**INDIVIDUAL DIFFERENCES IN THE WORKPLACE:
EXPLORATION OF ATTACHMENT STYLES AND OTHER TRAITS AS
PREDICTORS OF LEADERSHIP AND WORK-RELATED OUTCOMES**

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A thesis submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy

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July 2021

ABSTRACT

Attachment theory (Bowlby, 1969) conceptualizes people's inclination to seek closeness and captures individuals' propensity in close relationships. Recently, work psychology recognized its value and witnessed growing interests in adopting attachment theory to interpret workplace dynamics; however, there are still limited theoretical advancements and empirical investigations that explore individual attachment differences and work-related outcomes. This thesis offers three studies to advance the understanding of this field, adopting attachment theory as a primary lens and extend on this line of theorizing to other important personality traits in relation to work outcomes.

Motivated by the importance of attachment theory for informing workplace outcomes, advancements in the literature with inconsistent findings and growing attention in this area, paper 1 proposes a theoretical framework to integrate the cognitive, emotional and behavioural application of attachment theory in the workplace. Moreover, the paper highlights attachment activation process as boundary conditions that influence this relationship.

In paper 2, using a three-wave survey among 673 employees across 66 teams in a Chinese hospital, I empirically tested the model of attachment orientations, leader-member guanxi (LMG) and follower loneliness, hypothesizing that employees higher on insecure attachment styles, that is avoidantly and anxiously attached, will suffer a greater degree of loneliness. Further, I test LMG as a mediating mechanism for this relationship.

Paper 3 extends the theorizing on attachment styles to other important personality traits by adopting polynomial regression and response surface analysis to explore the interaction effects of leader and follower trait-like dispositions (e.g., attachment styles, relational self) on workplace outcomes (job satisfaction and wellbeing).

This thesis contributes to the literature by adopting a relational perspective to explain workplace dynamics and advances our understanding of how individual differences could impact individual perceptions and behaviours of the workplace. Implications for theory and practice, as well as future research are discussed.

Conference papers

Ren, Q., Topakas, A., & Patterson, M. (2021). *Attachment and loneliness: The role of leader-member relationship quality*. Paper to be presented at the 81st Annual Meeting of the Academy of Management

Ren, Q., Topakas, A., & Patterson, M. (2019). *Attachment, performance and wellbeing: The mediating effect of leader-member exchange*. Paper Presented at the European Association of Work and Organizational Psychology (EAWOP), Turin, Italy.

Ren, Q., Topakas, A., & Patterson, M. (2018). *Linking attachment theory to leader-member exchange: The moderating effects of political skill and relational self*. Paper presented at the 6th biennial Institute of Work Psychology Conference, Sheffield, UK

Ren, Q., Topakas, A., & Patterson, M. (2017). *Attachment theory and leader-member exchange*. Presented at the SUMS Doctoral Conference, Sheffield, UK.

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CHAPTER 1. THESIS INTRODUCTION

The complexity of leadership and organizational dynamics is such that researchers have dedicated lengthy efforts to disentangle leadership processes (e.g. Zaccaro, 2012; Dihn & Lord, 2012; Antonakis, Day, & Schyns, 2012). Mounds of theoretical and empirical attempts are devoted to such endeavours (Barker, 2001). Researchers are interested in the fundamental differences among individuals which enable some of them to thrive in the leadership process, regardless of their roles as either a leader or a follower, while forcing others to struggle to adapt or fit in such a process, and whether there are situational factors that facilitate or impede the process (Antonakis et al., 2012).

The trait approach in leadership provided a basis for a line of fruitful research (Zaccaro, Dubrow, & Kolze, 2018). There are fundamental differences in terms of how people approach and perceive matters in life and at work, and the dominant framework used in leadership to encompass these fundamental differences is the Five Factor Model (FFM) (Costa & McCrae, 1992; Goldberg, 1981). However, notwithstanding its prevalence, it is suggested that the dominance of FFM may overshadow other meaningful personality traits that may be equally important (Day & Schleicher, 2006). This thesis thus attempts to understand these differences from alternative and under-explored perspectives by investigating in depth the role of leader and follower attachment styles in relation to the leadership process and its outcomes, as well as extending the study of leader and follower traits by considering other relevant traits, namely relational self, regulatory focus, and political skill. An individual attachment orientation perspective (Bowlby, 1969) is based on the premise that individuals are shaped by their experiences in close relationships from an

early age. These experiences set the tone for individuals' subsequent perceptions, emotions and behaviours in life and in the workplace.

I set out to explore the role of attachment styles in the context of leadership. As a first step, I reviewed the literature on attachment in the workplace broadly to gain an appreciation of how this specific individual difference was studied in the past in the context of the workplace. I used this review process to extend theorising in the application of attachment theory to the workplace setting. I then designed two empirical studies. The first one explores follower attachment styles and how these affect the quality of the relationship they develop with their leader and how this in turn influences followers' experience of loneliness. The second study extends the first one to look at how follower's personality traits combine with leaders' personality traits to influence follower-related outcomes. The second study looks not only at attachment styles, but three further traits that are theorised as significant for the leadership processes and outcomes. Both studies draw on the same organisational sample collected from a large hospital in China, following a small-scale pilot study using a sample of students in a UK university. The thesis is structured around the three main articles that came out of this work and the pilot study is thus not explicitly discussed given this thesis format.

Guiding this thesis, I asked: What is the role of individual attachment styles in relation to individuals' work and the workplace (Chapter 2)? Do individual differences in attachment orientations affect workplace relationships and subsequently influence feelings of loneliness (Chapter 3)? Do leader and follower relationship-related (attachment styles and relational self) and work-related (regulatory focus and political skill) dispositions interact to influence follower relational outcomes and work outcomes (Chapter 4)? Thus, this thesis adopts a follower-centric approach as it focuses on follower outcomes in the workplace. At the same time, I explore the leader-follower relationship perspective and investigate leader and follower trait interaction and the effects on follower-related outcomes. I attempt to

answering these questions in three separate papers, including both theoretical and empirical investigations to fill the gap in attachment research and its use in the leadership field, as well as contribute to the revitalization of personality research in leadership.

In the following sections of this chapter, I first discuss the link between leadership and personality, and then review the theoretical background of attachment theory, which is followed by an introduction to other personality adopted in this thesis, namely relational self, regulatory focus and political skill. I then discuss the outcome variables examined in this thesis. I then move on to discuss the contributions of this thesis. Lastly, I provide an overview of remaining chapters of this thesis.

1.1 LEADERSHIP AND PERSONALITY

Leadership has been defined as "both a process and a property" (Jago, 1982, p.315). On the one hand, it refers to the process of achieving a collective goal by influencing, guiding, and coordinating activities of members of an organization. At the same time, it also depicts the qualities or traits that enable an individual to succeed in such processes. Personality theories and leadership share a close connection. The study of individual differences in leadership has been an ongoing exploration by researchers and is considered to be at the cusp of a renaissance (Antonakis et al., 2012). Research in this field has gone through early theorization that focused on the "property" perspective which highlights the specific characteristics of effective leaders, and later incorporated a "process" perspective that accounts for the interaction of traits with contextual factors (Dinh & Lord, 2012).

The exploration and debate of personality and leadership date back to the early 19th century, when the "great man" theory (Carlyle, 1841/1907) was proposed arguing that leadership qualities are inherent in certain individuals, enabling them to be effective in leadership endeavours. The early explorations mostly adopted a leader-centric approach, suggesting that leader dispositions and behaviours are central to the success of the leadership

process and that they facilitate goal attainment (Dinh & Lord, 2012). These lines of research not only focus on the differentiation between leader and non-leader qualities, but also investigate associations with leader emergence and effectiveness (Judge et al., 2002).

According to Zaccaro (2012), research on individual differences in leadership has gone through two tipping points, which contribute to a potential third tipping point. The first tipping point featured a move from a classic trait perspective to a situational approach, suggesting cross-situational variance of leader traits (Bass & Bass, 2008). The second tipping point came with the broader inclusion of traits in leadership theories and empirical studies, including re-examination of the cross-situational data from past studies that found support for cross-situational stability (Kenny & Zaccaro, 1983). This tipping point also includes the "reversing the lens" perspective (Shamir, 2004), during which the attention started to shift to how followers perceive leaders and the leadership process (Day & Zaccaro, 2007). Zaccaro (2012) proposes that a third wave of trait-related studies should explore multivariate, multistage models that incorporate the mediating mechanisms of dyadic, team or organizational level processes (Zaccaro et al., 2012).

In light of the revitalization of personality literature in leadership research, this thesis adopts a situational constancy perspective and tests a multistage model, that is to say, personality traits are viewed as stable factors and are not expected to change within a short period of time. Extant research has examined a wide range of personality traits (e.g., Judge et al., 2002; Antonakis et al., 2012). Attachment theory (Bowlby, 1969) stands out among these as it allows researchers to trace individuals' early experiences and offers a distinct relational perspective. Though personality traits such as the Five Factor Model (FFM) (Costa & McCrae, 1992; Goldberg, 1981) have been studied extensively and dominate the leadership field (e.g., Matthews, Kelemen & Bolino, 2021), attachment theory can offer a unique and enlightening perspective in terms of explaining how individuals differ in the leadership

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process from a developmental perspective (Harms, 2011). As one of the most generative and influential psychological theories, attachment theory has been guiding a range of research fields such as social psychology and developmental psychology. Despite recent calls for the study of attachment theory in the workplace and promising evidence that gradually accumulated (Yip et al., 2018), it is still an under-explored area that is worthy of further investigation. Thus, this thesis focuses on attachment theory as the primary lens for exploring traits broadly (chapter 2), and leader and follower traits more specifically (chapter 3).

While exploration of the literature points to attachment theory as a promising direction, the examination of other traits can shed more light on the leadership dynamics. The literature suggests that not all traits play the same role in leadership dynamics. Thus, I extend my empirical investigation of leader and follower traits beyond attachment theory, to include the social-cognitive aspect of personality (relational-self), the motivational aspect of personality (regulatory focus), and the social competence aspect of personality (political skill) to make a more inclusive exploration of the role of personality in leadership.

In the next section, I provide an overview of attachment theory and other personality factors examined in this thesis.

1.2 Attachment Theory

Proposed and developed by John Bowlby (1969/1973), attachment theory conceptualizes people's inclination to seek closeness to a certain individual. It was first used in psychoanalysis and psychiatry to study children's behavior and emotional well-being. The basic notion drawn from an evolutionary perspective is that infants are incapable of protecting themselves from danger because of their vulnerability, so they rely on their caregivers to offer them protection and ensure their survival. During this dyadic process, infants or children are also responsive to their caregiver's behaviours. Apart from being fed

and kept safe, they develop and maintain an affectionate tie with the caregiver (Bowlby, 1981; Simpson & Rholes, 2016).

The theory puts forward two working models (Bowlby, 1988) to capture the infants' internalized interpretation of the world with significant others and itself (Collins et al., 2004). The model of 'others' refers to infants' expectancy of the caregivers' behaviours. Infants internalize the attachment figure's care and attention; they evaluate the carer's performance based on whether their needs for survival have been satisfied and whether the caregiver has given them care in a timely manner. At the same time, the model of 'self' enables infants to make judgments on the internalized worthiness of itself, whether the infant is worthy of the protection and guardianship. If the caregiver is constantly unapproachable, the infant would perceive the situation as their own fault and question the worthiness of self.

The theory was further developed when Ainsworth and her colleagues studied infants' attachment behavior and their attachment patterns by introducing "strange situation" to study how infants would act when their mothers temporarily leave them with strange adults (Ainsworth, 1978). The research found that when the mothers rejoin the infants after some time away, the infants' behaviors vary. Some infants stop crying almost immediately after their mothers' soothing behavior. They respond and internalize the primary caregivers' comfort and support, so they are easily reassured that they are safe and able to explore. This pattern is interpreted as 'secure' attachment. However, some infants would be more anxious and cry even harder after their mothers returned, which is a sign of blaming their mothers' leaving them in a seemingly risky environment. This display of anxious attachment-seeking behavior is identified as 'anxious' attachment. Whereas a small percentage of infants do not seem to be influenced by this situation, they ignore their mothers' presence and avoid interacting with their mothers after reunion. The orientation shown by these infants is labeled as 'avoidant'.

As the dyadic process being studied, researchers are convinced that the formation of attachment styles are not only to do with infants' personality or disposition (Harms, 2011), but are deeply influenced by how they are cared for by the attachment figure (Ainsworth et al., 1978) and the interaction between them (Fox, Kimmerly, & Schafer, 1991). The ways that parents' show their affection to infants are diverse and parents deal with situations differently. The attachment styles that the infants displayed in the study are largely due to past experiences. Infants are more likely to form securely attached relationships with the caregiver when the attachment figures are highly devoted, approachable and responsive to their needs, especially in strange situations. However, if the infants do not receive consistent attention, they would form insecure attachment styles. When the caregivers' attentions are unpredictable or not consistent, the infants are likely to develop an anxious attachment style. The avoidant attachment style is related to the caregivers' absence or cases where the caregiver is indifferent or insensitive to infants' needs for closeness (Keller, 2003).

1.2.1 Adult attachment styles

Bowlby's theory, in some ways, was inspired by Freud's thoughts about the significance of emotional experience and life events during infancy and childhood, and how these experiences would influence them later on in life. Admittedly, when Bowlby first proposed attachment theory, his concern was primarily linked to the relationship between infants and caregivers. Infants or children's attachment behaviours are explicit in the early stages of life. However, Bowlby (1969) did suggest that the attachment behaviour endures throughout a person's life cycle. Though early attachment could change and be replaced, the influence of attachment from early childhood is likely to persist from 'the cradle to the grave' (p.129).

