical refinement of the WFB construct by revealing that a definition of WFB needs to include both components and that research that examines only one of them does not fully capture employees' work-family experiences.

Secondly, consistent with research that has highlighted the importance of informal organisational support for employees' experience of the work-family interface (e.g., Hammer et al., 2009), the findings revealed FSSB as an antecedent of both components of WFB. While these findings extend the work by Wayne and colleagues (2015), more critical to our understanding of the antecedents of WFB is uncovering availability of FFPs as a boundary condition of the FSSB-WFB relationship. Contrary to expectation, this thesis revealed across two studies that FSSB and (team) availability of FFPs interacted in a compensatory manner (Friedman & Greenhaus, 2000), signifying that a form of formal or informal support is only relevant to employees' WFB in the absence of other forms of family support. While Study 1 provided support for the interaction concerning WFB satisfaction, the compensatory effect was confirmed for WFB effectiveness in the nested model in Study 2. These findings emphasise that employees share perceptions regarding their organisation's available FFPs and that these perceptions compensate for low levels of FSSB concerning employees' WFB.

In revealing compensatory effects of formal and informal support, the findings of this thesis are inconsistent with previous research that found an enhancing effect of their interplay on work-family conflict (i.e. reduced work-family conflict; Allen et al., 2014). In contrast to my focus on FFPs, Allen and colleagues examined availability of national paid leave policies (i.e. one form of national FFPs), which might function

differently than organisational FFPs. This is because national paid leave policies only specify the required minimum of FFPs that organisations should offer, while organisations often exceed this legal requirement (Swody & Powell, 2007).

My finding of a compensatory effect is, however, consistent with Bagger and Li (2014) who reported a compensatory effect of the same forms of formal and informal support on various outcomes (e.g., performance and organizational citizenship behaviour). Consequently, employees might either turn to their supervisors or their organisation for family support, highlighting that supervisors, whose organisations are not that family-friendly, can still have a positive impact on employees' WFB. As these findings also imply that more of the same support does not necessarily lead to improved outcomes, it signifies, from a theoretical perspective (Clark, 2000), that support from one of the boundary-keepers (supervisors or organisations) provides employees with sufficient control over their work domain and the boundaries between work and family domains, facilitating WFB. These findings contribute to work-family research as the examination of the joint effect of multiple forms of support more fully captures employees' daily experiences in managing work and family, leading to an enhanced understanding of factors that facilitate WFB.

Thirdly, this study found authentic leadership to positively relate to FSSB. Consequently, authentic leaders possess the characteristics of family-supportive supervisors and this thesis hence reveals who the leaders are that are likely to support employees' work-family integration. In doing so, this thesis contributes to the FSSB literature by bringing to light, for the first time, antecedents of FSSB, which answers calls (Hammer et al., 2009) and contributes to a better understanding of the FSSB construct. This understanding was achieved through the integration of the work-family and leadership literatures, which was, in light of their overlap concerning supervisor attributes and behaviours (e.g., authentic relational transparency and FSSB emotional support; Luthans & Avolio, 2003; Hammer et al., 2009) overdue and has so far only

been theoretically achieved (Straub, 2012). The knowledge that family-supportive leaders are authentic opens doors for the theoretical refinement of the FSSB construct and subsequent FSSB research should hence also draw on leadership theory for richer theory building.

Fourthly, this thesis contributes to the work-family literature by considering various outcomes of WFB satisfaction and effectiveness and, in doing so, emphasises the impact WFB has on organisational and individual outcomes. On the one side, this thesis revealed that both WFB components were positively related to life satisfaction and health, which may well reflect why employees increasingly attach a high importance to WFB (Eisner, 2005). Establishing positive employee consequences of WFB is important in light of previous research that has linked work-family conflict to depression and impaired physical health (e.g., Carlson, Grzywacz, et al., 2011; Frone et al., 1996; Frone, 2000). Consequently, the work-family interface can also be seen as a source of health and the enormous impact of WFB on employees' lives through helping them to attain a life worth living and reducing their risk of diseases, is emphasised. On the other side, my findings revealed that WFB effectiveness was related to self-rated performance in Study 1, but contrary to previous research (Carlson et al., 2009; Wayne et al., 2015), was unrelated to supervisor-rated performance in Study 2. I had argued, based on role accumulation theories (Marks & MacDermid, 1996; Sieber, 194) and in line with previous research (Wayne et al., 2015) that WFB effectiveness, but not WFB satisfaction, should be related to job performance. The inconsistent findings concerning supervisor-rated job performance could be attributed to the different research designs (cross-sectional vs. temporal separation by four weeks; MLM vs. hierarchical linear regressions; different countries), the difference in the meaning of the examined relationship (i.e. WFB effectiveness linked to performance at the same time vs. the performance over a four-week period) or the small sample size and related small power in Study 2 (see further below), which might have prevented me from detecting a positive relationship.

Alternatively, it can also be argued that the way WFB effectiveness is measured (Carlson et al., 2009) does not truly capture WFB as constituting individuals' and relevant others' assessment of the degree to which demands in work and family domains are fulfilled, as individuals might provide a biased reflection of their WFB effectiveness (see dilemma surrounding the low overlap between self- and supervisor-rated performance; Hoffman, Nathan, & Holden, 1991). Hence, WFB effectiveness should show positive links with self-rated performance, as individuals' assessment of their own performance and the degree to which they fulfil their own and others' expectations (WFB effectiveness) should be coherent, but not with supervisor-rated performance due to individuals' biased assessment. Taken together, this research showed, in line with role accumulation theories (Marks & MacDermid, 1996; Sieber, 1974), that multi-role membership (and hence WFB) is indeed related to employee well-being, while only WFB effectiveness mattered, as expected, for self-rated performance.

Lastly and beyond its contribution to work-family research, this thesis adds to leadership theory through highlighting the impact of authentic leadership on employees' experience of the work-family interface. This thesis found that (team) authentic leadership positively influenced WFB through FSSB and revealed a boundary condition ((team) availability of FFPs) of this link (moderated mediation). In line with work-family border theory (Clark, 2000), it can therefore be concluded that authentic supervisors have the characteristics of 'border-keepers' that positively impact employees' WFB through the expression of FSSB. Furthermore, by revealing life satisfaction and health as consequences, this research adds important new outcomes to the nomological network of authentic leadership and confirms the proposed (Ilies et al., 2005; Macik-Frey, Quick, & Cooper, 2009; Ofori, 2008), but rarely examined (Jensen & Luthans, 2006), influence of authentic leadership on positive health. The findings also unravelled the underlying processes (i.e. FSSB and WFB) through which authentic leadership affects well-being and self-rated

performance, with the same pathways being confirmed for both authentic leadership and team authentic leadership and the diverse outcomes, emphasising the parsimonious nature of the final model. In doing so, authentic leaders' impact on employees' work-family interface is highlighted as an additional pathway that explains the influence of authentic leadership on employee attitudes and behaviours (e.g., previous research: trust, positive mood, leader-member exchange and perceived predictability of the leader; Clapp-Smith et al., 2009; Hsiung, 2012; Peus et al., 2011). Importantly, the previously reported indirect effect of team authentic leadership on supervisor-rated job performance (e.g., Leroy et al., 2012, 2015) was not confirmed, signifying that either other pathways than WFB account for this effect (i.e. behavioural integrity, affective organisational commitment and basic need satisfaction; Leroy et al., 2012; Leroy et al., 2015) or that the indirect effect on supervisor-rated job performance through WFB was not confirmed due to limitations surrounding the power of Study 2 (see below).

7.4 Practical implications

In light of the importance that employees place on WFB (Eisner, 2005) and the negative organisational consequences resulting from employees' inability to juggle work and nonwork demands (work-family/family-work conflict, e.g., poor health, depression, intention to leave and reduced job satisfaction; Amstad et al., 2011; Frone, Russell, & Cooper, 1997), the findings of this thesis suggest a number of implications for organisations to assist employees in coordinating their work and family demands.