Bowlby's working models of 'self' and 'others' allow researchers to understand how early childhood attachment systems still have influence on individuals' adult life, and to

delve into the attachment consistency in the life span (Collins & Read, 1990). Hazan and Shaver (1987) were one of the first researchers who attempted to test the theory on romantic relationships. Their study found that adults in romantic relationships show similar attachment styles as infants, which are associated with models of internalized self and social relationships. Later in 1990, they investigated the practical implications of how attachment theory may apply to both work situations and romantic relationships, linking attachment theory to different contexts in adult life.

Attachment theory has been widely adopted to interpret different scenarios in adulthood, from romantic relationships, friendship to personal growth, career, and organizational settings (Mikulincer & Shaver, 2007). It has been used to explain different aspects of couple functioning; for example, individuals attachment styles in relation to attractiveness (e.g., Chappell & Davis, 1998), and results consistently show that individuals perceive attachment security as a more attractive personality than attachment insecurities. Another example is attachment styles and relationship commitment. Evidence suggests that both attachment insecurities are negatively related to low levels of relationship commitment (Himovitch, 2003). In terms of personal growth, evidence suggests that secure individuals report more self-efficacy in terms of career exploration (Ryan, Solberg & Brown 1996).

1.2.2 Attachment theory in the workplace

Studies have shown the validity and significance of attachment theory within various aspects in adolescence, many of them are in the romantic relationship domain (Hazan & Shaver, 1990; Simpson & Rholes, 2016). Harms (2011) identified the lack of attention for attachment theory in the workplace, and only in recent years, a growing interest emerged and shifted the focus from parent-infant and romantic relationships to a work-related perspective, linking attachment theory to organizational studies. Researchers have been evaluating the

dynamics of attachment styles in the workplace and the outcomes, covering various topics of management literature, such as leadership and employee commitment (Harms, 2011; Richard & Schat, 2011).

Attachment literature identifies work-related behaviour as the exploratory side of the attachment system (see Harms, 2011). As individuals develop, they may encounter difficulties and distress in different aspects of their lives, so they may experience the disenchantment of the original attachment figure from early childhood. This motivates them to form new attachment relationships with more capable individuals in order to satisfy attachment needs. Thus, the basic concepts underpinning these works are that individuals are able to identify attachment figures at work. In the workplace, the attachment figure is likely to be individuals' leaders or co-workers rather than their parents (Collins & Feeney, 2000).

Among recent studies, researchers almost unanimously found that a secure attachment style is associated with positive work outcomes. For example, Berson et al. (2006) collected data from college students and found that compared with insecure individuals, securely attached individuals are more likely to develop a positive view of self, and to perceive themselves as active and helpful members. Scrima et al. (2015) used the Adult Attachment Interview to examine the relationship between attachment styles and organizational commitment. They found that securely attached individuals report higher organizational commitment. Richards and Hackett (2012) collected data from different work contexts and studied the relationship between attachment and leader-member relationship quality and found that insecure attachment styles have negative influence on the quality of the relationship.

1.2.3 Attachment theory and leadership

Traditional leadership theories tend to focus solely on the leaders (e.g., charisma and leadership styles); however, the centre of attention has transferred from leaders to leader-

follower relationships (e.g., leader-member exchange; e.g. Dansereau, Graen & Haga, 1975; Graen, 1976; Graen & Scandura, 1987; Graen & Uhl-Bien, 1991) which provides a more comprehensive insight into the leadership process. In the light of a more dyadic approach, leadership studies have been adopting a relational perspective. Research and theories on close-relationships are used to explain the relationship between leaders and followers, and to examine organizational outcomes. A social-cognitive approach was used to interpret leadership, which involves categorization theory put forward by Lord and Maher (1993).

The cognitive approach enables people to make sense of how close relationships are formed (Thomas et al., 2012). Essentially, the theory proposed a matching process of followers' perception of an ideal leader prototype against the leader's actual traits. The individual would observe leaders' behaviours and performance and gradually form a certain view of their traits through socialization and interaction. The observation will be used to compare with a pre-existing belief of a good leader. Based on this comparison between one's prototype of good leadership and the actual leader one has, individuals make judgments about the leader's adequacy and effectiveness. To some extent, the process is similar to working models of self and others in an attachment relationship where individuals compare the worthiness of attachment figures (positive traits) against the individual's expectations to judge the quality of the exchange. Epitropaki and Martin's (2005) study adopted categorization theory and showed that employee perceptions of the match between the observed leader and their ideal prototype positively influence leader-member relationship quality which brings a series of organizational outcomes such as commitment.

As one of the most fruitful theories on close-relationships, attachment theory posits that attachment figures should be able to provide a secure base and safe haven (Bowlby, 1988). Many argue that the role and responsibilities of leaders qualify them to take the role of an attachment figure in relation to their followers (Mayseless, 2010; Mayseless & Popper,

2007; Popper and Mayseless, 2003) especially in times of distress. In work situations, many followers rely on leaders' instructions and guidance beyond supervision, and sometimes followers have the opportunity to receive personal guidance and support (Shapiro et al., 2016) which makes the relationship even closer and more significant to the followers. In line with these arguments, Davidovitz et al. (2007) conducted three studies in a military setting. Based on the soldiers' reports on leaders and assessment in training and workshops, leaders with avoidant attachment styles were found to lack leadership initiative and were unable to provide a secure base for followers, and avoidant attachment in leaders was also shown to be associated with poorer mental health of followers in the long run. Anxiously attached leaders were found to be preoccupied with self-interest and too involved with seeking attention and care to focus on tasks. Overall, this study provided insight on the effects leaders' insecurities could have on their followers. However, as the research was limited to military settings and mainly focused on male participants, further research could be conducted in different contexts and consider various factors.

As leaders are often compared to 'father figures', the dynamics between leader and follower, and how the quality of this relationship influences work outcomes have been discussed in previous research (e.g., Thomas et al., 2013; Richards & Schat, 2012). However, it is suggested that a number of factors need to be considered such as the nature of the job and the tenure of the member (Thomas et al., 2013) since not all leaders could be regarded as "a father figure". Mayseless and Popper approached the leadership literature by adopting a parenting view and they closely examined the similarities between transformational leadership (2002), charismatic leadership (2007) and good parenting styles. Secure leaders often approach work-related situations with confidence, whereas insecure leaders display destructive coping methods, such as prioritizing their desire for care and proximity before the needs of followers or organizational goals (Hudson, 2013).

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Several papers have provided theoretical models synthesizing leader attachment styles and follower attachment styles and proposed potential outcomes of different combinations (e.g. Keller & Cacioppe, 2001; Keller, 2003). Based on Ainsworth's proposition of three attachment styles, Keller and Cacioppe (2001) suggested an initial framework to use early childhood experience to explain and examine workplace behaviors and individual differences, and later (2003) expanded the framework and put forward nine possible combinations. According to this model (2003), the combination of a secure leader and a secure follower is likely to form an ideal relationship. The caring, responsive nature of the leader provides a secure base for the follower, and in turn, the follower will be encouraged to explore and learn, which facilitates effective performance. However, when either or both parties are insecurely attached, the dynamic between them would be more complicated. As hypothesized, the process of a secure leader working with insecure followers may result in the leaders' withdrawal of attention and trust either because of anxious followers' constant need for closeness or avoidant followers' lack of engagement. In a similar way, when secure followers are led by insecure leaders, they may be discouraged by anxious leaders' distrust of the follower's ability and avoidant leaders' inattentiveness. In contrast, it may be beneficial for their coexistence when both parties share the same insecure attachment styles. If both follower and leader are anxiously attached, the need for mutual support and help is strong and could be perceived as reassurance by both parties. Similarly, when it comes to avoidant characters, it would be a good combination when they perceive each other as positively independent. If they are combined in an opposite way, i.e., avoidant leader with anxious follower or anxious leader with avoidant follower, it may result in an unpleasant work relationship. The anxious individual would constantly seek approval or closeness from the avoidant one only to be left with disappointment. These various arguments and theoretical

models are suggested by both Mayseless (2010) and Keller (2003) to be worth investigating empirically.

For almost half a century, attachment theory has been serving various fields and has been used to explain different behaviours and individual differences, from childhood to adolescence. Future directions are proposed by researchers on areas that remain unexplored (Harms, 2010), such as linking abusive supervision to attachment styles (Tepper, 2007) and exploring its implications for workplace relationships. As Harms (2010) suggested, the research associating attachment theory with organizational research is still insufficient as it could be one of the most fruitful and potential fields.

1.2.4 Measurement of attachment styles

In attachment literature, researchers have developed various scales and measures to investigate attachment style differences. Self-report measures and interview measures are most commonly used measures to assess attachment style variations in adulthood (see Bartholomew & Shaver, 1998; Crowell, Fraley & Shaver, 1999; Mikulincer & Shaver, 2007; Game, 2011). One of the earliest and most influential measures developed was the Adult Attachment Interview (AAI) by Main et al. (1985). About the same time, Hazan and Shaver (1987) developed the original three-typology self-report measure to assess attachment in romantic relationships. These two independent measures later influenced various researchers. Although both measures were all inspired by attachment theory, they derive from different disciplinary traditions and serve different purposes (Crowell, Fraley & Shaver, 1999).

In organizational research, self-report measures are frequently used. Researchers have come to a consensus that attachment styles are better measured dimensionally instead of in typology (Crowell, Fraley & Shaver, 1999). Inspired by Hazan and Shaver (1987) and Main et al. (1985), Bartholomew (1990) developed a four-category attachment typology and later,

Bartholomew and Horowitz (1991) developed the Relationships Questionnaire (RQ). This self-report measure included four attachment styles: secure, preoccupied, dismissing avoidant and fearful avoidant. Later, Brennan et al. (1998) developed the most commonly used self-report instrument to date, the Experience in Close Relationships Scale (ERCS, which is a 36-item scale consisting of two dimensions (avoidance and anxiety). Individuals score low on both dimensions indicating attachment security. They conducted a factor analysis combining the existing self-report scales. ERCS has an adapted version of Experiences in Close Relationships Revised (ECR-R), which was developed by Fraley, Waller and Brennan (2000). It was adapted by changing some of the items to assess different relationship contexts such as parental, romantic and friendship. However, ECR-R and ERCS are highly correlated and findings and results for the two are similar.

Given the highly inconsistent nature of measurements in attachment literature, researchers have called for further attention on measurement issues (Crowell, Fraley & Shaver, 1999) and suggested that before adopting a specific scale, underlying assumptions and relationship contexts should be considered.

Although early attachment relationships point toward parental figures, these experiences serve as a prototype for individuals' subsequent social relationship development (Bartholomew, 1990) and have a profound impact throughout an individual's life course (Collins & Read, 1990; Bartholomew & Horowitz, 1991; Overall, Fletcher, & Friesen, 2003; Fraley, 2019). As Bowlby and colleagues (1973) proposed, the attachment system will be primed when there are 'strange situations', that is, it will be activated when individuals are in danger or encounter difficult situations regardless of age and thus it concerns an individual from 'cradle to grave'. Also, there is evidence supporting that attachment styles formed in early stages tend to be retained and influence later relationships (see Fraley, 2002). In this thesis in general, I refer to attachment styles as trait-like dispositions and propose that it is

relatively stable. Thus, attachment styles were measured only one time in the empirical parts of the thesis (chapters 3 and 4).

1.3 OTHER PERSONALITY TRAITS / LEADER AND FOLLOWER TRAIT INTERACTION

Paper 2 (chapter 3) focuses on examining follower attachment styles; however, follower traits do not exist in a vacuum. To a large extent, followers rely on leaders for job-related resources and support (Zhang, Wang & Shi, 2012). Thus, leaders play a critical role and the interaction effect between leader and follower traits is equally important. Keller's model (2003) on leader and follower attachment styles interaction, which was discussed in previous section, provides a theoretical basis to explore the effects of leader and follower attachment interaction. I also extend this line of theorising to other important personality traits interaction in relation to work outcomes.

To depict a fuller picture of different aspects of individual differences. I explore the interaction effects of three other leader and follower traits, which are on the relational-level and task-level. These perspectives are important in the workplace as they show how individuals differ in terms of self-perceptions, how they are motivated and the competency of adopting flexible social skills when interacting with others. From the relational perspective, relational self is examined to view individual knowledge of self in relation to others (Andersen & Chen, 2002). On the task level, regulatory focus is examined to view how individuals are motivated in terms of goal-attainment (Higgins et al., 2001). Political skill is also examined to see individual's social competency in relation to work outcomes from a strategic perspective (Pfeffer, 1981b).

Attachment styles and relational self are constructs that shape individuals' perceptions of self and others in close relationships, influential to individuals' interpersonal relationships (Mikulincer & Shaver, 2003; Eberly et al., 2017). Individuals with a higher relational self-

construal are found to exhibit more citizenship behaviours (Johnson et al, 2006) and behave more ethically (Cojuharenco et al., 2012). Political skill and regulatory focus depict individuals differences on the task-level. Political skill is more strategic-orientated, highlighting individuals' competency in terms of adapting and flourishing in a certain working environment, such as exerting power and skills of networking (Liu, Liu & Wu, 2010). Regulatory focus is more goal-driven, featured by individuals' behavioural tendencies. A promotion focus describes individuals' motivation towards goal-attainment whereas a prevention focus depicts individuals' caution towards making mistakes (Lanaj et al., 2012).

1.4 OUTCOME VARIABLES

Chapters 3 and 4 explore personality traits in relation to specific outcomes. Chapter 3 looks at the role of follower attachment styles in relation to leader-follower relationship quality and follower loneliness. In this study leader-follower relationship quality is captured by the construct of leader-member guanxi (LMG) - an indigenous Chinese construct that is culturally relevant to the sample of this thesis. Different from the popular construct leader-member exchange (LMX; Dansereau, Graen, & Haga, 1975; Graen & Scandura, 1987), LMG tends to be developed outside of work and through socialising and involvement in personal lives (Chen, Yu & Son, 2014). In a LMX relationship, fulfilling a mutual obligation is the priority, and relationships could be built during or after finishing the task, whereas LMG relationship focuses on building connections before completing job assignments (Zhang, Deng & Wang, 2017). Chapter 4 also examines loneliness as an outcome of individual attachment insecurities (attachment avoidance and anxiety) and leader-member relationship quality. Loneliness, which is a negative affect that derives from deficiency in social relationships (Peplau & Perlman, 1982), is receiving growing attention in organizational research. The detrimental effects of loneliness are increasingly acknowledged by researchers and practitioners alike (Wright & Silard, 2020; Ong, 2021). It is a potential risk factor for

employee physical and mental health (e.g., Mullen et al., 2019), and could trigger a list of negative organizational outcomes such as low performance (Ozcelik & Barsade, 2018) and financial loss (Michaelson et al., 2017). Thus, it is particularly relevant, especially when the global pandemic of COVID-19 has caused disruptions to the physical working environment and employees are facing deficiencies in terms of workplace interactions which is more likely than ever to be susceptible to loneliness (Wang, Liu, Qian, & Parker, 2021).

In Chapter 4, apart from LMG and loneliness, job satisfaction and leader effectiveness are examined, focusing on a broader work-related perspective rather than a relational perspective. Leader effectiveness and job satisfaction has long been among the most important factors to gauge the success of leadership; and share close relationships with personality research (Hoffman et al., 2011; Judge et al., 2002). These are examined as outcomes of the congruence between leader and follower traits, specifically looking at their attachment styles, relational self, regulatory focus and political skill.

1.5 CONTRIBUTIONS

This thesis combines theoretical and empirical investigations and seeks to understand how individual differences influence the leadership process. It consists of three articles, each with its own contributions which are discussed in their respective chapters (Chapters 2-4). Broadly, the contributions of the thesis overall are detailed below:

First, the thesis contributes to the revitalization of personality in leadership literature. With the development of a potential "third tipping point", personality and leadership literature are in need of more inclusive explorations (Zaccaro, 2012). This thesis is not confined to one specific personality trait but examines multiple traits that cover individual differences in cognition, interpersonal relationships and abilities. Also, in Chapter 3, the use

of multi-stage models allows for the investigation of trait as antecedents, leadership process as the mediator and follower-related outcomes as suggested by Zaccaro (2012).

Second, this thesis also contributes to the use of attachment theory in the workplace and answers the call by researchers to make theoretical advancements (Yip et al., 2017) and longitudinal attempts in attachment research (e.g., Fein et al., 2019). Attachment theory allows me to interpret fundamental differences of individuals and organizational phenomenon from a developmental perspective. Using trait activation theory, the paper presented in Chapter 2 introduces a theoretical model which incorporates the regulatory mechanisms of attachment system in relation to work outcomes and highlights the priming conditions of the attachment system in the workplace. Empirically, the paper presented in Chapter 3 offers a relational perspective and examines follower attachment styles in relation to leader-follower relationship quality using a longitudinal sample. Both attempts respond to the calls for further theorizing and research into attachment-related organizational processes, identifying attachment styles as an important and powerful antecedent to workplace processes and outcomes. As far as I know, this thesis is the first one to advance a theoretical framework of the use of attachment theory in the workplace by theoretically integrating extant research from the domain of cognitions, emotions, relationships and behaviours. Also, this is one of the first attempts that empirically explore the role of workplace relationship quality in the association between employee attachment styles and loneliness.

Third, the thesis argues against the leader-centric perspective in leadership. Previously, research focused on what leader traits contribute to effective leadership and stressed the centrality of leaders in this reciprocal process (Zaccaro, 2012). However, as Day and Zaccaro (2007, p.399) suggested "without followers and without social interaction, leadership cannot occur". After all, the effectiveness of leadership largely depends on how followers perceive and respond to this process (Xu et al., 2014). Given that leadership is an

interpersonal process, looking at traits of either the leader or the follower will lead to an incomplete understanding of the role of traits in leadership. I address this shortcoming of past traits studies by looking at both leader and follower traits and capturing their shared effect by taking a congruence approach.

Fourth, this thesis contributes to workplace relationship literature, especially to leader-follower relationships. On the one hand, the thesis identifies the leader-follower relationship as a powerful mechanism that mediates personality and workplace outcomes. Specifically, paper 2 denotes that LMG as an effective mechanism that contributes to less follower loneliness. On the other hand, from a relational perspective and using information processing theory, the thesis interprets the effects of individual differences in attachment styles and relational self on the construction and maintenance of leader-follower relationship.

Fifth, this thesis not only focuses on the follower perspective, but also focuses on interaction of leader and follower personalities. Leader and follower personality congruence is examined using polynomial regression and response surface analysis (Edwards & Cable, 2009). This approach moves away from traditional difference scores and provides richer information including levels of congruence and allows the interpretation of leader-follower personality similarity effects on work outcomes.

Finally, this thesis also contributes to the loneliness literature. The majority of research on workplace loneliness focuses on the outcomes of loneliness, such as its implications on performance and employee commitment (Ozcelik & Barsade, 2018). More investigations are encouraged to explore the antecedents of loneliness, that is, what triggers individual feelings of loneliness in the first place (Ong, 2021). In paper 2 and paper 3, I provide two approaches exploring both individual difference factors and also factors relating to the leadership process (LMG). The detrimental effect of deficiency in workplace relationships is highlighted, adding empirical evidence to the loneliness literature.

1.6 Overview of Studies

The remainder of the thesis consists of three papers, with the aim of providing both theoretical and empirical advancements towards the exploration of individual differences in leadership research. I focus primarily on the study of attachment styles, and later extend to other personalities and explore various workplace outcomes.

Chapter 2 (first article) provides a theoretical integration paper on the use of attachment theory in the workplace. Also, a theoretical framework is proposed, incorporating the mechanisms between individual attachment styles and work outcomes, and also the activating of attachment systems. The framework uses attachment theory as a guiding framework to understand how individuals' internal working models affect work outcomes through cognitive, affective and behavioural regulation.

In Chapter 3 (second article), I construct and test a model of the effect of follower attachment style on their feelings of loneliness and examine how workplace relationships, specifically, leader-member relationships, mediates this relationship.

Though this thesis adopts a particular focus on individual attachment styles, in Chapter 4 (third paper) I extend on this trait to other factors such as relational self and regulatory focus to depict a wider range of individual differences, featuring individual dispositions on the relational-level and tak-level. In particular, I examine how leader and follower personalities interact to influence a series of important work outcomes, including leader-member relationship quality, loneliness, leader effectiveness and job satisfaction.

Finally, the last chapter presents an overall discussion of the thesis, including theoretical and practical implications enlightened by the findings, as well as the conclusion of the thesis.

Abstract

The interest in adopting attachment theory to interpret workplace dynamics is growing, with increased volume of theoretical investigations and empirical evidence in the literature. However, the research evidence remains scattered and lacks theoretical integration and advancement. Motivated by the importance of attachment theory for informing workplace outcomes, advancements in the literature with inconsistent findings and growing attention in this area, I propose a theoretical framework that incorporates attachment styles in relation to work outcomes, unpicking the regulatory mechanisms from cognitive, interpersonal, affective and behavioural perspectives, as well as identifying boundary conditions in terms of the activation processes of attachment system in the workplace. Implications and future research directions are discussed.

2.1. INTRODUCTION

In the OB literature, trait theories have received continuous attention and provoked ongoing debates (Judge & Zapata, 2015). Defined as "an individual's characteristic patterns of thought, emotion, and behaviour, together with the psychological mechanisms --- hidden or not --- behind those patterns" (Funder, 2001:2), trait theories capture the relative stability and the psychological processes that are associated with individual differences. Researchers have evidenced that personality traits serve as powerful antecedents that predict work outcomes such as performance and wellbeing, and also pointed out the role of situational factors in priming or deactivating these traits (e.g., Judge & Zapata, 2015). While individual differences such as the Five Factor Model of personality (Costa & McCrae, 1992; Goldberg, 1981) have been studied extensively, literature around attachment styles, which are trait-like

dispositions, begins to evolve and shows its potential to be a fruitful field in leadership and organisational research. Attachment theory, as proposed by John Bowlby (1969), explains individuals' approach to seeking closeness to others which is shaped by past relationship experiences. The resulting trait-like dispositions are called attachment styles or orientations which capture the individual differences regarding social and relational perceptions (see the appendix for Chapter 2 for a visualization of the attachment field using bibliometric analysis).

For several decades, the investigation of personality in the workplace has been dominated by the Five Factor Model (FFM) (Costa & McCrae, 1992; Goldberg, 1981). As a result, since attachment theory was introduced in the management domain, a considerable amount of research has explored attachment theory and examined its relationship with the Big Five (e.g., Roisman, Holland, Fortuna, Fraley, Clausell & Clarke, 2007). The FFM did provide a common ground for personality researchers when explaining individual differences; for example, one of the most comprehensive meta-analysis on personality and leadership published in 2002 by Judge, Bono, Ilies and Gerhardt adopted the FFM. However, researchers have raised concerns that the prevalence of FFM in organizational research has overshadowed other important personalities explorations which could yield equally important findings (Antonakis et al., 2012). Moreover, evidence in the literature generally suggests that attachment orientations explain above and beyond the FFM (Roisman et al., 2007) and overall, there are small or insignificant relationships between the FFM and attachment orientations (Harms, 2010). In a large-scale project using machine learning, Joel and colleagues (2020) found that attachment orientations are one of the most robust individual-difference predictors of relationship quality. All these endorsed the needs to further explore attachment theory in the leadership and management field.

In the workplace, growing evidence has suggested that attachment systems function as a reliable predictor of work outcomes such as workplace relationships and employee well-

being (see review by Yip et al., 2018). It delineates how individuals with different internal working models vary in their thoughts, feelings, and behaviours and how these differences influence work processes and work outcomes. Though this paper does not attempt to propose attachment theory as a substitute of other personality theories such as the Big Five, I do maintain the power of attachment theory to serve as an inclusive theoretical framework that incorporates cognitive, affective, and behavioural individual differences. It could potentially explain and uncover how individuals perceive work situations and their variations in behaviour.

Though empirical research is accumulating, our understanding of attachment theory and its use in organisational research is still limited and hindered by a variety of factors, such as the debate over whether individuals' attachment styles are stable, the measurement of attachment styles, how individuals' internal working models are primed and how they function in the workplace. These hindrances, I propose, are related to underdevelopment of theory, the misalignment of conceptualisation and application of the theory and lack of an overarching framework to organise how attachment systems influence organisational outcomes directly or indirectly through potential mechanisms. Extant research is able to provide empirical evidence on 'what' individual attachment styles influence, however, it is still unclear how attachment systems function and when they come into play. In particular, personality is considered as a distal factor in terms of explaining work-related outcomes (Antonakis et al., 2012), so how do individual differences in attachment styles influence outcomes through potential mechanisms? Also, though there is a surge in the number of empirical studies using attachment theory, there are conflicting results and scholars have not yet explained how attachment anxiety and avoidance work differently, and what are the activation process identified to explain the difference? In light of these issues, the paper aims

to develop a theoretical framework to capture the mediating and moderating processes of attachment styles in relation to work outcomes.

This paper contributes to the literature in several ways. First, this study contributes to the literature on attachment styles in the workplace by providing theoretical integration on extant theorization and empirical evidence. There are only a few studies reviewing the use of attachment theory in the workplace published in recent years. The most comprehensive review to date is conducted by Yip, Ehrhardt, Black & Walker (2018), which systematically reviewed and categorized results from empirical research. This study differs from Yip and colleagues' review and contributes to the literature from a theoretical integration perspective, rather than taking stock of past empirical findings and offer an exhaustive review of the study of attachment theory in the workplace. My objective is to unpick the potential mechanisms behind attachment systems to better understand how this system influences and informs a variety of workplace dynamics and work outcomes.

Second, this paper proposes an overarching framework and fills the gap between conceptualization and functioning of attachment systems and its use in the workplace. Drawing on past reviews and extant theorizing in the domains of cognitions, emotions, behaviours and relationships, this study sheds light on how attachment systems work through these regulatory mechanisms and influence work outcomes. This paper advances our understanding of attachment systems by elucidating how they function as regulatory devices, offering an interpretation of how individuals differ in their perceptions of the occurrences in the workplace, how they construct and maintain workplace relationships, how they regulate their emotions in the workplace, and their behavioural orientations in the workplace.

Moreover, using trait activation theory, this paper highlights the boundary conditions that activate and trigger individuals' attachment styles. By categorizing contextual factors on the task level, social level and organizational level, this paper sheds light on how different

attachment-relevant situations activate and provoke the attachment system in the workplace and how these situational cues interact with different attachment orientations to influence work outcomes.

In the following sections, I first review the theoretical foundations of attachment theory. Next, I propose a theoretical framework and interpret the mediating and moderating process of attachment theory in relation to work outcomes.

2.2. FOUNDATIONS OF ATTACHMENT THEORY

Our sense of security as humans largely comes from the presence of a wise and strong figure; we depend on them to offer food and shelter during our vulnerable early stages and continue to benefit from their guidance and support later in life. This internal system activated by our survival instincts as a result of evolution has been passed on from one generation to another. This system was named as the attachment system by John Bowlby (1969). Since then, it has become one of the most influential theories in psychology and inspired numerous investigations in subdomains such as social psychology and developmental psychology.