Firstly, this research revealed that supervisors' family-related support (FSSB) is linked to increased WFB satisfaction and effectiveness and in this way to well-being (life satisfaction and health) and job performance (self-rated in Study 1). As some supervisors might, due to their life course stage or family stage (Moen & Sweet, 2004), be less personally confronted with family demands (e.g., before child rearing and after

the children have left the home (empty nest); Straub, 2012), they might be less likely to engage in FSSB (Lirio, Lee, Williams, Haugen & Kossek, 2008). Consequently, organisations could focus on increasing supervisors' FSSB through training in family-related support. A training (computer-based and face-to-face) to increase FSSB has been developed (Hammer et al., 2011) and recent empirical findings support its efficacy (Odle-Dusseau et al., 2015). This training comprises not only the development and tracking of FSSB, but also focuses on increasing supervisors' understanding of the organisational benefits of FSSB, and recognizes that FSSB might depend on supervisors' life stage (Straub, 2012). However, as research has found mixed effects concerning the usefulness of FSSB for all employees (i.e. usefulness depends potentially on employees' level of work-family conflict, Hammer et al., 2012; Odle-Dusseau et al., 2015), it is imperative that supervisors ascertain employees' needs for family support through personal conversation. Supervisors who demonstrate authentic leadership should be better placed to determine employees' work and family needs.

Secondly (and building on the previous discussion), as this study revealed that authentic leadership affected employees' WFB through the expression of FSSB, organisational efforts to increase WFB and the related outcomes could also centre around authentic leadership. Authentic leaders have, due to their high self-awareness and their transparent and trusting relationships with employees (Luthans & Avolio, 2003), a good understanding of their current work-family struggles and are therefore able to provide the necessary support (e.g., creative work-family management and emotional support) to help them achieve a good WFB. That this applies equally to all followers that authentic leaders supervise is reflected, apart from this thesis, in the conceptualisation and measurement of authentic leadership at the team-level (e.g., Leroy et al., 2015; Yammarino et al., 2008). It could be argued that these shared perceptions of authentic leadership could lead to a climate of authenticity (Grandey et al., 2012) that enables employees to express their family struggles, which can be

supported by research that shows that a climate of intra-team trust develops amongst the followers of authentic leaders (Hirst et al., 2005). As this climate should involve that followers discuss their work-family challenges, which should enhance supervisors' awareness of these, enhancing authentic leadership might have advantages over increasing FSSB. This proposition is supported by the conceptualisation of FSSB as behaviours that are directed solely at the individual follower (e.g., Hammer et al., 2007) and might consequential depend on employee characteristics (see Bernerth, Armenakis, Feild, Gille & Waker, 2008 for an LMX example). Consequently, organisations could aim at increasing authentic leadership through training (Baron & Parent, 2015), which should not only improve employees' WFB, but also other positive outcomes revealed in this study (life satisfaction, health and self-rated performance) and in previous research (e.g., extra effort and organisational commitment; Peus et al., 2011). However, it needs to be noted that previous life experiences have been heavily discussed as contributing to authenticity (Kernis, 2003) and the occurrence of authentic leadership (e.g., George et al., 2007; Shamir & Eilam, 2005). Consequently, developing authentic leadership with leadership training programs is rather time-consuming (e.g., 3 years; Baron & Parent, 2015) and potentially costly. Consequently, organisations may focus on identifying authentic leaders when hiring new employees for managerial roles (e.g., with the Authentic Leadership Questionnaire, Walumbwa et al., 2008), until shorter development programs have been evaluated. In light of the financial cost of FSSB interventions, organizations seeking to enhance employees' WFB may consider screening current and potential managers for authentic leadership and then providing those who score low on authentic leadership with FSSB trainings (Hammer et al., 2011).

Lastly, the findings revealed FSSB to be especially relevant for employee WFB when availability of FFPs was low. Hence, FSSB and the availability of FFPs had a compensatory influence on employees' experience of the work-family interface. As

these findings were however not consistent across studies (i.e. interaction significant on WFB satisfaction in Study 1 and on WFB effectiveness in Study 2), future research is strongly needed that further examines these links. Consequently, the following recommendations need to be considered with caution and depend on the replication of the findings in future studies. These recommendations involve the implementation of highly cost-intensive FFPs, such as on-site childcare centres. Based on the above findings, organisations might want to conduct a cost-benefit analysis that compares the costs of the implementation of additional FFPs (i.e. beyond national regulations) with the cost involved in the training of supervisors that are low on FSSB, as similar effects on WFB might be obtained.

7.5 Strengths and limitations

A range of limitations needs to be taken into consideration when interpreting the significance of the findings reported in this thesis. Firstly, this research has a number of limitations that are related to the research design and the sample size. While data on WFB and its outcomes were collected at different points in time, its antecedents were assessed at the same time, making the relationships between FSSB and WFB satisfaction/effectiveness and the indirect effect of authentic leadership on WFB vulnerable to common method bias (Podsakoff et al., 2003). On the contrary, it is unlikely that the discovered interaction effects between FSSB and (team) availability of FFPs on WFB are due to common method variance, as significant interaction effects can't be caused by the associated correlated errors (Evans, 1985; He, Pham, Baruch, & Zhu, 2014; Siemsen, Roth, & Oliveira, 2010). Additionally, the multilevel findings of Study 2 are based on a relatively small sample (106 employees nested in 27 teams) which seriously limits the power to detect fixed effects, mediation and interactions in MLM (Hox, 2010; Mathieu et al., 2012; Preacher et al., 2011). While this does not undermine the reported significant findings, it raises questions about the extent to which the non-significant findings denote that no true relationship exists between the variables. This issue especially concerns the non-

significant interplay of FSSB and team availability of FFPs on WFB satisfaction, the non-significant effect of WFB effectiveness on supervisor-rated job performance and the consequently non-significant indirect effect of team authentic leadership on supervisor-rated job performance via FSSB and WFB effectiveness. Furthermore, this small sample size has also likely affected the fit of the measurement model in the CFAs (Jackson, 2003). While I used item parceling to increase the sample-size-to-parameter ratio, this ratio was still way under the recommended value of n:q = 5 (Study 1: n:q = 4.55, Study 2: n:q = 2.79; Bentler & Chou, 1987) and hence possibly explains the poor fit. I was, due to this low sample size, also not able to conduct MCFAs (non-convergence in MPlus), which would have provided a more conservative test of the fit of the measurement model, as it considers the nested nature of the data and it is possible to assess the fit of models that involve multilevel constructs (Dedrick & Greenbaum, 2011). I consequently had to resort to CFAa which, despite their overall poor fit indices, still showed that the measurement model fit the data better than alternative models, emphasising the distinctiveness of the study variables. Lastly, the choice of time lag could have impacted the reported findings. While most work-family research has employed a cross-sectional design (Greenhaus & Allen, 2011), my choice of time lag was not based on theoretical arguments and is hence susceptible to potential biasing effects (Gollob & Reichardt, 1987; Rothbard & Edwards, 2003).

Secondly, only (team) authentic leadership, FSSB and (team) availability of FFPs were examined as antecedents of WFB satisfaction and WFB effectiveness, while the choice of antecedents was informed by work-family border theory (Clark, 2000). In consequently examining formal and informal support as antecedents, I however only focused on ‘border-keepers’ from the work domain and not, as discussed by Clark (2000), also border-keepers from the family domain. While this decision was based on my intention to highlight the influence that work has on employees’ overall lives (i.e. life satisfaction and health) through their WFB, considering also family factors would have provided a more complete picture (e.g.,

family support, Byron, 2005). Moreover, this research did not consider the role of individual employees as 'border-crossers' that influences their own WFB (Clark, 2000). Research has shown that employees' boundary work tactics influence their work-family conflict (Kreiner et al., 2009), while research has also highlighted the importance of individual characteristics for employees' work-family interface (e.g., neuroticism; Allen et al., 2012). Taken together, by not examining family-related factors and individual variables as antecedents of WFB satisfaction and effectiveness, this research only sheds light on a few of the factors that potentially contribute the employees' WFB.

Thirdly, this research only considered life satisfaction, health and performance as outcomes of WFB and only revealed that WFB satisfaction and WFB effectiveness were differently related to self-rated job performance. Previous research has convincingly linked positive and negative work-family experiences (i.e. work-family conflict/ family-work conflict and work-family/family-work enrichment) to various work-related, family-related and health-related outcomes (e.g., Amstad et al., 2011; McNall et al., 2010), and it is hence plausible that the effects of WFB are similarly far-reaching. While this has, in parts, been shown by previous research (e.g., organisational commitment; Carlson et al., 2009;), different relationships between both components have not been shown to follow a conclusive pattern (e.g., WFB satisfaction more strongly related to family performance than WFB effectiveness; Wayne et al., 2015). Although this thesis examined, for the first time, health-related consequences of WFB satisfaction and WFB effectiveness and therefore extends their nomological networks, it is limited by not considering further job-related and family-related outcomes.