When interacting with significant others, individuals tend to develop a mental record of past experiences (Simpson & Rholes, 2017). The information and knowledge of close relationships they store in memory at the early stage of life have significant implications on how they view themselves and others in the future. A healthy caregiving relationship is characterised by consistency and attentiveness, where individuals will feel love and protection, whereas a dysfunctional relationship is characterised by inconsistency or unavailability, and individuals will feel ignored or helpless. The success or failure of past attachment experiences will influence their future perception of others (model of others) and their views of self (model of self), which induces the formation of the two dimensions of attachment orientations, attachment anxiety and attachment avoidance. Attachment anxiety

refers to the extent to which individuals hyperactivate their needs for proximity. Anxiously attached individuals are often concerned with whether they will be recognised by significant others. The attachment avoidance dimension, on the other hand, looks at the degree to which an individual is comfortable being close to significant others. Avoidant individuals often seek independence and are self-reliant in an attachment relationship as a result of the absence of attachment figures in past relationships. Apart from the dimensionality in attachment systems conceptualization, another categorization method proposed by Bartholomew and Horowitz (1991) is also often used by researchers, which divides individuals' attachment orientations into secure (people who are comfortable with being close to others), preoccupied (worry about losing attention of support from significant others), dismissing (view self as positive but avoid close relationships) and fearful (avoid close relationships but maintain a negative view of self). In this paper, I adopt the most commonly used approach in the OB literature, which is to view attachment systems in terms of two dimensions of attachment insecurities, attachment anxiety (hyperactivation of attachment needs) and avoidance (hypoactivation of attachment needs). When individuals are low on both attachment anxiety and avoidance, they are securely attached (balanced attachment needs). The terms attachment orientations/styles are also used to capture individual differences in terms of their attachment styles.

The transition of attachment relationships from childhood to adulthood is also a widely explored topic in attachment literature (Fraley, 2019; Overall, Fletcher & Friesen, 2003). Although early evidence focuses on attachment relationships with parental figures, the underlying assumptions of attachment theory cover more than childhood experiences. As Bowlby and colleagues (1973) proposed, the attachment system will be primed when there are 'strange situations', that is, it will be activated when individuals are in danger or encounter difficult situations at any time in a person's life, from 'cradle to grave'. Thus, it

opens up the possibility to interpret other close relationships in adulthood such as romantic relationships, friendships and workplace relationships.

2.3. POTENTIAL MECHANISMS

In this section, I propose a theoretical framework (see Figure 2.1) that depicts how attachment styles influence work outcomes through mediating mechanisms and the activation process of the attachment system. I start by unpicking the potential mechanisms in the following section.

Figure 2. 1 The proposed conceptual framework
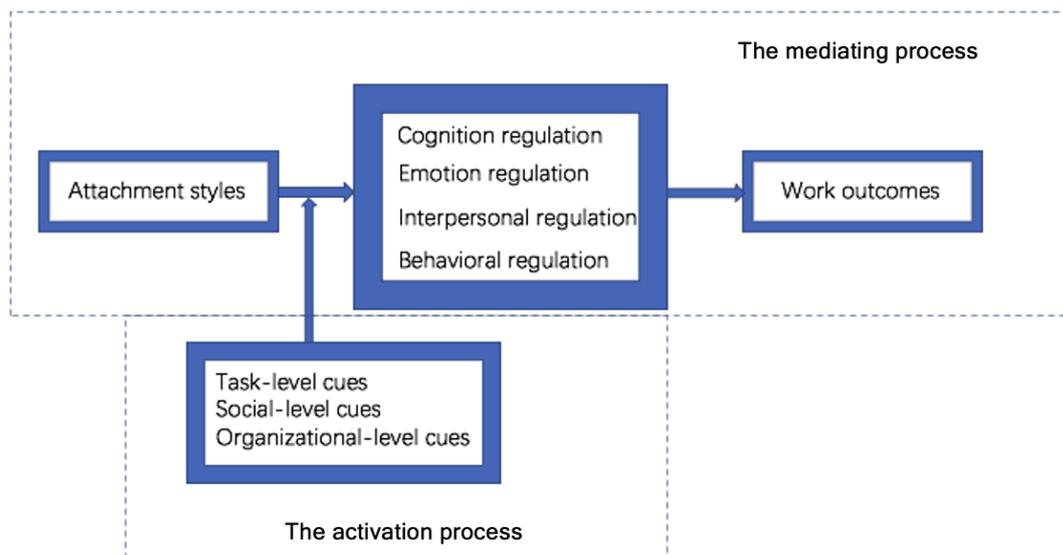
2.3.1. ATTACHMENT AND COGNITION REGULATION

Our perceptions and interpretations of the social surroundings are usually invoked and constructed in relation to others. Consciously or unconsciously, we make subjective inferences about others and events that happen around us. The interpersonal nature of the human mind allows us to reflect upon our own thoughts, feelings and behaviours as well as

interpret others' manifested emotions and behaviours. For years, developmentalists have been exploring how people come to an awareness and interpretation of social surroundings. Fonagy and colleagues put forward the notion of 'prereflective self' and 'reflective self'(Fonagy, Steele, Steele, Morgan & Higgitt, 1991), in which a prereflective self refers to the immediate experience of life whereas the reflective self involves the internalization and interpretation of what we experience in life. Such a 'mentalization' process involves reflective understanding of self and others (Fonagy, Gergely & Target, 2007), which directs individuals' sense-making and helps us navigate ambiguous social information. Through mentalization, an internal reality is formed in which we are able to interpret the mental states of others and attribute causes to their emotions or actions (Green-Hennessy & Reis, 2005). The mental realities we form are intrinsically subjective, which explains why individuals hold different perceptions of external events.

Attachment theory in essence depicts individuals' cognitive differences in terms of processing and perceiving attachment-related information (Mikulincer & Shaver, 2007). The formation of individuals' attachment systems is a result of close relationship history. In line with the notion of reflective self, the sense-making process of individuals' attachment systems consist of an internal working model of self, which is individuals' impression or perception of themselves in a close relationship. Also, it involves individuals' reflection upon others. Individuals accumulate knowledge and information about their relationships with significant others since the early stages of their development, which gradually formulates a pattern (Bartholomew, 1990; Fraley, 2002). This pattern of attachment impression will function as a reservoir of attachment-related information, which eventually influences their perception of current or future close relationships (Mikulincer & Shaver, 2007). When individuals are exposed to a persistent pattern of attachment behaviour at an early age, they will store this information and form mental schemas which will guide their understanding of

self in relation to others (Dykas & Cassidy, 2011). They will hold certain expectations of current or future attachment experiences. For example, I posit that if they are habitually involved in a consistent and caring attachment relationship, which is when their significant others have a consistent and loving manner when interacting with them, they will store this positive attachment information and generalize it to predict future close relationships. However, when their significant others treat them in an inconsistent way, they will be confused by the uncertainty of the relationship and eventually become anxious about whether they will receive or whether they deserve care and attention. When individuals are persistently exposed to the situation where attachment figures are unavailable or neglect their attachment needs, they will gradually form the perception that significant others are unreliable, thus becoming habitually self-reliant and distant.

The perception and processing of social cues is also related to how individuals attribute causes to social events. Secure attachment patterns are shaped by positive past experience, thus the schematic perception towards social events tends to be positively biased, which provides individuals with confidence of their worthiness of love and attention (Bowlby, 1969). Attachment insecurity points to the maladaptive functioning of individuals' social cognition which tend to be negatively biased or even distorted (Dykas & Cassidy, 2011). Evidence in romantic relationships literature shows how individuals with insecure attachment orientations hold negative or pessimistic attributions to their partners. For example, in a vignette study, Collins and colleagues (2006) found that during a negative scenario (facing partner's transgression), anxiously attached individuals attribute their partner's behaviours to relationship-threatening factors. When facing relationship partners' positive behaviour, avoidantly attached individuals tended to hold more pessimistic views and question their intention. Similarly, the dysfunctional pattern of attachment insecurity was shown in the study by Gallo and Smith (2001) who found that in married couples, the attachment

insecurity of husbands was related to a higher tendency to make negative attributions about relationship interactions. In a hypothetical scenario of facing relationship threat, Meuwly and Davila (2017) found that individuals' attachment anxiety was related to more negative perceptions of the self and the relationship. This evidence suggest that insecure individuals are predisposed to their biased schematic perception and tend to make negative inferences about significant others' intentions.

I perceive attachment systems not only as a cognitive process that is formulated when individuals try to make sense of social surroundings, but also as an inner resource and regulatory device (Mikulincer & Shaver, 2007). Attachment theory shares similar postulation with sociometer theory (Leary & Baumeister, 2000; Leary & Downs, 1995); they both underscore the importance of individuals' need for belongingness. Sociometer theory focuses on self-esteem as an indicator of individual self-evaluation. Self-doubt, as a result of the inability to sustain close interpersonal relationships, is likely to activate individuals' need for belongingness. Murray and colleagues (2003) found that in romantic relationships, the chronic feeling of being valued is related to higher self-esteem and positive evaluation of one's relationship partner, which then results in more positive and proactive behaviours when facing stressful situations such as feeling hurt by their partner. This is consistent with attachment security, which helps individuals to sustain their self-esteem and positive evaluation of self and significant others.

I use the evidence and theorising from the literatures on parental relationships and romantic relationships to inform the workplace literature and understand how attachment systems influence workplace outcomes through information processing. I detail the application of individual differences regarding social cognition as twofold. First, it is easier for us to understand employees' perception of self. The ability to receive and process social information without bias or distortion is essential for individuals to develop confidence and

self-esteem. Attachment insecurities represent an imbalance between independence and interdependence (Bretherton, 1992). For secure individuals, they are able to juggle between their need for autonomy and interpersonal relationships at work. However, anxious individuals are more socially sensitive as they worry about being neglected or rejected. Research suggests that social hypersensitivity is related to lower self-esteem (Yang & Girgus, 2018). The hyperactivation of their need for proximity is thus related to lack of confidence, meaning that anxiously attached individuals are more likely to rely on others for recognition and support. In the workplace, this is represented by employees' constant underestimation of their capabilities and seeking for reassurance from colleagues or their leaders (Keller, 2003). Whereas avoidant individuals are shown to deactivate their need for dependence. This is usually represented by distancing themselves and unwillingness to seek closeness to others. Compared with insecure individuals, secure individuals are found to be more suited to leadership roles (Mayseless, 2010), more confident about their effectiveness as a leader and are more likely to be perceived as team leaders by teammates (Berson, Dan & Yammarino, 2006). Second, it informs our understanding of employees' perception of others at work. Individuals bring pre-existing knowledge or perceptions to the workplace, when insecure employees interact with colleagues or their leaders, it is likely that they tend to show lack of trust towards their leaders (Frazier et al., 2015; Simmons et al., 2009; Harms et al., 2016). Anxiously attached employees lack of trust towards their leaders as they doubt their self-worth and constantly worry of being abandoned by others while avoidantly attached employees' lack of trust originates from their doubt towards others (Harms et al., 2016).

  Taken together, attachment systems signify individual differences concerning social information processing. The social construal process influences individuals' perceptions of self and others. In work scenarios, attachment systems are able to influence work outcomes through information processing.

One of the central themes of attachment theory is related to how people survive and cope with negative events and emotions (Bowlby, 1981). People seek a source of comfort from home, usually from their significant others. This behaviour of comfort-seeking eventually turns into coping mechanisms when people leave home or interact with the wider society. Individuals with different attachment orientations display various levels of distress-managing competence (Mikulincer & Shaver, 2016).

Individuals adopt different emotion regulation strategies when encountering negative events. The selection of coping strategies is triggered by how individuals appraise certain situations (Lazarus & Folkman, 1984). Primary appraisal is related to individuals' immediate evaluation of an event while secondary appraisal is individuals' reflection on whether they have enough resources to deal with the situation. The appraisals will then activate individuals' choice of emotion regulation strategies. According to Gross (1998, 2008), the regulatory strategies form a process model, there are antecedent-focused regulation and response-focused regulation. Antecedent-focused regulation efforts involve situation selection and situation modification to avoid contact with stressful events or altering the situation in the first place as preventive strategies (Gross & John, 2003). After the occurrence of an event, individuals may choose attentional deployment or cognitive change strategies to distract their attention from the stressful situation or modify their way of thinking and reappraise the situation. When individuals experience certain emotions, they are then able to engage in subsequent regulatory behaviours, such as suppressing emotions or faking unfelt emotions (Mikulincer & Florian, 1998).

Individual differences in attachment orientation are closely linked to individuals' emotion regulation capabilities. Secure individuals tend to be constructive, they are more likely to adopt antecedent-focused strategy, to proactively deal with a situation which may

provoke negative affect or reappraising an event by applying positive thinking (Cassidy, 1994). These constructive behaviours are a result of their positive relationship history with significant others. Secure individuals receive consistent support and attention from past interactions with caregivers, which enables them to be reassured when facing stressful situations and hold a positive view of self and others. When actually experiencing an emotion, secure people tend to be open to the feeling instead of deliberately denying or suppressing it (Cassidy, 1994). They are able to acknowledge the feeling and express it to significant others in the hope of sustaining or improving a relationship. Empirical evidence suggests that, compared with insecure individuals, secure people were more confident in their ability to cope with negative moods (Creasey, Kershaw & Boston, 1999).

For anxiously attached individuals, their relationship history is marked by caregivers' inconsistency and unpredictability. Their sense of insecurity and fear of losing significant others hyperactivates their need to seek caregiver's attention (Cassidy, 1994). Their strategies to regulate negative emotions are usually linked with intensifying these feelings to be reassured that significant others will not neglect or abandon them. This is also supported in a lab experiment which shows that anxious individuals tended to self-report a higher level of distress, yet this was not detected in physiological measures, which suggested an exaggeration of distress (Maunder et al., 2006). By intensifying their feeling of vulnerability and helplessness, anxious individuals expect to capture significant others' attention, whereas if they display sufficient competence in dealing with difficult situations, they may lose help.

Compared with anxious individuals' intensification of feelings, avoidant individuals tend to suppress their negative feelings and choose to deal with these emotions alone without seeking others' help or comfort (Main & Weston, 1982). The close relationship history is painful for avoidant individuals, it is usually characterized by unreliability and disappointment because of the unavailability of significant others. Thus, avoidant individuals

distrust others and are overly self-reliant. They adopt a defensive approach when regulating emotions such as anxiety or distress, as they are unwilling to activate their attachment system to recall past experiences (Main & Weston, 1982). Thus, they tend to choose emotion suppression or inhibition to block or reduce the chance of having to deal with close relationships. For avoidant individuals, seeking attention or help from significant others is often risky and may result in disappointment, thus, they are also less likely to seek support from others (Mikulincer & Shaver, 2007).

In the workplace, Affective Events Theory (Weiss & Cropanzano, 1996) suggest that events that happen at work are able to trigger emotional responses, and these affective experiences influence people's attitude and behaviour at work. The emotion regulation capabilities derived from individuals' attachment systems deeply influence how people perceive these events and subsequently influence their work outcomes. In work settings, emotions are shown to be contagious and not only affect individual experience, but also exert group effects, also affecting performance (Barsade, 2002). The direct effect of insecure attachment on affect and job satisfaction is supported by Kafetsios, Athanasiadou and Dimou (2014). They found that leader and follower insecure attachment styles were related to negative affect and lower job satisfaction. Also, consistent with the contagious effect of emotions, leaders' attachment insecurities were negatively related to follower positive affect and job satisfaction. In terms of emotion regulation strategies, research shows that insecure individuals engage in less adaptive coping strategies and are less likely to adopt problem-focused coping strategies (Johnstone & Feeney, 2005), which is not effective in terms of dealing with work stressors and are likely to result in poor physical and mental wellbeing (Regehr et al. 2012). This is consistent with theoretical assumptions, as anxious individuals are preoccupied with their emotions whereas avoidant individuals make efforts on blocking emotions, both focusing on dealing with emotions rather than solving problems. In leader-

follower dyads, the interaction between attachment orientation and emotion regulation were found to be related to leader-follower relationships (Richards & Hackett, 2012). In particular, anxious individuals benefit from using emotion regulation strategies of suppression and reappraisal, which enable them to re-evaluate their emotions and the situations, possibly engaging in more constructive behaviours.

The mediating role of emotion regulation between attachment orientations and work outcomes is currently under-explored, but I postulate that it serves as an important explanatory factor of how individual differences regarding attachment orientations would result in different effects of employee well-being, attitude and behaviours.

2.3.3. ATTACHMENT AND INTERPERSONAL REGULATION

One of the fundamental premises of attachment theory is individuals' proximity-seeking inclination in close relationships (Bowlby, 1973). Individuals develop interpersonal skills and relationship maintenance strategies while interacting with significant others. From past experiences, secure individuals stored positive information about relationships, they are thus optimistic about developing and maintaining social relationships and enjoy the experience of being close to others (Mikulincer & Shaver, 2007). Similarly, anxious individuals are open to close relationship experiences, as they hyperactivate the need for proximity. However, they are likely to be discouraged by the fear of rejection, or holding negative perceptions towards the relationship when the relationship partner could not satisfy their need for attention and closeness (Noller, 2005). Fear and disappointment could be triggered by even temporary unavailability of relationship partners. However, avoidant individuals hold negative perceptions towards close relationships. They enjoy being independent rather than seeking closeness to others, thus, it is more difficult for avoidant individuals to find satisfaction and enjoyment in social relationships (Bartholomew & Horowitz, 1991).

The attachment system in essence depicts individuals' balance of autonomy and interdependence. Unlike emotion regulation, interpersonal regulation is a more complex process which involves dealing with the reactions, feelings or needs of oneself and also one's relationship partner. Thus, it is important to account for individuals' own needs and relationship partners' needs simultaneously. The balance and coordination of the two reflects another difference between secure and insecure attachment systems, which involves two interpersonal capabilities, one is the ability to share and express one's own feelings, the other is the consideration and understanding of significant others' feelings and position. Similar to interdependence theory (Thibault & Kelley, 1959), the effect of mutual influence is captured. Based on interdependence theory, people hold expectations or comparison levels when they engage in relationships to fulfil their social needs; when the dyadic partners reach or exceed one's expectations, individuals will perceive the experience as satisfying.

The first aspect of interpersonal regulation captures individuals' expectations in the relationship, which is the interpersonal goals that individuals try to achieve. For secure individuals, I expect that their goals are to maintaining the appropriate balance of closeness with others while are also able to enjoy autonomy and not be overly-dependent, this is because they tend to maintain a positive attitude toward relational partners rather than questioning them for temporary unavailability (Mikulincer & Shaver, 2007). In comparison, the primary interpersonal goal for anxious individuals is to seek more closeness and attention from significant others, overemphasizing the significance of close others' support and encouragement, and they view distance as a sign of abandonment. Avoidant individuals; however, consider proximity as less important and are even aversive to closeness. This is not only reflected in psychological terms, but in physical signs as well. Research has obtained evidence that avoidant individuals' low tolerance to close physical distance (Kaitz et al, 2004). Studies in the friendship domain have also obtained evidence supporting the level

flexibility of individuals' interpersonal goals (Mikulincer & Selinger, 2001). It was suggested that secure individuals focus not only on goals towards seeking attachment needs such as love and support, but also on social (affiliation) goals which are less intimate such as cooperation in work settings. Also, they are able to adapt their goals in accordance with different contexts and are able to separate intimate contexts (attachment-related) and more causal scenarios (affiliation-related), whereas insecure individuals were shown to be less adaptive. For example, anxious individuals over-emphasize the importance of attachment needs, they would pursue attachment-related goals even in less intimate contexts, whereas avoidant individuals emphasize neither of the goals, suggesting that their goals in interpersonal relationships is to obtain distance and autonomy. Moreover, research also found that both insecure attachment styles are related to dominance in relationships, and insecure individuals are not willing to give autonomy to others, suggesting low nurturance (Gallo et al., 2003).

The second aspect, interpersonal competency in relationships, involves the ability or skills to effectively communicate one's own feelings or needs for support, and to be sensitive towards significant others' feelings or needs. In this sense, I expect that secure individuals are good at conveying their feelings accurately and effectively when interpreting close others' feelings whereas insecure individuals are less nurturing. Anxious individuals tend to focus on their own distress and vulnerabilities, hyperactivating their negative feelings, and they tend to misinterpret other people's words and intentions. Avoidant individuals tend to conceal their feelings and are insensitive to other people's feelings. These assumptions are largely supported by empirical research, with evidence suggesting that anxious and avoidant individuals lack emotional expressivity (Tucker & Anders, 1999), and attachment-avoidant individuals are less sensitive while anxious individuals are hypersensitive (Guerrero & Jones, 2003), and neither can accurately decode relationship partners' meanings and intentions.

The interpersonal regulation of attachment theory is perhaps one of the most commonly applied aspects in the workplace literature, especially in interpreting leader-follower relationships (see a review by Fein et al., 2019). As attachment theory is intrinsically interpersonal, it helps us to gain a deeper understanding of the individual differences in terms of coping with workplace relationships, for example, why individuals would struggle in building and maintaining personal relationships (Mayseless, 2010). Its application in the workplace is also well-captured in Kelley's model (2003) on leader and follower attachment style interactions and its influence on leader-member relationships. This reasoning delineates the close link between leaders' and followers' attachment styles and their implicit leadership theories (ILT; Lord & Maher, 1991) – the cognitive schemas or prototypes of what being a leader entail. Individuals' attachment styles will inform both their self-views and leadership prototypes, and that the similarity in the resulting ILT will predict responses to leadership efforts and performance outcomes. People use ILT to make sense of others' behaviours and at the same time, shape their own behaviour (Lord & Maher, 1991). Therefore, the model postulated that when a leader and a follower have the same attachment style, they will form similar expectations of what leadership entails. Leaders and followers will therefore adopt behaviours in line with each other's expectations, providing fertile ground for relationship development. This model also informed later empirical research which found significant effect of leader-follower attachment interactions and influence on work outcomes (e.g., Richards & Hackett, 2012; Popper et al., 2004).

2.3.4. ATTACHMENT AND BEHAVIOURAL REGULATION

In an attachment relationship, the role of significant others is to provide a secure base and a safe haven which allows individuals to safely explore beyond their familiar environments. This was endorsed by Ainsworth and colleagues' study of 'the strange situation' (Ainsworth et al., 1978), in which they found that securely attached infants are able

to explore the surroundings without having to worry about being abandoned by their mothers whereas anxious infants rejected independent explorations and chose to cling to their mothers. Avoidant infants would punish their mothers for their unavailability by choosing to ignore them, and would focus their attention on random objects without enjoying the actual exploration process. These individual differences in childhood depicts how attachment systems function to regulate behaviours, which have significant implications for adult life and different life scenarios.

Individuals' exploration involves a sequence of behaviours usually starts with the interest or curiosity towards unfamiliar things or environments, which requires individuals to possess the attitude of openness to new experiences, then individuals begin to engage in the interaction with the object or environment, searching for new information, learning new skills, and eventually developing the ability to deal with the situation (Bowlby, 1969; Green & Campbell, 2000). These behaviours are controlled by a regulatory system, which aims at individual goal pursuit. The effectiveness of goal pursuit is dependent on whether individuals are able to balance attachment and exploration. With attachment figures as a secure base and reliable source of comfort, secure individuals are equipped with the confidence to explore, which means they are able to grow and achieve goals (Feeney & Van Vleet, 2010). Anxious individuals, however, are troubled by their worry or fear of rejection (Bowlby, 1969). Interacting with new environments and receiving new information threaten their status quo of maintaining proximity to caregivers. They are thus unsure of their capacity to sustain a relationship and whether it is safe to explore new environments. These intensified doubts about significant others and themselves demotivate their interest to explore and hamper their development of new skills. Avoidant individuals' painful past experience results in their unwillingness to activate attachment systems. Avoidant individuals are thus more likely to

withdraw from exploration and goal-pursuit activities to prevent themselves from re-experiencing distress and frustration.

Attachment theory is similar to goal-orientation theory (Dweck, 1999) in this sense, as they both provide reasoning for individuals' motivation and demotivation of pursuing goals. The term 'exploration' in attachment theory and the term 'learning' in goal-orientation theory capture similar meaning which is individuals' efforts in adaptation to new environments (Rusk & Rothbaum, 2010). Another motivation theory that complements attachment theory is regulatory focus (Higgins, 1997) which proposes individual differences regarding motivation of behaviours. Individuals who adopt a prevention-focused strategy are focused on avoiding making mistakes to prevent failure and blame. Promotion-focused individuals devote more efforts on making achievements, and are not afraid of taking risks, which is consistent with attachment security (Blalock et al, 2015).

Empirical evidence largely supports the theory. It is important for individuals to have a healthy functioning attachment system in early life, as it provides individuals with a sense of security and the ability to explore, the ability will then extend to adulthood (Erikson, 1968). Evidence in developmental psychology suggests that securely attached children are more advanced in terms of their executive capabilities, which is the ability to plan and execute action in a proactive manner. They perform better than their insecure peers in a range of categories such as completing tasks and solving problems (Meins & Russell, 1997), and are more capable of utilizing the skills and resources available (Sroufe, Fox & Pancake, 1983). In a longitudinal study, Jacobsen and Hofman (1997) found that children's attachment security significantly predicted their positive behaviour at school (attention and participation) and better academic competence. Green and Campbell (2000) found that in a sample of adolescents, attachment avoidance and anxiety were negatively associated with exploratory

interests such as obtaining new knowledge. Similarly, Reich and Siegel (2002) also provide

evidence for attachment security and university students' exploratory interest.

In adult literature, attachment security was positively related to problem-solving

orientations (Lopez et al., 1997) and curiosity (Mikulincer, 1997), suggesting that securely

attached individuals are more open to new experience and are more proactive and confident

in terms of dealing with difficult situations. The confidence stems from their positive

attachment experience which provides them with reassurance and acts as a 'launch pad' for

their exploration activities (Bowlby, 1969; Green & Campbell, 2000). This evidence informs

workplace literature, as work has been identified as a major form of exploration in adulthood

(Hazan & Shaver, 1990). It involves dealing with new information and knowledge and is

consistent with individuals' goal orientation process. Individuals' motivation and competence

to effectively explore is related to their work attitudes as well as working abilities. In Hazan

and Shaver's study (1990), they found that attachment security was related to more positive

work attitudes, as securely attached individuals are more willing and feel more comfortable to

engage in exploratory behaviours. This mirrors Ainsworth's experiment on strange situations,

securely attached infants are more likely to feel protected for them to explore the

surroundings. They have a positive self-image and more prone to be confident about their

self-worth (Ainsworth et al, 1978). In contrast, attachment insecurities point to the

unwillingness to explore which tend to predict more negative attitudes and less motivation.

This is supported by the study of Richards and Schat (2011), they found that attachment

avoidance and anxiety were related to employee turnover intentions and less organizational

citizenship behaviour.

Behavioural regulation is also applicable to another area of work literature, which is

employee creativity. The motivation to explore and learn new things facilitate individuals'

ability to work creatively. Creativity involves generation and implementation of ideas (Černe

et al., 2018). As attachment theory proposes, individuals would withdraw from exploration behaviours if they experience feelings of threat or fear, thus, creative behaviour is encouraged by individuals' felt safety to explore. This is evidenced by a recent empirical study (Kirrane et al., 2019), which explored employee attachment styles and creativity. Results showed that insecure attachment negatively predicted employee creativity and this relationship was mediated by workplace relationships (relationship with leaders and the team), suggesting that successful workplace relationships provide employees with felt security to effectively explore.