Fourthly, this research examined the hypothesized model only with samples from the UK and Germany. Importantly, while this study hence showed that the final model fit both samples with employees from Germany and the UK, the generalisability

to the wider population is questionable, especially in light of the relative small number of British respondents. Furthermore, due to the potential influence of the cultural context, it can't be assumed that the findings can be generalised to other countries, especially non-Western countries. On the one side, Spector and associates. (2007) showed that working hours affected work-family conflict differently for employees from different countries, while they also revealed that the effect of work-family conflict on outcomes differed between countries. Similarly, national gender equality affected employees' WFB through effects on organisational work-family culture (Lyness & Kropf, 2005). On the other side, research has also shown that a model of antecedents and consequences of work-family conflict fit data with employees from 48 countries, leading the authors to conclude that models of the work-family interface are transportable rather than culturally specific (Hill, Yang, Hawkins, & Ferris, 2004). Consequently, I do assume that my hypothesized model should be generalizable across different countries, but that the strength of the relationships should vary with the cultural context. This should especially affect the moderating effect of availability of FFPs, as the amount of available FFPs is, to a certain extent, influenced by national regulations (see Allen et al., 2014).

Lastly, this thesis used purely quantitative methods (multi-wave survey design in both studies). While the choice of these methods is in line with my research philosophy (post-positivism; aim of research to yield findings that can be generalised to the wider population) and appropriate for the stages of the literatures that underpin my hypothesized model (authentic leadership and work-family interface literatures as mature; Edmondson & McManus, 2007), the additional use of qualitative methods (i.e. mixed-methods research design) in the form of interviews would have been beneficial. Namely, semi-structured interviews with employees could have been used to provide support for the proposition derived from theory (authentic leadership and work-family border theory; Clark, 2000; Luthans & Avolio, 2003) and supported by theoretical papers (Straub, 2012) that authentic leaders possess the mind-set that prompt them

to show FSSB. While it has been theoretically argued that authentic leadership is more likely than other positive forms of leadership (e.g., transformational leadership; Bass, 1985) to precede FSSB, this proposition could have been ascertained with real-live experiences, providing richer information and assurance. Furthermore, this would have been particularly helpful as, despite cautions (Cooper, Scandura & Schriesheim, 2005), authentic leadership research drew on comparatively little qualitative data in its nascent stage and hence in its theory building. However, as this literature had already matured and as the purpose of this research was it to integrate the authentic leadership and FSSB literatures in order to highlight their similarities and enable future, richer theorising and not to develop another, new family-supportive leadership style, a quantitative survey design fulfilled these requirements best.

These limitations are counterbalanced by the methodological strengths of this research. Firstly, the findings are based on two studies, which used data from 6 companies from various industries in the UK and Germany. This signifies that the findings regarding the antecedents and consequences of WFB can be generalised across different companies/industries in these countries and apply to employees in Germany and the UK. While further studies that replicate the obtained findings are necessary for the generalisability of the findings to the wider British and German population, this research is especially relevant as the studies on which this thesis builds, as well as most work-family research (e.g., Carlson et al., 2009; Greenhaus et al., 2011; Wayne et al., 2015), are based on single samples/studies often from one company (e.g., Carlson et al., 2009; Greenhaus et al., 2011; Wayne et al., 2015), which limits their generalisability due to the potential biasing effect of company/industry variance. Additionally, employees from Germany and the UK have been shown to have different overall levels of WFB (WFB satisfaction; Germany moderate levels and UK low levels; Abendroth & den Dulk, 2011), which might imply different underlying processes, which the results of this research, however, refute.

Secondly, the temporal separation of WFB and outcomes (4 weeks) is a strength of this study, as previous research on the work-family interface, including the studies most relevant for this research (Carlson et al., 2009; Valcour, 2007; Wayne et al., 2015), rely heavily on cross-sectional data (Greenhaus & Allen, 2011), which is prone to common method bias (Podsakoff et al., 2003). Consequently, the obtained findings provide a closer representation of the true relationships.

Lastly, this thesis benefits from the examination of the hypothesized model with nested data in Study 2. Work-family research, especially the research on FSSB (e.g., Crain et al., 2014; Hammer et al., 2011), rarely considers that employees nowadays often work in teams when investigating consequences of FSSB. However, team members share variance (e.g., bad mood within the team due to ongoing construction work; Salancik & Pfeffer, 1978), which can bias empirical findings when not accounted for. In considering the nested nature of the data (employees nested in teams), this thesis provided a more rigorous test of the hypothesized model and answers call for more multilevel research of the work-family interface (Kossek et al., 2011). Furthermore, through assessing team membership, it was revealed that team members shared perceptions (Schneider & Reichers, 1983) concerning their supervisors' authentic leadership and the availability of organisational FFPs. It was shown that the same processes (FSSB and WFB) accounted for the positive effect of team leadership on life satisfaction and health (only WFB effectiveness significant in Study 2) as for individual authentic leadership. Furthermore, the cross-level moderation effect of team availability of FFPs was examined, with the findings also showing a compensatory effect.

7.6 Directions for future research

The preceding limitations suggest potential directions for future research. Firstly, given the growing conceptualization of experience of the work-family interface in terms of WFB, future research, preferably in non-Western countries, should

empirically ascertain whether WFB indeed comprises effectiveness and satisfaction components and clarify their antecedents and outcomes. Concerning the antecedents, future research should draw on relevant theory (e.g., work-family border theory or conservation of resources theory; Clark, 2000; Hobfoll, 1989, 2001) and examine various job-related, family-related and individual antecedents of both components (e.g., colleague and family support and psychological capital), while research might also draw on previous findings (e.g., Abendroth & den Dulk, 2011; las Heras et al., 2015) and examine job-related characteristics as processes through which formal and informal support affect employees' WFB.

Along these lines, future research should examine various work-related, family-related and health-related outcomes of WFB (e.g., depression, family functioning and absenteeism) and, in doing so, expand the nomological network of WFB. Specifically, research should, in light of the inconsistencies between this thesis and previous research (Carlson et al., 2009; Wayne et al., 2015), revisit the relationship between WFB effectiveness and supervisor-rated job performance. As the link largely influences the importance organisations will place on fostering WFB, it should be examined with a rigorous research design (e.g., cross-lagged study; large enough sample when multilevel context). Importantly, research on the consequences of WFB should be grounded in strong theory (e.g., role accumulation theories; Marks & MacDermid, 1996) and it needs to be carefully explained why both WFB components exhibit, in parts, differing relationships with outcomes. Previous research (Wayne et al., 2015) has discussed the compatibility principle (Ajzen & Fishbein,1977), but has, as this thesis, only found mixed support for a stronger link between attitudes (i.e. WFB satisfaction) and behaviours (i.e. WFB effectiveness; this thesis: WFB effectiveness also related to life satisfaction (attitudinal construct) and not only WFB satisfaction; Wayne et al., 2015: e.g., WFB satisfaction stronger related to family performance (behavioural construct) than WFB effectiveness, but only WFB effectiveness related to job performance and not WFB satisfaction). Hence, future

research might apply this principle and reveal whether it explains the different outcomes of WFB satisfaction and effectiveness, while research into the differing consequences is paramount to further the understanding of the WFB construct. Additionally, inconsistencies between findings (i.e. regarding supervisor-rated job performance) often hint to the existence of potential boundary conditions. Consequently, future research might want to examine individual and situational characteristics, such as core self-evaluations, career and family involvement/life role values, collectivism and gender ideology as moderators, as various boundary conditions have been shown to moderate effects of the work-family interface before (e.g., Carlson & Kacmar, 2000; Greenhaus, Parasuraman, & Collins, 2001; Martins, Eddleston, & Veiga, 2002). Knowledge about moderators of the links between WFB and various outcomes would further the understanding of the conditions that are necessary for individuals and organisations to reap the benefits associated with WFB.

Secondly, future research is needed that further examines the interplay of various forms of organisational family support on WFB. While this study revealed a compensatory effect across both studies, previous research found support for both the compensatory and complementary effect (Allen et al., 2014; Bagger & Li, 2014; Greenhaus et al., 2011). As these studies however differ from this thesis in the form of the support they examined, the ways the specific support was assessed and the outcomes of support, future research that is based on strong theory is needed that highlights whether employees truly benefit from multiple forms of support or whether the effects depend on the type of additional support. While this research might want to consider the interplay of all available forms of organisational family support, aiming at fully capturing all the support that impacts employees' daily work-family experiences, it should also be clarified, due to the differing findings of Study 1 and Study 2, whether the interaction of (team) availability of FFPs and FSSB equally impacts both WFB components. As these findings were not expected, future research should provide theory-driven clarification.

Thirdly, future research that builds on this thesis and consequently examines team-level constructs in regards to the work-family interface is strongly needed. While this study highlighted that team members agree regarding their supervisor's authentic leadership and their organisation's FFPs and that these perceptions impacted their WFB, it is reasonable to assume that team members should also share perceptions regarding, for example, informal support in the form of family-supportive organisation perceptions (Allen, 2001). This reasoning is based on the proposition that team members perceive social cues similarly and form coherent perceptions (Salancik & Pfeffer, 1978), while research on perceived organisational support (generic support) as a team-level construct (e.g., Li et al., 2014) highlights the additional explanatory power of team constructs beyond individual team member perceptions (e.g., Li, Liang, & Crant, 2010). Hence, considering the influence of various team-level processes should contribute to a better understanding of the various factors that determine individuals' work-family experiences.

Last but not least, this research conceptualised, in line with previous research (Greenhaus & Allen, 2011; Wayne et al., 2005), WFB as being comprised of both WFB satisfaction and effectiveness components and obtained statistical support for this assumption (CFAs). However, as the WFB satisfaction and effectiveness scales (Carlson et al., 2009; Valcour, 2007) had to be used as proxies to capture both components of WFB, future research that develops a scale to assess overall WFB (satisfaction and effectiveness component) as per Greenhaus and Allen (2011) is strongly needed. This is especially relevant in light of the differences between the two WFB scales, as one focuses on WFB as encompassing work and family domains (Carlson et al., 2009) and one as encompassing work and non-work domains (Valcour, 2007). Therefore, in order to establish a nomological network of overall WFB, developing a comprehensive, multi-dimensional WFB scale is imperative.

7.7 Overall conclusion

This study was motivated by employees' changing life values away from 'living to work' towards 'working to live' (McCrindle, 2005) and organisations' consequent interest in WFB as a talent management tool (i.e. attraction and retention; Hill, Jackson, & Martinengo, 2006). Research that clarifies how organisations can promote and leverage the benefits of WFB is, however, impeded by the competing definitions of the construct (Greenhaus & Allen, 2011) and the use of measures that are not grounded in theory (e.g., Greenhaus et al., 2011). This research overcomes these shortcomings by demonstrating (in line with previous research), that WFB consists of two separate, but independent components (WFB satisfaction and effectiveness) and by uncovering some antecedents and consequences of WFB satisfaction and WFB effectiveness. Consistent with theoretical expectations (Clark, 2000; Marks & MacDermid, 1996; Sieber, 1974), this research revealed across two studies that formal and informal organisational support ((team) availability of FFPs and FSSB) interacted to increase WFB and that (team) authentic leadership was an antecedent of FSSB and, in this way, WFB. Furthermore, life satisfaction, health and performance were revealed as positive consequences of WFB, while the pattern of findings differed for the two WFB components. FSSB and WFB satisfaction and effectiveness were revealed as pathways through which (team) authentic leadership affected employee life satisfaction, health, and self-rated job performance.

Taken together, the findings of this research underscore the value of WFB and highlight ways in which organisations can increase WFB and its related positive outcomes. Future research that extends the nomological network of WFB by examining individual antecedents and family-related outcomes is encouraged to further illuminate our understanding of this construct. Beyond its organisational implications, this research contributes to the growing awareness that managing work and nonwork demands successfully contributes to health and well-being. Thereby, it necessitates a shift from the popular view of career success as high rank, power and

remuneration to one that views career success as entailing satisfaction and effectiveness both at work and at home (Greenhaus & Allen, 2011).

“A career is wonderful, but you can’t curl up with it on a cold night.” – Marilyn Monroe

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Appendices

Appendix A – Research ethics material

I. Final ethics application submitted to the Aston University Ethics Committee

NOTE: The appendices A-C that this application refers to are not included here as they included scales not used in the final analyses and also, overlap with appendices C-F of this thesis (employee and supervisor questionnaires Study 1 and Study 2). Appendix D is not included (informed consent) as it is included in the questionnaires.

SREC Number	05:01/13
Reviewers Name	
Reviewers Comments	This application has been well thought out. Few comments about the application: *Questionnaire isn't going to take 20 minutes for this number of questions.* - I asked fellow PhD students to fill out the questionnaires. It took them on average 15 minutes to fill out the questionnaire at time 1 and 5 minutes at time 2. The duration of the leader questionnaire strongly depends on the number of subordinates the leaders have to rate (approx. 10-30 minutes). The questionnaires can be found in the appendix (A-C), specifying the source (follower or leader) and the measures used for each time point. *Informed consent material needs to include Supervisors contact details especially given the sensitivity of the subject material.* - I updated the informed consent form and added it to the appendix (D). *Applicant needs to clarify areas labelled not sure in the main application.* B4 Does the project involve interaction with or the observation of human beings (either directly or remotely eg via CCTV or internet interactions), including interactions, observations, surveys, questionnaires, interviews, blogs, etc ? - The project only involves the completion of the indicated survey. No other type of interaction is required. Some surveys will be completed online, but aside from the

	different media there will be no difference and hence no other type of interaction. C5 Does the research involve the collection of confidential data and/or is there a risk that any participant could be identified from the data collected? - The research does involve the collection of confidential data (e.g. life satisfaction, performance). However, confidentiality is ensured through several steps. First of all, participants do not provide their name or their specific job title, which would enable identification. Participants will only be asked to provide limited demographic information (e.g. gender, age), which will only be available to the researcher (these are potentially important control variables and must therefore be included). - To match employees' questionnaires of time 1 and time 2, the researcher assigns and emails a code (digits) to each employee, which they state on the first page of their questionnaires. The matching of code and employee is not known to the company, while employees are also only aware of their own code (and their subordinates' code in the case of supervisors).Furthermore, supervisors are provided with their subordinates' code and their own code. When filling out their questionnaire (which involves the rating of their subordinates), they only state the code of their subordinates and not their name. Also, supervisors will have no access to employees' questionnaires. This procedure enhances confidentiality, since supervisors and employees don't reveal their identity by filling out the questionnaires (code and name are not on the same sheet; codes are not known to the company). - To further ensure confidentiality, the researcher has agreed to sign a non-disclosure agreement. *Observation – is distributing the questionnaires via the works council really bias free?* - Generally, the distribution of questionnaires through the work council is bias free since employees are advised that there are no right or wrong answers in answering the questions and that participation in the study is voluntary. Furthermore, employees receive an envelope with their questionnaire and they are asked to put the completed questionnaire into the envelope and seal it. Hence, while the work council distributes and collects the questionnaires/envelopes, they don't influence

	employees in filling out the questionnaire (for example, employees can put an uncompleted questionnaire in the sealed envelope). However, due to logistic reasons, it was decided that the questionnaires will be distributed by the researcher.
Please tick (double click on the check box): Approved ☐ Approved with suggested amendments ☐ Approved with compulsory amendments √ Rejected ☐	

II. Ethical approval

RE: Ethics 05:01/13

GB Grover, Bhomali <B.Grover@aston.ac.uk>
06.03.2013
Hildenbrand, Kristin (Student)

Allen antworten

Posteingang

Sie haben diese Nachricht am 06.03.2013 13:24 weitergeleitet.

Hi Kristin,

Apologies for my previous message.

Your application has been approved. I am happy with the changes made by you.

Good luck with your research.

Best wishes
Bhomali

Appendix B – Examples of e-mail correspondence with companies

Study 1 – UK sample

Dear Kristin,

[redacted] goes to all staff in the University so it should be sufficient to just use this.

Many Thanks

[redacted]

Hildenbrand, Kristin (Student) <hildenk1@aston.ac.uk>

19.09.2014

Dear Stephanie,

Many thanks for your help.
I basically want all [redacted] employees to know the link to my study so that they can decide whether to participate or not.
Is the [redacted]s newsletter sent out to all staff?
Or are there any other specific school newsletters?

Thanks again!
Best,

Study 2 – UK sample

Gesendet: Samstag, 22. März 2014 06:47
An: Hildenbrand, Kristin (Student)
C
B

Dear Kristin,

Good news! Your project is of high interest for

However, they have important time constraints and they would need to move forward very quickly on the project.

I suggest you email (CCed) very quickly in order to see the best way you could work together. You could for instance describe them a precise research protocol and time schedule as a first proposition of collaboration and, from there, finetune a way of achieving both your goals and theirs.