Having described four regulatory mechanisms that may mediate the effects of attachment styles on work outcomes, I turn to the attachment activation processes. These boundary conditions are explored as an attempt to explain the inconsistent findings in extant literature.

2.4. ATTACHMENT ACTIVATION IN THE WORKPLACE

Personality is one of major causes and determinants of behavioural variance among people. In personality theorizing, one topic of long-standing debate is around how personalities function, whether they are stable, consistent across all situations or subject to change, specific to situations. For example, scholars have identified this inconsistency and try to understand the reasons for inconsistent performance of interview candidates across different situations (different interview exercises) (e.g., Lievens, Chasteen, Day & Christiansen, 2006). Some of these arguments are reconciled by an interactionist perspective which takes into account both trait and situational approaches and stress the importance of person and situation interaction. In an interactionist view, personality is defined as 'intraindividual consistencies and interindividual uniqueness in propensities to behave in identifiable ways in light of situational demands' (Tett & Guterman, 2000, p.398). This

definition acknowledges the relative stability of individual traits, at the same time, it underscores the importance of contextual stimuli that activate personality.

In a sense, individuals' attachment systems capture such intrapersonal consistency and interpersonal uniqueness, as it involves individuals' perceptions towards relationships and how individuals differ in terms of approaching relationships. However, a few conceptualization issues arise. First is whether to view individuals' attachment orientations as a personality or a relationship construct (Kobak, 1994). To view it as a personality is a theoretically straightforward way to categorize individual differences as the attachment system does trigger individual behavioural differences; however, the underlying concept is much more complex. When Hazan and Shaver (1987) first started to sketch the attachment process in romantic relationships, they discarded the categorization approach which separates individuals into three or four styles. Rather, they view it as a relational process accounting for the influence of the dyadic partner and the development of relationships. In the work literature, operationalizing it as personality allows researchers to empirically measure attachment orientations and model the difference among employees. However, as the application of attachment theory in the management field starts to grow, the oversimplified conceptualization of the attachment style as a static trait impedes its development in a way, as it ignores the organisational and interpersonal context.

Second, attachment orientations have largely been treated as a trait-like construct, focusing on stability rather than change; however, this also causes conceptual confusions. Global traits of individuals' attachment systems are relatively stable, as Bowlby posits, they persist and are influential to an individual from 'the cradle to the grave'. However, Bowlby also posits that attachment systems are sensitive to contexts and are able to accommodate for the intake of new information and new experiences that could potentially influence individuals' perceptions towards an attachment relationship (Bowlby, 1973). A number of

research studies have endorsed the variation in individuals' behaviours under different contexts. For example, Collins et al. (2006) found that attachment-anxious individuals were more likely to hold pessimistic attributions to partner behaviours, but involvement in a high-quality relationship was able to alleviate the effect. A few other studies also identified change in anxiously attached individuals from their global attachment tendencies when exposed to supportive environments (e.g. Pierce & Lydon, 2001). This is perhaps the reason why longitudinal investigations of attachment systems yield mixed results (Fraley & Roisman, 2019). Initial evidence was documented in early investigations which suggests that attachment styles formed in early life tend to retain and influence later relationships (see Fraley, 2002). However, more recent examinations suggest that modifications of chronic attachment orientations are possible (Mikulincer & Shaver, 2007; Arriaga, Kumashiro, Simpson, & Overall, 2018), individuals either become more insecure as a result of continuous exposure to helpless and stressful situations or experiencing major changes (Simpson, Rholes, Campbell, & Wilson, 2003; Arriaga et al., 2018), or enhance attachment security when engaged in high-quality close relationships at later stages in life (Carnelley & Rowe, 2007). The malleability of attachment orientations is still an on-going debate (see Fraley & Roisman, 2019), and perhaps management research could benefit from attempts to address the problem. For example, it is worth exploring the conditions that could potentially alleviate the negative effects of attachment insecurities in the workplace.

Based on the two conceptual issues, I propose that the modelling of attachment theory in the workplace should account for the relational process as well as contextual factors. I first draw from trait activation theory to capture the interaction between person and environment. Trait activation theory posits that individuals' traits are likely to operate more strongly if the situational cues are trait-relevant (Tett & Burnett, 2003). Judge and Zapata (2015) argue that when comparing traits as resources, then one is expected to have better performance if their

resources exceed situational demand. This line of argument applies to how individuals approach specific situations and exhibit different behaviours and is particularly useful in denoting the trait-performance relationship, uncovering different contextual factors that could potentially weaken or strengthen the relationship.

For the context to be attachment-relevant, it has to activate and provoke the attachment system. For example, individuals develop working models of attachment anxiety as a result of lacking consistent support and attention. In other words, their attachment anxiety is most likely to be triggered when facing threats without help from significant others. They are short of the resources to deal with stressful and challenging situations. Thus, there will be a relationship between attachment anxiety and negative and disruptive behaviour. However, when given enough attention and guidance, the strength of this relationship will be weakened. Individuals who develop attachment avoidance perceive themselves as independent and have little desire to build close relationships, they are used to relying on themselves, thus they have enough resources in terms of independence, when given more autonomy, they are more likely to exhibit better behaviours. I will elaborate on the contextual factors in the workplace below.

I adopt the taxonomies identified by Tett and Burnett (2003) from the Person-Environment fit literature (Dawis & Lofquist, 1984; Edwards, Caplan, & Harrison, 1998; Walsh, Craik, & Price, 2000) to categorize the contextual factors into task level, social level and organizational level to detail their moderating effects on attachment system and work outcome relationship. For attachment-related situations to be relevant, I selected work contexts that would trigger individual attachment system functioning. First, on the task level, I first elaborate on the situation of creativity requirement. As I detailed before in sections on behavioural regulation, secure individuals are more willing to explore, and are likely to exhibit creative skills. Thus, a creativity-oriented task would activate secure individuals' desire to learn and explore, thus improving their performance. However, for insecure

individuals, they will either be pressured or unmotivated by the requirement to step away from their routine work, and are more likely to feel uncertain and uncomfortable, triggering their insecure attachment systems and memories from past experiences, thus hindering their performance. Another situation would be supervised vs. flexible tasks. Avoidant individuals' maladaptive attachment systems would be triggered when conducting tasks under constant supervision, they would tend to feel a lack of autonomy and being controlled. In comparison, anxious individuals tend to be reassured when there is enough supervision involved in a task. They are able to obtain attention and support from their leaders, whereas in a more flexible and autonomous environment, they would feel neglected but avoidant individuals would feel more comfortable. In tasks that are achievement-oriented, attachment security would establish a stronger positive relationship with performance, as they tend to be promotion focused and exhibit stronger capabilities of self-regulation in terms of goal-attainment (Mikulincer & Shaver, 2007); whereas insecure individuals are more likely to focus on preventing mistakes and failures. With job roles that promote cooperation and teamwork, it is likely that avoidant employees would find it difficult to maintain relationship with co-workers compared with anxious individuals.

On the social level, the amount of socializing required at work is essential to this relationship. Secure individuals possess interpersonal skills and are able to trust others, conduct effective communications, perceive and understand other people's emotions. Thus, for jobs that are related to service or sales, it is more likely that the relationship between attachment security and performance will be stronger. For insecure individuals, however, they will either hold doubts towards others' trustworthiness or question their own ability and worthiness of love, neither attachment orientations would be able to communicate and socialize effectively with colleagues, leaders, or clients.

On the organizational level, organizational culture is one of the most salient features for attachment-relevance. Under a supportive organizational environment where perceived organizational support or leader support is high, anxious individuals are more likely to work better as the environment satisfies their needs for proximity and support. I postulate that supportive organizational culture will be irrelevant to avoidant individuals, as they are not expecting others to provide a large amount of support. For secure individuals, the environment is benefiting, but I presume that the relationship is weaker compared with anxious individuals. For organizational cultures marked by competition between employees, avoidant individuals are more likely to thrive under this scenario, as they hold a positive view of self and are used to rely on themselves; whereas anxious individuals are more likely to feel overwhelmed by the competition as they hold self-doubt about their capabilities, and it will be difficult for them to seek support from other competitors.

2.5. THEORETICAL AND PRACTICAL IMPLICATIONS

Our study contributes to the literature on attachment theory in the workplace in several aspects. First, to my knowledge, this is the first paper that provided theoretical integration and advancement of attachment theory in the workplace by drawing on extant theorization and empirical evidence in the domains of cognitions, relationships, emotions and behaviours. By doing so, I provided an overarching framework that incorporates the process of how attachment system functions in the workplace. Attachment theory is mostly used as a trait-like disposition in the management literature without theoretical guidance on the process of how it functions. Our paper highlights the mechanisms through which the attachment system operates, and pointed out the cognitive, emotional and behavioural aspects associated with it. Also, I used trait activation theory to identify the boundary conditions under which attachment systems work differently. This could potentially explain the reasons for conflicting results in empirical research.

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This framework informs managerial practice of the importance of employee individual differences in terms of their attachment styles. First, managers need to pay attention to these individual differences and offer help to employees when necessary. Organizations could provide training regarding how managers could effectively initiate communications and sustain relationships with employees. Also, job design could act as an important trait-relevant activation factor (Yip et al., 2018). More interdependent tasks that require collaborations could be offered to anxiously-attached employees. For avoidantly attached individuals, they could benefit from roles that require more autonomy.

2.6. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Despite the contributions, the theoretical framework that I proposed is limited in terms of its scope. It focuses only on attachment systems as a regulatory device and covered the regulatory processes. There could be other mechanisms that mediate the relationship between attachment styles and work outcomes. For example, emotions that experienced in the workplace, such as positive affect and negative affect could serve as potential mediators (Richards & Schat, 2011). Another aspect is that this research only focused on situational factors that serve as potential moderators, but future research could tap into individual resources or other individual differences that could moderate the relationship, such as political skills or interpersonal skills.

Attachment system is an indicator of individuals' socio-personality that incorporates awareness of self and social relationships, and competence in terms of building and sustaining relationships. It can be viewed as a regulatory device that controls individual perception and subsequent behaviours while dysfunctional personality means a lack of effective regulatory skills, such as avoidant individuals were shown to be more prone to narcissistic tendencies (Pistole, 1995). In this sense, attachment theory is a potentially

powerful resource in explaining the dark side of leadership, future research could study its relationship with narcissistic leadership and abusive supervision, specifically on leaders' dysfunctional attachment system and how it influences their behaviours. Another area is to study the formation and development of new attachment relationships in the workplace. Though attachment theory is studied as a trait-like disposition in the management field, a number of studies in psychology have already explored the change of attachment styles overtime (such as Mikulincer & Shaver, 2016; Arriaga et al., 2018). Future research could explore how new employees form attachment relationships with leaders and colleagues in a new working environment and how the relationships develop over time.

2.7. CONCLUSION

This paper provides a theoretical integration on attachment theory in the workplace by drawing from past theorization and empirical evidence on attachment theory in the field of cognition, emotion, relationships, and behaviours. This paper advances this field by proposing a theoretical framework that depicts the relationship between attachment styles and work outcomes, unpicking the regulatory mechanisms that mediate this relationship, and activation process of attachment system as boundary conditions. By doing so, I illuminate how attachment systems work as a regulatory device and address the issue of inconsistency in empirical evidence in the workplace literature.

Visualizing the attachment theory landscape

In this appendix, I provide a bibliometric analysis to visualize the landscape of the attachment theory to illuminate the field. As one of the most adopted theories in psychology, attachment theory sheds light upon many domains. Given the diversity of topics that attachment theory enlightens, it is important to see first how this literature shapes and to detect where leadership lies in this broad literature. While its use in the workplace is still in the fledging stage, empirical evidence is continually accumulating. Therefore, it is also important to visualize the development of attachment theory in the workplace by identifying the most influential publications in this field and how they are clustered together.

Introduction to bibliometric analysis

Bibliometric analysis is a method for scientific mapping. It helps visualize the development and status of a research domain (Zupic & Cater, 2014). Through identifying patterns and connections among publications, bibliometric analysis allows researchers to visualize groups or clusters of research topics, and identify how research topics are linked, as well as what the most influential works are. In this paper, two ways of bibliometric analysis are used, keywords co-occurrence analysis and document co-citation analysis.

Keyword co-occurrence analysis is based on content analysis of keywords (Zhu et al., 2019). By analyzing data that consists of information such as document abstracts, keywords, and document titles, it captures the frequency of two keywords appearing in the same document. By presenting networks of keywords, co-occurrence analysis allows researchers to identify clusters of themes that emerged in a scientific field.

While majority of reviews are based on primary documents, which are the documents selected during literature search from databases such as Web of Science or Scopus, co-citation analysis is based on secondary documents, which are sources listed in the bibliographies of primary documents. When two documents are cited together by a primary document, it indicates that the two cited documents are linked. By illuminating hidden clusters or networks of documents, co-citation analysis is able to identify "invisible colleges" (van Raan, 1996; Vogel, 2012; Vogel et al., 2020) and allow the visualization of the knowledge structures. Moreover, co-citation analysis is able to point out influential works by analyzing the co-citation strength of a document, which is the frequency of two documents cited together by a primary document (Small, 1973). With a high co-citation strength(co-citation counts), it is more likely that the document is recognized as important in the field.