Don't hesitate to cc me and in order to see if/how we can help in the process.

This is a great opportunity for you to get access to a company for your PhD data collection!

Best of luck with this!

Study 2 – German sample (employee survey contract)

Contract

on the Commissioned Collection, Processing and Use of Personal Data according to Section 11 German Federal Data Protection Act (*Bundesdatenschutzgesetz, BDSG*)

between

COMPANY GmbH from the South of Germany

- as Principal-

and

Aston University, Work & Organisational Psychology Group, Aston Triangle, Birmingham, B4 7ET, United Kingdom

- as Contractor -

The Principal is responsible for conforming with the statutory data protection regulations for the commissioned data by the Contractor in accordance with this contract.

DEFINITIONS

In the framework of the contract on commissioned data processing, subsequent German terms shall be translated as follow:

Aufsichtbehörde: Data Protection Authority

Auftragdatenverarbeitung: commissioned data processing

Auftraggeber: Principal

Auftragnehmer: Contractor

BDSG: German Federal Data Protection Act

BSI: Federal Office for Information Security

Betroffener: data subject

Daten oder personenbezogene Daten: data or personal data

Datengeheimnis: confidentiality

Datenschutzbeauftragter: data protection officer

Datenverarbeitung: data processing

Dritter: third party

Erhebung: collection

Löschung: erasure, deletion

Speicherung: storage

Sperrung: blockage

Subunternehmen: subcontractor

Technische und organisatorische Maßnahmen: technical and organizational measures

Übermittlung: communication, transmission

Verantwortliche Stelle: controller

Vertrag über Auftragdatenverarbeitung: Contract on commissioned data processing

Zweckbindung: limitation of purpose

Subject of the contract

Anonymous and voluntary online-based employee survey

I. Type, scope and purpose of the intended collection, processing or use of the data, type of data and group of data subjects

a) Type and scope of the performance to be provided by the Contractor

- Generation of codes and forwarding of these codes to the participating subordinates and supervisors (each subordinate only receives his or her code; supervisors receive their own code as well as their subordinates‘ codes)
- Sending out of two information emails, informing subordinates of the online survey and motivating them to participate. Furthermore, supervisors receive one information email concerning the study. Additionally, subordinates receive two emails with the links to the online survey part 1 and part 2 and their individual code, while supervisors receive one email with one link and their own and their subordinates’ codes.
- Provision of three online questionnaires created on the homepage of the third-party supplier „Surveygizmo“(see annex 3).
- Warranty of a secure and encoded data transfer when filling out the questionnaires online (see annex 3)
- Anonymisation, clustering and analysis of the responses. Provision of a feedback report in consultation with the company. Results will be displayed in a way that does not allow the identification of single subordinates, supervisors or teams. Results will be displayed and discussed separately for different department.

b) The collection, processing and use of the data are carried out for following purposes:

- Investigation of the statistical relationship between supervisor’s leadership style, characteristics of the team, family-friendly benefits of the organization and subordinates‘ work-life balance, health and performance, while considering individual differences (supervisor’s perspective taking).
- Discussion of the found relationships and deduction of implications for the improvement of subordinates’ work-life balance, health and performance.
- This survey is a central part of Ms Kristin Hildenbrand’s doctoral thesis in the context of the PhD programme (PhD in Management) at the Aston University, Birmingham.

c) Types of data

- Demographics, which are however only used as control variables or to generate the feedback report (only the names of the departments)
- Professional email addresses which will be used for sending out the information emails, links to the online questionnaires and codes
- Questions regarding supervisors‘ leadership style
- Questions regarding family-friendly benefits
- Questions regarding the work group
- Questions regarding work-life balance, emotions, life and job satisfaction
- and health
- Questions regarding subordinates’ and teams’ performance and organizational citizenship behaviour

The questionnaires were already approved by the Ethics committee.

d) Categories of data subjects

- Employees (subordinates) of COMPANY GmbH
- Employees’ supervisors

e) Country and place of the data processing

- UK, Birmingham
- Germany, South

II. Technical and organizational security measures pursuant to the provisions of Section 9 BDSG

a) Description of the system environment

Within the scope of the contract, the Contractor shall use essentially for the commissioned data processing …… .

Hardware

- Intel ® Core ™ i5-2410M CPU 2.30 GHz

- 4 GB 1333MHz DDR3-SDRAM

- AMD Radeon (TM) HD 6470M 512MB

- 500 GB Serial ATA (5400 U/Min)

- DVD drive

The computer is a laptop. To ensure the security of the individual-related data, following arrangements are made:

-Individual-related data as well as the matching of subordinates, supervisors and codes are saved in an encoded way

-Access control system (user identification and password prompt)

-Encoded storing of passwords

-Security software (regularly updated): AVG AntiVirus, Windows Defender, Windows Firewall

The laptop is operated under Windows 7 Home Premium. The security settings are weekly updated.

The laptop will only be used in Aston University, if access to rooms with lockable wardrobes is given, while the rooms are protected from unauthorized access through swipe-cards.

In private rooms, access is excepted through orderly closure of all doors

b) Data security measures

The Contractor ensures that he shall observe security measures required within the framework of the orderly performance of responsibilities as indicated in **Annex 2** Data Security Measures.

The technical and organizational measures can continuously be updated over the course of the contractual relationship in accordance with further technical and organizational developments in the area of responsibility of the Contractor. These measures shall be agreed with the Principal prior to their implementation.

Related instructions issued by the Principal shall be complied with according to the provisions of Section V. a).

Aside from processing, data and data carriers shall be kept under lock and key.

For the subcontractors, the specification of the technical and organizational measures including the monitoring shall be settled in the commissioned data processing contracts with the subcontractors.

III. Correction, erasure and blocking of data

Data being processed in the course of the contract, shall be corrected, erased or blocked only on the instruction of the Principal. Any request of a data subject regarding this issue shall be forwarded to the Principal without undue delay.

The Principal is responsible for safeguarding the rights of the data subject. The Contractor supports the Principal herein within his means.

The Contractor is responsible of the implementation of the erasure concept of the Principal. Where erasure is not possible due to statutory provisions of Section 35(3) of the BDSG, the relevant data shall be blocked by the Contractor and held safely under lock and key.

IV. Further obligations of the Contractor

a) Limitation of purpose and power of instruction

The Contractor shall collect process or use the personal data made available by the Principal exclusively within the scope of the contractual provisions and any individual instructions issued by the Principal in writing.

Should the Contractor be of the opinion that an instruction of the Principal constitutes a violation of legal or statutory provisions, he will inform the Principal immediately. The Contractor is entitled to suspend performance of the respective instruction until this is confirmed or corrected by the Principal.

The Contractor is not entitled to use the data for its own purposes or disclose the processed data to third parties. The Contractor is not entitled to make copy or duplicate the processed data without the prior written consent of the Principal.

b) Quality assurance and monitoring obligation

The Contractor shall provide a high data processing quality and ensure regular monitoring of the internal processes, the technical and organizational measures and draw a record which is to be sent to the Principal.
To this end, the Contractor may also submit current certificates, reports or statements of independent review bodies (e.g. external auditors, internal auditing, data protection officer, IT security department, data privacy auditors, quality auditors), or an appropriate certification from IT security or data privacy audit (e.g. according to the IT basic security as defined by the Federal Office for Information Security (BSI-Grundschutz)).

This shall take place at least once every two years.

c) Measures in case of incidents and irregularities

The Contractor shall inform the Principal and the data protection officer of the Principal without undue delay of any disturbances, suspected violations of data protection or other

irregularities noticed during processing of the personal data relating to the object of the contract.

The Contractor shall inform the Principal without undue delay and take as far as possible prior security measures if transmitted data and corresponding data medium may be compromised or restrict the access of the Principal due to third parties actions or measures of an higher authority (e.g. seizure)

At the request of the Principal as agreed in Section IX, any samples and scrapped material shall be destroyed or fully be returned to the Principal.

d) Information of the data subject and communication of data

The Contractor is not entitled to provide information about the processed data to third parties or to the data subject unless instructed to do so by the Principal.
Any request for information of the data subject shall be forwarded by the Contractor to the Principal without delay. The Principal is in charge of protecting the rights of the data subject.

e) Data protection officer

The Contractor shall appoint a data protection officer.

Ms Dr. Claudia Sacramento, Senior Lecturer Work & Organisational Psychology Group, +44(0)121 204 3272

Ms Kristin Hildenbrand, PhD Student PhD Management, +44(0)121 204

is appointed as contact person for the Contractor.

The Principal shall be notified without undue delay of any replacement of the data protection officer.

f) Confidentiality

The Contractor is obligated during the collection, processing and use of personal data in accordance with the contractual relationship to safeguard the personal data of the Principal in respect of maintaining confidentiality in accordance with Section 5 of the BDSG. In this respect, he ensures to employ only persons obligated to maintaining confidentiality in accordance with Section 5 of the BDSG for the collection, processing and use of these data. Contractor ensures that before commencing the fulfilment of the duties, the employees concerned shall be instructed in the relevant data protection provisions.

g) Data Protection Authority

Any request of the Data Protection Authorities to the Contractor shall be forwarded without undue delay to the data protection officer of the Principal and to the Principal

himself. The Contractor is obliged to perform the measures that are necessary to handle the request, as far as the data processing performances of the Contractor are concerned.

V. Subcontractors

The Contractor is entitled to commission subcontractors for fulfilling part of his responsibilities only with the prior written consent of the Principal. When having performances carried out by the subcontractors, the Contractor shall ensure that the subcontractors comply with the provisions agreed upon with the Principal in the data processing contract. Contracts with subcontractors shall be submitted to the Principal without undue delay. After given consent, if the subcontractor turns out to be untrustworthy within the meaning of data protection law (e.g. there are facts proving that agreed data privacy obligations have been grossly violated), the Principal is entitled to request the respective subcontractor being replaced by another by the Contractor without undue delay after the Principal has given its prior written consent.
The Contractor shall only enter into agreement with subcontractors outside of the European Union (EU) and the European Economic Area by using the standard contractual clauses of the EU-Commission (as amended from time to time) in German and English for commissioned data processors. In case of doubt the German version shall prevail. This agreement shall be submitted to the Principal. Exemptions for third countries with adequate level of protection according to the EU-Commission require the consent of the Principal.

Subcontractors mentioned in **Annex 3** (with name and job description) are currently appointed for commissioned data processing to the extent specified therein. The Principal approved their appointment.

VI. Monitoring compliance with the contract by the Principal

The Principal is entitled to perform monitoring of compliance with the contract and where necessary ask for improvement. The Principal is entitled – also without prior notice – to monitor the due fulfillment of the Contractor's obligations arising from this contract. The Principal is entitled to perform monitoring in all places contract performance is being accomplished (e.g. offices, locations of IT-systems). The Contractor is obligated to provide the Principal with necessary support measures and is entitled to take part to this control. The support measures are free of charge, unless otherwise agreed in the service contract. The Principal has a right to inspection within the necessary extent to perform its monitoring right.

Furthermore, the Principal is anytime entitled to perform monitoring as described above of subcontractor's compliance with the contract. The Contractor shall accordingly put in writing this provision in its contract with the subcontractor.

On written request of the Principal, the Contractor is obligated to give in reasonable time but not later than 14 days in writing all information necessary to carry out an adequate monitoring.

Outside the Principal the Contractor can be also monitored by intended bodies', e.g. the corporate audit, in compliance with Sections 4, 28, 32 BDSG.

In addition, the data protection officer of the Principal shall have a right of monitoring to the extent mentioned above at any time.

VII. Amendment of contract / Revision Procedure/ Register of Processing Information

Modifications and amendments of this contract must be in writing. The same applies to a modification of the requirement of written form.

There are no side agreements.

The contents of this contract can be amended mutually by the Parties if required (e.g. by changing circumstances) at any time in accordance with the requirement of written form.

Functional changes shall not be implemented without the written consent of the Principal.

Verbal instructions and approvals granted shall be confirmed subsequently in writing, to the extent the written form has not been agreed right from the start.

If any amendments to the relevant data protection legislation or modification of the jurisprudence during the term of this contract shall make amendments to this contract necessary, the Parties agree that this contract has to be adapted accordingly. Section XII applies mutatis mutandis.

VIII. Return of data carriers, destruction and erasure

On termination of the contractual relationship all working and back-up copies and data carriers made by the Contractor shall completely and without undue delay skilfully be erased as set out below or returned to the Principal, according to his instructions. The Contractor must provide evidence of the proper erasure. The Contractor shall keep record of the location, time, type of process, operative and identifier of the device/equipment (destruction/deletion's log).

Destruction of data carriers:

The destruction of data carriers shall at least be conducted according to level 3 of DIN 32757 (*German Industry Standard).*

Erasure of data on digital data storage units:

The qualified reconstruction-proof erasure of the data saved on the data storage unit shall be conducted by the following minimum standard procedure (comparable with the Federal Office for Information Security M2.167 or US DoD 5220.22-M (E)): The erasure shall be ensured by a triple overwriting using a complementary bit pattern writing channel and a pseudo randomly generated bit pattern writing channel.

IX. Liability

The Contractor is liable to the Principal for damages caused due to a fault of the Contractor, his employees and persons whom he entrusts with the fulfilment of performances defined in the contract.

The Principal is responsible to the data subject for the compensation of damages which the data subject suffers due to inadmissible or incorrect collection, processing or use of data in accordance with the Federal Data Protection Act or other stipulations within the framework of the contractual relationship. In so far, the Principal is obligated to repair the damage towards the data subject. It is up to him to reclaim for recourse against the Contractor or to request indemnity.

X. Statement

The Contactor asserts that the data processing system used comply with the provisions of the BDSG.

XI. Miscellaneous

Should any provisions of this contract be or become invalid, this shall not affect the validity of the remaining provisions of the contract. Instead of the invalid provision a valid provision shall be agreed which reflects or which is as close as possible to the spirit and the purpose of the invalid provision. If a lacuna is detected, the fully or partly invalid provision shall be replaced or the lacuna be amended by an appropriate provision, which reflects what the Parties would have intended, had they been aware of the invalidity or lacuna.

The regulations of this contract take precedence over any prior regulations between the Parties that form part of this agreement, too. Insofar as there are any prior opposing regulations between the Parties that affect the performance of the Contractor's obligations under this contract, the Contractor is obliged to inform the Principal hereupon. The Parties will then try to dissolve this divergence. If this is not possible, the Principal is entitled to issue an instruction. Agreed barring clauses are lapsed.

This contract is governed by German law.

Principal's right of lien shall be excluded.

XII. Term and Termination

The contract has a term of one year, effective as from 4th of November 2013.

The contract expires automatically unless renewed.

The Contractor is only entitled to terminate this contract effective the date of the contract stipulating the other performance agreements (service agreement) of the Parties in relation with this commissioned data processing or later.

The right of the Parties to terminate the contract with good cause remains unaffected.

Termination is not effective unless in writing.

For the Principal:	For the Contractor:
	Birmingham 30th Oct 2013
Place, Date	*place, Date*
	J.G. Walter
Firm, Name	Aston University *Firm, Name*
	Birmingham, 31.10.2013
Place, Date	*place, Date*
	Aston University
	K. Teildenbrau
Firm, Name	*Firm, Name*

Appendix C – Employee Time 1 survey (Study 1 and Study 2)

NOTE: Only scales used in the final analyses are presented here. A message similar to the message below has been also included in the employee Time 2 survey and in the leader survey (Study 2 only).

Dear employee,

Many thanks for participating in this survey!
By doing so you strongly contribute to the success of my dissertation and I am much obliged to you.

My name is Kristin Hildenbrand and I am a doctoral researcher at Aston Business School, UK. I am conducting research on work-family balance, which is a heatedly discussed topic these days. Below, I will provide you with information about this study and I would like to invite you to complete the following survey.

The survey takes about **15 minutes** to complete and is concerned with factors that contribute to employees' work-life balance. I would be very grateful if you could contribute to this research through expressing how you feel about various topics in this survey. This research project however consists of **two questionnaires**. While you are now asked to fill out the first questionnaire and to state your consent, I would also appreciate if you could fill out a questionnaire in **four weeks' time.** The second survey will only take **5 minutes** to complete and you will be emailed the link to the second survey. However, you are free to refuse to fill out the second questionnaire and I will ask you in four weeks' time again for your consent.

If you accept to fill out this survey, you will be asked to answer questions, for example, concerning your work-family balance, your well-being and your life satisfaction. While it would be great if you would fill out all questions, you are of course free to skip questions that you do not wish to answer. You can also stop the survey at any time, should you not want to complete it anymore.