Methods

I used Web of Knowledge database to collect documents available since the publication of John Bowlby's trilogy (1969). For the search in attachment theory in general, I used keywords such as "attachment theory", "attachment orientation", "attachment styles", "John Bowlby". To include research in attachment theory and the workplace domain, additional keywords were added such as "workplace", "leadership", "leaders", "followers", "employee", "management". I searched for publications that cited John Bowlby's work, and reviewed the reference lists of recently published reviews of attachment in the management field (see Yip et al., 2018; Fein et al., 2019; Harms, 2010). To ensure that the data I gathered are relevant to the research field, documents that fall under Science, Technology, Engineering and Mathematics (STEM) category were excluded. Both theoretical and empirical research were included. During the literature search, I identified 7,987 publications for the general attachment theory field, including journal articles, book chapters and conference papers,

which will be used in the co-occurrence analysis. For documents that are specific to attachment theory in the workplace, the dataset contains 133 primary documents, and 6,178 secondary documents, which will be used in the co-citation analysis.

Results

Co-occurrence analysis was conducted based on data from a broad attachment theory perspective capturing its development in all fields, except for STEM subjects. For co-occurrence analysis, I combined keywords such as "attachment style" with "attachment styles", and "attachment orientation" with "attachment orientations". Results of co-occurrence analysis yielded four clusters represented by four different colours (Figure 2.2). Cluster 1 (blue) is characterised by personality disorder and separation anxiety. Cluster 2 (green) is associated with the use of attachment theory in romantic relationships domain, and also include its use in the workplace. Cluster 3 (red) is to do with parental relationships. Cluster 4 (yellow) is related attachment in adulthood.

Figure 2. 2 Bibliometric co-occurrence network of attachment theory from 1969 to 2021

The analysis is then limited to leadership and organizational domain as a subset representing attachment theory in the workplace literature. Co-citation analysis is conducted rather than co-occurrence analysis as there is limited number of publications in this domain and the themes can be scattered. Co-citation analysis is able to provide us with more meaningful results in terms of which publications have informed research on attachment in the workplace. Results for co-citation analysis was shown in figure 2.3. The co-citation analysis was conducted on documents that are specific the leadership and organization field, thus capturing the body of literature of attachment research in the workplace. Results yielded three clusters. The most prominent research in the blue cluster is the seminal work by Hazan

and Shaver (1987), which is the first attempt in using attachment theory to explore romantic relationship. Followed by a further exploration of adult attachment styles by Bartholomew and Horowitz (1991). This cluster also depicts the theme of attachment theory and transformational leadership (Popper et al., 2000). In the Green cluster, papers with the highest citation strength are related to measurements of attachment theory (Brennan et al., 1998), and attachment theory and performance (e.g., Simmons et al., 2009; Little et al., 2011). The red cluster includes two influential reviews on attachment theory in the workplace by Harms (2011) and Yip et al. (2018). Also, this cluster includes the influential works by Mikulincer and Shaver (2007) and Davidovitz et al. (2007) which explore the topic of attachment styles and individuals' mental health.

Figure 2. 3 Co-citation analysis of attachment theory in leadership and organizational field
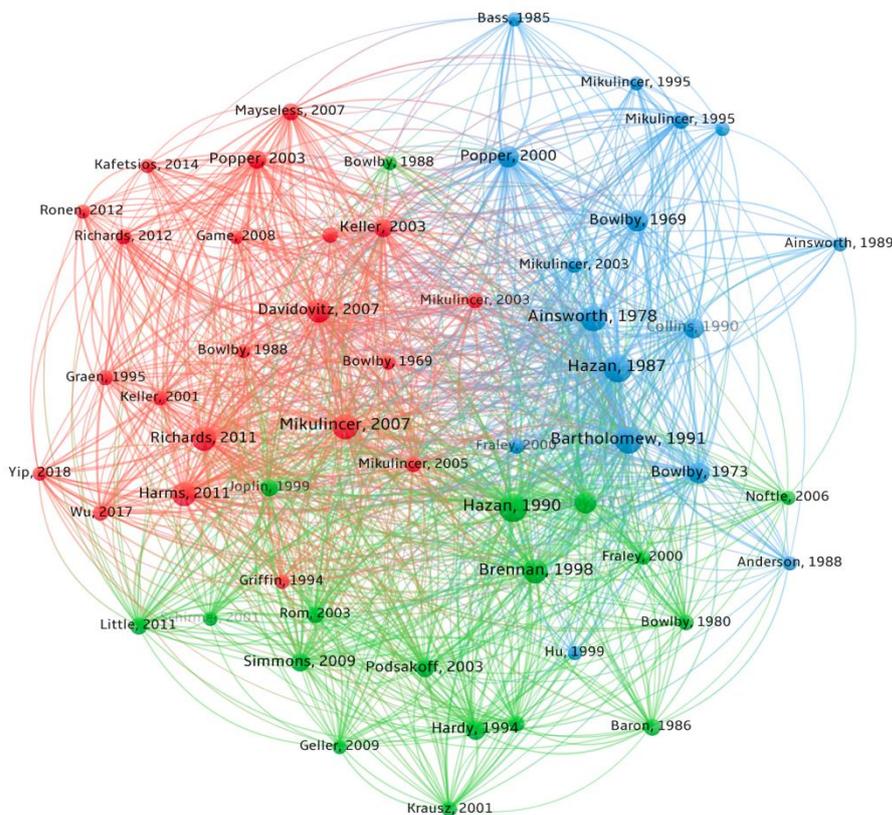
CHAPTER 3. ATTACHMENT STYLES AND LONELINESS: THE ROLE OF LEADER-FOLLOWER RELATIONSHIP QUALITY

ABSTRACT

Loneliness is often detrimental to employee health, well-being and performance, and may lead to financial losses for organizations. Past research identifies a number of factors that contribute to loneliness; these have predominantly focused on non-work antecedents. This paper explores work-related factors that contribute to employee loneliness. In line with social exchange theory, we argue that the influence of leader-follower relationships extends to outcomes beyond work, such as loneliness. We propose that the quality of this relationship contributes to employee loneliness because poor quality relationships leave a gap in the quality and quantity of the desired and received interpersonal interactions with one's manager. Drawing on the information-processing literature, we introduce employee attachment styles as another antecedent of loneliness. We hypothesize that employees higher on insecure attachment styles, that is avoidantly and anxiously attached, will suffer a greater degree of loneliness. We further propose that this relationship is mediated by leader-follower relationship quality, operationalized as leader-member guanxi (LMG) in the context of our study. We tested the hypothesized relationships in a three-wave survey among 673 employees across 66 teams in a Chinese hospital. Findings from cross-lagged multilevel modelling reveal that employee attachment avoidance negatively predicted LMG, and in turn, LMG was negatively related to employee loneliness. LMG mediated the relationship between attachment style and loneliness for attachment avoidance, but not for attachment anxiety. Our findings shed a light on the important role of workplace leadership for employee loneliness and point to differential influences of attachment styles on LMG and loneliness.

Keywords: loneliness; attachment styles; leader-follower relationship

3.1. INTRODUCTION

Defined as "an unpleasant experience that occurs when a person's network of social relationships is significantly deficient in either quantity or quality" (Perlman & Peplau, 1998, p.179), loneliness is increasingly recognized as a public health problem (Cacioppo & Cacioppo, 2018). Loneliness and isolation have been linked to poorer general health and higher utilization of health care (Mullen et al., 2019), higher risk of dementia (Sutin et al., 2018), poorer mental health (Kidd, 2004; Leigh-Hunt, et al. 2017; Nangle et al., 2003), as well as coronary heart disease and stroke (Valtorta et al., 2016), the two leading causes of death in the world (World Health Organization, 2018). The association of loneliness to increased likelihood of mortality (Rico-Uribe et al., 2018) is stronger among working-age populations (Holt-Lunstad et al., 2015). The financial burden of loneliness is also significant; for example, it is estimated that in the UK loneliness comes at a cost of £2.5 billion per annum to employers (Michaelson et al., 2017). Loneliness carries a social stigma that labels lonely individuals as less desirable socially, less competent and weaker (Lau & Gruen, 1992). The stigmatization of loneliness may lead to a vicious cycle of exclusion and self-exclusion which may intensify loneliness (Cacioppo & Hawkley, 2005; Kurzban & Leary, 2001).

Social and developmental psychology have a long tradition of exploring the link between relationship quality and loneliness, involving research on parental relationships (e.g., Feeney, 2006), romantic relationships (e.g., Flora & Segrin, 2000) and friendships (e.g., Parker & Asher, 1993). For the working population, people's social needs are often largely fulfilled by the relationships they build at work (Hawkley et al., 2008; Mayo, 1949). Workplace relationships influence both work-related and non-work outcomes such as friendship and personal growth (Colbert et al., 2016). By association, we expect that workplace relationships will have an influence on the degree of loneliness experienced by employees, an area that is currently theoretically and empirically underexplored. Among

these, the relationship with one's direct supervisor is critically important (Wayne et al., 1997), as individuals rely on leaders for support and guidance (Keller, 2003). The leader-follower relationship influences the overall employee experience and outcomes in the workplace, including performance (Martin et al., 2016), psychological empowerment and emotional exhaustion (Schermuly & Meyer, 2016), and job satisfaction (Fisk & Friensen, 2012). Taken together, existing evidence indicates that the leader-follower relationship may contribute towards satisfying employees' relational needs and thus lessen any feelings of loneliness.

Although relationships are significant predictors of loneliness, personality and individual differences also play a pertinent role as they have a strong influence on both relationship quality (e.g., Noftle & Shaver, 2006) and loneliness (Buecker et al., 2020). Attachment styles are one such individual characteristic that is particularly germane to both relationship quality (e.g., Chow et al., 2017; Hazan & Shaver, 1990; Yip et al., 2017, Strauss et al., 2013) and loneliness (DiTommaso et al., 2003; Wei et al., 2005; Wiseman et al., 2006). Attachment styles (Bowlby, 1969) are cognitive schemas of the self and others that form through a combination of relational history and predisposition (Vrtička & Vuilleumier, 2012), and are classed as either secure (low attachment anxiety and/or avoidance) or insecure (high attachment anxiety and/or avoidance) (Mikulincer & Shaver, 2007). They have been linked to several work-related factors (e.g., Yip, et al., 2017), but an open question remains regarding the role of work-related relationships between leaders and followers in carrying the effect of attachment styles on employee loneliness. This is an important blind spot in our knowledge and a better understanding of how leadership dynamics are influenced by follower attachment styles, and in turn affect follower loneliness, will allow leadership- and followership-focused interventions that improve relationship quality and outcomes such as loneliness. The purpose of this paper is to fill this gap by examining the mediating role of the leader-follower

relationship quality in the influence of follower attachment style on loneliness. In the context

of our study we operationalize the leader-follower relationship quality construct as leader-

member guanxi (LMG), in accordance with the cultural context of our respondents. LMG

captures the quality of the leader-follower exchanges in informal contexts (Law et al., 2000),

which in Eastern cultures provide the ground for close interactions and relationship building

between leaders and followers (Chen et al., 2014).

Our study offers three main contributions. First, we broaden the loneliness literature

to consider workplace relationships in their capacity to influence employee loneliness.

Second, we extend theorizing on the role of attachment in the workplace to include loneliness

as a relationship-relevant non-work outcome. Finally, we hypothesize and evidence that the

leader-follower relationship is a potential mechanism through which individuals' attachment

styles affect their degree of loneliness. By operationalizing leader-follower relationship

quality as guanxi to account for the cultural context of our study, we answer the call by

Dulebohn et al. (2012) to explore leader-follower relationships in non-western cultures. Our

longitudinal study design addresses a limitation of extant empirical work on the role of

attachment styles in the workplace, which is largely cross-sectional (Fein et al., 2019).

3.2. THEORETICAL BACKGROUND AND HYPOTHESES

Attachment theory provides an explanatory framework for individuals' inclinations to

seek closeness with significant others (Bowlby, 1969) and is one of the most influential

theories in developmental psychology that has inspired a plethora of theoretical extensions

and empirical investigations in subdomains such as social psychology and personality

psychology (Holmes, 2001; Shaver & Mikulincer, 2010). There are two underlying premises

in attachment theory; the development of internal working models of attachment and the

resulting attachment styles (Mikulincer and Shaver, 2007). Internal working models of

attachment develop when individuals interact with significant others and create a mental

record of such past experiences (Bowlby, 1982; Simpson & Rholes, 2017). The success or failure of these experiences will influence their future perception of others (model of others) and their views of self (model of self) (Fraley, 2002). This relates to the second aspect - the formation of secure or insecure attachment styles (Ainsworth et al., 1978). These are typically conceptualized and measured by two dimensions: attachment anxiety and attachment avoidance, with individuals low on both dimensions classed as securely attached, while those with high levels of either classed as insecurely attached (Mikulincer and Shaver, 2007). Attachment anxiety refers to the extent to which individuals hyper-activate their needs for proximity and attachment, while avoidance is associated with de-activation of such needs. Anxiously attached individuals are often concerned with the degree to which they are recognized or abandoned by significant others, while avoidantly attached individuals often seek independence and are self-reliant as a result of the absence of attachment figures in past relationships. In contrast, secure attachment is influenced by caregivers' and other relational partners' consistency and reliability in their caregiving behaviors; thus, secure individuals are willing to trust significant others especially in times of need and would also perceive themselves as worthy of attention and trust (Mikulincer, & Orbach, 1995; Keller, 2003).