Please be assured that the information recorded is **confidential**, your name is not being included on the forms, only your code will identify you, and no one else except of me will have access to your survey/the code. Consequently, your survey will not be passed on to your organisation or your supervisor. I will not share any information about you to anyone outside of my research team (Dr. Claudia Sacramento, Aston Business School), including your organisation. Your organisation will only be provided with team-level information, making it impossible to identify you as a person.

This research has been reviewed and approved by the Aston University Ethics Committee, which is a committee whose task it is to make sure that research participants are protected from any harm and that their confidentiality is protected.

If you have further questions regarding this survey, please contact me (hildenk1@aston.ac.uk) or speak to a member of the work council that approved this survey.

Many thanks,

Kristin Hildenbrand

Please fill in the code that was sent to you via email.

This code ensures your anonymity and is not known to your organisation.

If you can't recall your code, please enter your name.

I once again ensure you that neither your name nor your questionnaire will be passed on to anyone and that the findings will be reported back to your organisation in a way that does not allow the identification of individual employees.
Code: ……

Through starting the survey, you provide your informed consent:

I have been invited to participate in this research about work-family balance. I have read the foregoing information. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to participate in this study. I express my consent through starting the survey.

Section A: Organizational policies

The following list contains family-friendly benefits that organisations offer. Please indicate for each benefit whether your company offers this benefit.
Please tick one box per row.

Organizational policy	Yes	No	Not sure
Job sharing (you share your job with another employee)			
Flexible work schedules (you can choose when to start/finish working)			
Flexible work places (e.g. working from home)			
Parental leave			
Emergency leave (e.g. illness of child)			
Compressed work week (you can do your weekly working hours in less than 5 days)			
Unpaid holiday			
Financial help with childcare			
On-site childcare			

Section B: Your Supervisor

The following statements are all concerned with your supervisor. Please describe your supervisor as he/she generally behaves.

1. General supervisor behaviour

The following statements describe behaviours leaders might show at work. Please

indicate for each behaviour the extent to which your supervisor behaves in this way.

My supervisor...

	Not at all	**Once in a while**	**Some-times**	**Fairly often**	**Fre-quently, if not always**
1... says exactly what he or she means.					
2... admits mistakes when they are made.					
3... encourages everyone to speak their mind.					
4... tells you the hard truth.					
5... displays emotions exactly in line with feelings.					
6... demonstrates beliefs that are consistent with action.					
7... makes decisions based on his or her core values.					
8... asks you to take positions that support your core values.					
9... makes difficult decisions based on high standards of ethical conduct.					
10... solicits views that challenge his or her deeply held values.					
11... analyses relevant data before coming to a decision.					

12... listens carefully to different points of view before coming to conclusions.					
13... seeks feedback to improve interactions with others.					
14... accurately describes how others view his or her capabilities.					
15... knows when it is time to re-evaluate his or her positions.					
16... shows he or she understand how specific actions impact others.					

2. Supportive supervisor behaviour

The following statements describe supervisor behaviours that aim at helping employees to integrate work and family. Please indicate for each statement how often your supervisor generally behaves like this.

My supervisor...

	Never	**Rarely**	**Sometimes**	**Often**	**Very often**
1…. switches schedules (hours, overtime hours, vacation) to accommodate my family responsibilities.					
2….listens to my personal/domestic problems.					
3….is critical of my efforts to combine work and family.					

4….juggles tasks or duties to accommodate my family responsibilities.					
5….shares ideas or advice in relation to the integration of work and family/private life.					
6….holds my family responsibilities against me.					
7….helps me to figure out how to solve personal/domestic problems.					
8….is understanding or sympathetic towards my private life.					
9….shows resentment of my needs as a working parent.					

Section C: Work-Life Balance

The following questions deal with the integration of work and family/private life.

1. Satisfaction with work and family/private life

How satisfied are you with…

	Absolutely unsatisfied	**Un-satisfied**	**Neither satisfied nor unsatisfied**	**Satisfied**	**Absolutely satisfied**
1….the way you divide your <u>time</u> between work and personal or family life?					

2….the way you divide your attention between work and home?					
3….how well your work life and your personal or family life fit together?					
4….your ability to balance the needs of your job with those of your personal or family life?					
5…. the opportunity you have to perform your job well and yet be able to perform home-related duties adequately?					

2. Work and family expectations

Please indicate for each statement the extent to which agree with it.

	Strongly disagree	**Disagree**	**Neither agree or disagree**	**Agree**	**Strongly agree**
1 I am able to negotiate and accomplish what is expected of me at work and in my family.					
2 I do a good job of meeting the role expectations of critical people in my work and family/private life.					

3 People who are close to me would say that I do a good job of balancing work and family.					
4 I am able to accomplish the expectations that my supervisors and my family have for me.					
5 My co-workers and members of my family would say that I am meeting their expectations.					
6 It is clear to me, based on feedback from co-workers and family members, that I am accomplishing both my work and family responsibilities.					

Section D: General information

As mentioned before, your answers will be treated confidentially and will not be passed on to your organisation. To allow for the generalisation of the findings of this study to the wider population, it is however important that you complete the following information.

1. **Gender** Δ male Δ female
2. **Age**
   .....years
3. For how long have you already been working in this organisation?
   .....years
4. For how long have you already been working in this team?
   .....years
5. What is your marital status?

Δ Married Δ Divorced Δ Widowed Δ Single
Δ In a relationship

6. How many children do you have? .....
7. How old is your youngest child?
   .....years

Appendix D – Employee Time 2 survey (Study 1 and 2)

NOTE: Only scales used in the final analyses are presented here. Employees in Study 2 did not complete the job performance measure.

Section A: Satisfaction

The following statements are concerned with how satisfied you have been throughout the last four weeks. Please indicate the extent to which you agree with the following statements.

	Strongly disagree	**Disagree**	**Neither agree or disagree**	**Agree**	**Strongly agree**
1. In most ways, my life is close to my ideal.					
2. The conditions of my life are excellent.					
3. I am satisfied with my life.					
4. So far I have gotten the important things I want in life.					
5. If I could live my life over, I would change almost nothing					

Section B: Health

The following statements are concerned with <u>your well-being</u>.

1. In general, would you say your health is…

Δ Excellent Δ Very good Δ Good Δ Fair Δ Poor

2. The following questions are about activities you might do during a typical day.

Has your health limited you in the last four weeks in these activities? If so, how much?

a. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf

Δ Yes, limited a lot Δ Yes, limited a little Δ No, not limited at all

b. Climbing several flights of stairs

Δ Yes, limited a lot Δ Yes, limited a little Δ No, not limited at all

3. During the last 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

a. Accomplished less than you would like. Δ Yes Δ No

b. Were limited in the kind of work or other activities. Δ Yes Δ No

4. During the last 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

a. Accomplished less than you would like. Δ Yes Δ No

b. Did work or other activities less carefully than usual? Δ Yes Δ No

5. During the last 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

Δ Not at all Δ A little bit Δ Moderately Δ Quite a bit Δ Extremely

6. These questions are about how you feel and how things have been with you during the <u>last 4 weeks.</u> For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the last 4 weeks...

a. … have you felt calm and peaceful?

Δ All of the time Δ Most of the time Δ A good bit of the time Δ Some of the time Δ A little of time Δ None of the time

b. ... did you have a lot of energy?

Δ All of the time Δ Most of the time Δ A good bit of the time Δ Some of the time Δ A little of time Δ None of the time

c. Have you felt downhearted and blue?
Δ All of the time Δ Most of the time Δ A good bit of the time Δ Some of the time
Δ A little of time Δ None of the time

7. During the last 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?
Δ All of the time Δ Most of the time Δ A good bit of the time Δ Some of the time
Δ A little of time Δ None of the time

Section C: Work-related behaviours

The following statements describe work-related behaviours. Please pick for each statement the option that describes your behaviour in the last four weeks best.

	Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
1. The quantity of my work is higher than average.					
2. The quality of my work is much higher than average.					
3. My efficiency is much higher than average.					
4. My standards of work quality are higher than the formal standards for this job.					
5. I strive for higher quality work than required.					
6. I uphold highest professional standards.					

Appendix E – Supervisor Time 2 survey (Study 2)

NOTE: Only scales used in the final analyses are presented here.

My subordinates/employees

The following questions relate to **your subordinates/employees und their work-related behaviour**. Please insert their codes, which were communicated to you, first into the boxes below. It does not play any role which code of which employee you name first. It is only important that from now on you always talk about the same employee when referring to him/her as Subordinate 1 (e.g. employee with Code HA203 becomes Subordinate 1). To facilitate answering of the questions, please note the association 'code-employee number' on a piece of paper.

Employee (E)	Subordinate's code (e.g. R009)
E1	
E2	
E3	
E4	
E5	

The following statements describe required work-related behaviours, meaning these behaviours that are part of employees' work contract. Please state **for each employee the extent to which you agree with the following statements in regard to the last four weeks.**

	E	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. Employee's quantity of work is higher than average.	E1					
	E2					
	E3					
	E4					
	E5					
	E1					

2. Employee's quality of work is much higher than average.	E2					
	E3					
	E4					
	E5					
3. Employee's efficiency is much higher than average.	E1					
	E2					
	E3					
	E4					
	E5					
4. Employee's standards of work quality are higher than the formal standards for this job.	E1					
	E2					
	E3					
	E4					
	E5					
5. Employee strives for higher quality work than required.	E1					
	E2					
	E3					
	E4					
	E5					
6. Employee upholds highest professional standards.	E1					
	E2					
	E3					
	E4					
	E5					

Appendix F- MPlus syntaxes

Hypothesis 1a – Direct effect

```
usevar = teamM FSSB agALQ sexI1 ageI1 full comp1 comp2 comp3
finalsiz;
cluster = teamM;
Missing are all (-99);
within = sexI1 ageI1 full;
between = agALQ comp1 comp2 comp3 finalsiz;
ANALYSIS: type = twolevel random;
Model:
%within%
FSSB on ageI1 sexI1 full;
%between%
FSSB on comp1 comp2 comp3 finalsiz;
FSSB on agALQ;
OUTPUT: TECH1 TECH8 CINTERVAL;
```

Hypothesis 1b – Direct effect (random slope; WFB satisfaction as an example)

```
usevar = teamM FSSB WFBSI sexI1 ageI1 full comp1 comp2 comp3
finalsiz;
cluster = teamM;
Missing are all (-99);
within = sexI1 ageI1 full;
between = comp1 comp2 comp3 finalsiz;
ANALYSIS: type = twolevel random;
Model:
%within%
WFBSI on ageI1 sexI1 full;
s|WFBSI on FSSB;
%between%
```

WFBSI on comp1 comp2 comp3 finalsiz;

s with WFBSI FSSB;

WFBSI on FSSB;

[s];

OUTPUT: TECH1 TECH8 CINTERVAL;

Hypothesis 1c – Mediation (2-1-1 random slope; WFB satisfaction)

usevar = teamM FSSB WFBSI agALQ sexI1 ageI1 full comp1 comp2 comp3 finalsiz;

cluster = teamM;

Missing are all (-99);

within = sexI1 ageI1 full;

between = agALQ comp1 comp2 comp3 finalsiz;

ANALYSIS: type = twolevel random;

Model:

%within%

FSSB WFBSI;

sb|WFBSI on FSSB;

WFBSI on sexI1 ageI1 full;

%between%

sb WFBSI FSSB agALQ;

FSSB on agALQ(a);

WFBSI on FSSB(bb);

WFBSI on agALQ(cdash);

sb WITH agALQ FSSB WFBSI;

[sb](bw);

WFBSI on comp1 comp2 comp3 finalsiz;

MODEL CONSTRAINT:

NEW (b indb TOT);

b = bw+bb;

Indb=a*b;

TOT=a*b+cdash;

OUTPUT: TECH1 TECH8 CINTERVAL;

Hypothesis 2a – Moderation (WFB satisfaction as an example)

usevar = teamM FSSB WFBSI agFFPAm1 sexI1 ageI1 full comp1 comp2 comp3 finalsiz;

cluster = teamM;

within = sexI1 ageI1 full;

between = comp1 comp2 comp3 finalsiz agFFPAm1;

Missing are all (-99);

ANALYSIS: type = twolevel random;

Model:

%within%

sb|WFBSI on FSSB;

WFBSI on sexI1 ageI1 full;

%between%

sb FSSB WFBSI agFFPAm1;

sb WITH FSSB WFBSI agFFPAm1;

WFBSI on FSSB;

WFBSI on agFFPAm1;

[sb](bw); !mean

sb on agFFPAm1(b3);

WFBSI on comp1 comp2 comp3 finalsiz;

MODEL CONSTRAINT:

NEW(indblo indbm indbhi);

indblo = bw+b3*1.88;

indbm = bw+b3*3.39;

indbhi = bw+b3*4.9;

Hypothesis 2b – Moderated mediation (WFB satisfaction as an example)

usevar = teamM FSSB WFBSI agALQ agFFPAm1 sexI1 ageI1 full comp1 comp2 comp3 finalsiz;

cluster = teamM;

within = sexI1 ageI1 full;

between = comp1 comp2 comp3 finalsiz agALQ agFFPAm1;

Missing are all (-99);

ANALYSIS: type = twolevel random;

Model:

%within%

sb|WFBSI on FSSB;

WFBSI on sexI1 ageI1 full;

%between%

sb FSSB WFBSI agALQ agFFPAm1;

sb WITH FSSB WFBSI agALQ agFFPAm1;

WFBSI on FSSB;

WFBSI on agALQ;

FSSB on agALQ(a);

WFBSI on agFFPAm1;

[sb](bw);

sb on agFFPAm1(b3);

WFBSI on comp1 comp2 comp3 finalsiz;

MODEL CONSTRAINT:

NEW(indblo indbmed indbhi);

indblo = a*(bw+b3*1.88);

indbmed = a*(bw+b3*3.39);

indbhi = a*(bw+b3*4.90);

<u>Hypotheses 3 – WFB satisfaction and life satisfaction as an example (H3a)</u>

cluster = teamM;

Missing are all (-99);

within = sexI1 ageI1 full;

between = comp1 comp2 comp3 finalsiz;

usevariables = WFBSI LS sexI1 ageI1 full comp1 comp2 comp3 finalsiz;

ANALYSIS: type = twolevel;

Model:

%within%

LS on WFBSI;

LS on sexI1 ageI1 full;

%between%

LS on WFBSI;

LS on comp1 comp2 comp3 finalsiz;

OUTPUT: TECH1 TECH8 CINTERVAL;

Hypotheses 4 – Serial mediation (WFB satisfaction and life satisfaction as an example; H4a)

usevar = teamM FSSB WFBSI agALQ ls sexI1 ageI1 full comp1 comp2 comp3

finalsiz;

cluster = teamM;

Missing are all (-99);

within = sexI1 ageI1 full;

between = agALQ comp1 comp2 comp3 finalsiz;

ANALYSIS: type = twolevel random;

Model:

%within%

FSSB WFBSI;

sb|WFBSI on FSSB;

LS on WFBSI;

LS on sexI1 ageI1 full;

!Perf on sexI1 ageI1 full;

!Health on sexI1 ageI1 full;

%between%

sb WFBSI FSSB agALQ LS;

FSSB on agALQ(a);

WFBSI on FSSB(bb);

LS on WFBSI(c1);

LS on agALQ(cdash1);

sb WITH agALQ FSSB WFBSI LS;

[sb](bw);

LS on comp1 comp2 comp3 finalsiz;

MODEL CONSTRAINT:

NEW (b indb1 tot1);

b = bw+bb;

Indb1=a*b*c1;

TOT1=a*b*c1+cdash1;

OUTPUT: TECH1 TECH8 CINTERVAL;

Hypothesis 5a – Moderated serial mediation (WFB satisfaction and life satisfaction as an example)

usevar = teamM FSSB WFBSI agALQ agFFPAm1 ls sexI1 ageI1 full comp1 comp2 comp3 finalsiz;

cluster = teamM;

within = sexI1 ageI1 full;

between = comp1 comp2 comp3 finalsiz agALQ agFFPAm1;

Missing are all (-99);

ANALYSIS: type = twolevel random;

Model:

%within%

sb|WFBSI on FSSB;

LS on sexI1 ageI1 full;

LS on WFBSI;

%between%

sb FSSB WFBSI agALQ agFFPAm1 ls;

sb WITH FSSB WFBSI agALQ agFFPAm1 ls;

LS on WFBSI(c);

WFBSI on FSSB;

WFBSI on agALQ;

FSSB on agALQ(a);

WFBSI on agFFPAm1;

[sb](bw);

sb on agFFPAm1(b3);

LS on comp1 comp2 comp3 finalsiz;

MODEL CONSTRAINT:

NEW(indblo indbm indbhi);

indblo = a*(bw+b3*1.88)*c;

indbm = a*(bw+b3*3.39)*c;

indbhi = a*(bw+b3*4.9)*c;