A number of studies have shown that attachment styles are associated with individuals' experience of loneliness (e.g., see Mikulincer & Shaver, 2014 for a review; Goossens et al., 1998), indicating that insecurely attached individuals will find it harder to satisfy their relational needs through social exchanges and interpersonal relationships. Mechanisms that explain the link between attachment styles and loneliness can be divided into two categories; factors associated with relationship building ability such as social skills (DiTommaso et al., 2003), self-efficacy (Wei et al., 2005), self-criticism and ambivalence (Wiseman et al., 2006) on the one hand, and actual interpersonal relationship quality (e.g., marital relationship quality; Givertz et al., 2013) on the other. Similar processes have been

reported for other wellbeing-related outcomes besides loneliness; for example, coach-athlete relationship quality was found to mediate the relationship between athlete attachment styles and wellbeing (Davis & Jovett, 2014). Even though for employed individuals a large part of their relationships and social interactions take place at work, work-related mechanisms of the relationship between attachment styles and loneliness have so far not been considered.

Loneliness is increasingly acknowledged as relevant to the work domain with evidence accumulating on its negative implications, including reduced employee performance (Ozcelik & Barsade, 2018) and financial losses for organizations (Michaelson et al., 2017). In their process model for workplace loneliness, Wright and Silard (2020) identify individual differences and contextual factors as potential antecedents of the desired and actual workplace relationships quality, which lead to workplace loneliness. We extend their theorizing to propose that the quality of leader-follower relationships is the mechanism through which individual differences in attachment result in loneliness. We draw on social exchange theory (Blau, 1964) and the information processing approach (Salancik & Pfeffer, 1978) to propose that the salient workplace relationship between an employee and their line manager, will mediate the effect of employee attachment styles on employee loneliness.

Social exchange theory (Blau, 1964; Homans, 1961) states that individuals invest in interpersonal exchanges in order to access valuable outcomes and will continue to invest and reinforce relationships when there is scope and expectation for mutually beneficial exchanges to continue (Maslyn & Uhl-Bien, 2001). Such exchanges are not motivated only by economic outcomes but are often expected to produce socioemotional benefits (e.g., Cropanzano & Mitchell, 2005), such as satisfaction of social and relational needs. In the context of leadership, these exchanges form the foundation of leader-follower relationship quality (e.g. Graen & Scandura, 1987; Graen & Uhl-Bien, 1991). A high-quality relationship with a leader affords better access to support and guidance at work which employees will reciprocate

(Shore & Wayne, 1993) by investing further in relationship development, increasing their performance and extra-role contributions, while also enjoying a host of psychological benefits as a direct result of the good relationship (e.g. Dulebohn et al., 2012; Gerstner & Day, 1997; Ilies et al., 2007; Martin et al., 2016).

Extensions to social exchange theory (Emerson, 1962), posit that there is typically a power differential between two exchange partners, such that one depends on the other for valued resources and behavioral input, as is the case between a manager and a subordinate. When the leader withholds such resources from the exchange with a follower, they will perceive the relationship as low quality and may feel rejected and left out. This may invoke them to assess the exchange input from their manager as deficient in relation to what they desired or expected, thus making them feel lonely and isolated. Conversely, good quality relationships, characterized by effective communication, trust, feeling valued and able to work together have the capacity to alleviate loneliness (Masi et al., 2011). Given that leader-follower interactions in the workplace are, for the most part, inevitable and a prerequisite of employment, their quality is particularly crucial with regards to loneliness because they take relationship resources from the follower and, if these are not reciprocated, may lead to depletion and loss of confidence in the followers' social and interpersonal efficacy. What is more, leaders have more control over the quality of the relationship while at the same time they tend to overestimate the quality of their relationship with their followers (e.g. Gerstner & Day, 1997; Sin et al., 2009) meaning that they are more able but less likely to recognize that this relationship may be contributing to their followers' loneliness and take remedial action. Consequently, employees may experience persistent feelings of loneliness and being left out as a result of the low-quality leader-follower relationship.

Loneliness is more closely linked to the quality, rather than quantity of existing relationships (e.g., Peplau & Perlman, 1982), meaning that a good relationship with a

supervisor alone will potentially play a major role in averting loneliness. However, the association between leader-follower relationship and loneliness may be further strengthened because high quality leader-follower exchanges provide the resources (e.g., reassurance of worth, reliable alliance, guidance; Heinrich & Gullone, 2006) for further relationship development with colleagues, clients or non-work acquaintances, thus also improving the quantity of relationships the follower has. Thus, we hypothesize that:

Hypothesis 1: Follower-rated relationship quality with the leader will be negatively related to follower loneliness.

Integrating the theoretical premises of attachment theory to the arguments above, we expect that individuals' attachment styles will inform their motivations for and expectations of their exchanges with their leaders. Securely attached followers will trust in the leader's propensity to reciprocate and assess the relationship as likely to lead to positive outcomes, while insecurely attached followers may have less optimistic expectations and may engage in maladaptive behaviors that prevent them from developing a high quality relationship with their leader (Fein et al., 2019; Harms, 2011; Richards & Hackett, 2012; Thomas et al., 2015), leading them to experience a deficiency between the desired and actual relationships, that is loneliness. We extend this reasoning by applying an information processing lens.

According to social information processing theory (Salancik & Pfeffer, 1978), individuals develop relational schemas (Baldwin, 1992) and form social knowledge structures (Dodge & Pettit, 2003) based on patterns derived from their relationship histories. These internalizations help them navigate and make sense of current and future relationships in a schematic way (Dykas & Cassidy, 2011). The attachment system is such a cognitive schema, while the resulting attachment style is a behavioral pattern deployed in interpersonal interactions and relationship development (Mikulincer & Shaver, 2007). These cognitive and behavioral responses influence and shape individuals' perceptions of social relationship

quality. In their integration of the attachment and information processing literatures Dykas and Cassidy (2011) conclude that "individuals are likely to use different (i.e., biased) rules to process attachment-relevant social information as a function of whether they have a secure or an insecure internal working model of attachment" (p.23). This explains why the leader-follower relationship quality is potentially a crucial mechanism in the relationship between followers' attachment styles and loneliness. Insecure followers will approach the relationship with their leader either with reluctance to get close to the leader and pursue mutual support and commitment (avoidant) or in a fearful and insecure manner struggling to trust the leader while also becoming dependent on them for reassurance and continuous encouragement. Either approach will lead to relationship-relevant information coming from the leader to be interpreted with a negative bias leading to perceptions of poor relationship quality. Further applying the same information processing principles, it can be argued that, when an assessment of a poor-quality relationship with the leader is established, this will lead further social cues from the leader to be interpreted as rejection or exclusion, leading to the follower feeling isolated and lonely. Conversely, for followers with a good quality relationship with their leader, they will interpret their interactions as signifying their value, desirability, likeability, acceptance and will feel confident in pursuing their desired quality and quantity of relationships and connections, resulting in fulfilling relationships and reduced experience of loneliness. We therefore conclude that the quality of leader-follower relationship is an important mechanism that carries the effect of follower attachment insecurity on loneliness.

Hypothesis 2: Follower attachment avoidance (H2a) and anxiety (H2b) will be negatively related to follower-rated relationship quality with the leader.

Hypothesis 3: Follower-rated relationship quality with the leader will mediate the relationship of follower attachment avoidance (H3a) and anxiety (H3b) with follower loneliness.

3.3. METHOD

3.3.1. SAMPLE AND PROCEDURE

Participants in this study were recruited from a large hospital in China. Data was collected three times with an interval of three months as suggested by Demerouti, Bakker, and Bulters (2004) and consistent with previous research in this area (e.g., Nahrgang et al., 2009). At each time point, a total of 920 questionnaires were distributed to a population of 70 nursing and 10 physician teams. Participation was voluntary and participants were given the opportunity to read a detailed information sheet. At Time 1, 673 participants responded; at Time 2, we received 590 matched responses and at Time 3, we received our final sample of 454 matched responses from 66 teams (match response rate 49.3%). Given that the vast majority of nurses in China are women, 92% of the participants in this study were female. The team size varied from 3 to 25, with an average team size of 10.3. The average age of participants who responded at least once was 31.5, ranging from 20 to 59 (SD = 6.39); the average tenure was 8.1, ranging from .5 to 32 years (SD = 6.33). The surveys were translated from English to Chinese by bilingual speakers following Brislin's (1980) translation-back-translation procedure. Demographic variables and attachment orientations were treated as stable, trait-like variables and were measured only at Time 1. Leader-follower relationship quality and loneliness were measured at all three time points.

To test for systematic dropout, we followed Goodman and Blum (1996) and conducted binary logistic regressions through regressing dichotomous variables indicating response rate for Time 2 and Time 3 on studied variables. Results showed the variables collected at Time 1 were not related to dropout at Time 2 and Time 3.

3.3.2. MEASURES

All items were rated on a Likert scale from 1 (strongly disagree) to 5 (strongly agree).

Attachment styles. To measure employee attachment orientations, we used an adapted version of the 36-item Experience in Close Relationship Scale (ECRS) (Brennan et al., 1998; Richards and Schat, 2011) by changing the original choice of words 'partner' to 'others' or 'other people', which is more suitable for examining attachment style across all settings. This version of the scale is referred to as the Experience of Relationships Scale (ERS). It measures attachment orientations on two dimensions, avoidance (18 items; e.g., I prefer not to show others how I feel deep down; Cronbach's α = .85) and anxiety (18 items; e.g., I get frustrated when other people are not around as much as I would like; Cronbach's α = 0.93).

Leader-member guanxi (LMG). LMG is an indicator of leader-follower relationship quality that accounts for the cultural assumptions common in Southeast Asian contexts (Hui et al., 1999; Law et al., 2000). We used a 6-item scale (Law et al., 2000) and a sample item reads 'I always actively share with my supervisor about my thoughts, problems, needs and feelings'. Cronbach's α for the three time points were: α_1 = 0.83, α_2 = 0.71, α_3 = 0.77. Since leader-member exchange (LMX) is the most common way to operationalize leader-follower relationship quality in the literature, we included a measure of LMX as well and tested our hypothesized model replacing LMG with LMX (Appendix 1). We found that the pattern of effects remained the same.

Loneliness. Loneliness was measured using an 8-item short-form UCLA scale (Hays and DiMatteo, 1987). A sample item reads 'People are around me but not with me'. Cronbach's α for the three time points were α_1 = 0.87, α_2 = 0.80, and α_3 = 0.83).

Control variables. Employees' gender, age and dyadic tenure (i.e., time that they have worked together) may influence leader-follower interactions (e.g., Sin et al., 2009; Zhang et al., 2015) and were therefore included as control variables. We also considered theoretically relevant individual difference variables as potential confounding factors that may cause a

spurious association in the hypothesized relationships. Supplementary analyses concluded that their inclusion as predictors did not influence the pattern of effects (Appendix 2).

3.4. RESULTS

Descriptive statistics and bivariate correlations are reported in Table 3.1.

Table 3. 1 Means, standard deviations and correlations of the study variables

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Age	32.32	7.07										
2. Gender	.08	.27	.09*									
3. Tenure	9.18	7.18	.82**	.03								
4.Attachment avoidance	2.80	.35	.09*	.01	.08*							
5. Attachment anxiety	2.78	.65	.02	.05	-.00	.49**						
6. LMGT1	2.82	.71	.02	.10*	.05	.10	.41**					
7. LMGT2	3.27	.66	-.05	.08	-.07	.10	.08	.23**				
8. LMGT3	3.22	.63	-.03	.07	-.01	-.30**	-.04	.05	.21**			
9. LonelinessT1	2.62	.63	.07	.06	.02	.60**	.73**	.32**	.09	-.03		
10. LonelinessT2	2.27	.75	.02	-.02	.01	.34**	.18**	.02	-.05	-.30**	.23**	
11. LonelinessT3	2.19	.64	.11*	.02	.13*	.21**	.26**	.18**	-.15*	-.10	.30**	.13*

Note. Gender 1 = male, 0 = female; LMG = Leader-member guanxi; T1 = Time 1; T2 = Time 2; T3 = Time 3. Variables 4 – 11 are latent variables, means
and standard deviations refer to observed variables. *p < .05. **p < .01.

3.4.1. Variance components

The data conform to a multi-level structure, so we nested employees (level 1) within groups (level 2). ICC1 scores for LMG were .11, .16 and .28 for the three time points and for loneliness they were .30, .09 and .07. Compared with the recommended cut-off point of 0.05 (Gavin & Hofmann, 2002; Heck, Tabata & Thomas, 2013), these values suggest that there were group-level influences that account for some of the variance in LMG and loneliness, indicating that multilevel analysis is appropriate. Further, we calculated $r_{WG(J)}$ scores as an indicator of within-team agreement. Average scores for loneliness at the three time points were .92, .89, and .92, with a range from .60 to .99 between teams; and for LMG, the average $r_{WG(J)}$ scores were .91, .88, and .89, with a range from .57 to .99. These suggest high agreement within teams (LeBreton & Senter, 2008; James et al., 1984).

3.4.2. Test of measurement model

We tested the cross-lagged mediation model using structural equation modelling in Mplus 7.4 (Muthén & Muthén, 1998–2012). The models were estimated using full information maximum likelihood with robust standard errors (MLR) which accounts for non-normality of data. Following previous research (e.g., Selenko et al., 2016; Lang et al., 2011), we used Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), root mean square error of approximation (RMSEA) and Standardized root-mean-square residual (SRMR) to evaluate model fit. To examine measurement invariance, we first conducted a multilevel CFA (MCFA) following Dyer, Hanges, and Hall's (2005) procedure. We created three parcels for each of the variables: attachment anxiety, attachment avoidance and LMG, to achieve an appropriate ratio of sample size to number of estimated parameters (Williams, Vandenberg, & Edwards, 2009; Little et al., 2002). Items were randomly assigned to parcels.

We started by building a four-factor measurement model for attachment anxiety, avoidance, LMG and loneliness. In this model, LMG and loneliness items were allowed to load on their respective constructs at each wave, resulting in 6 factors. Attachment anxiety and avoidance were measured only once, thus this model resulted in 8 factors. The model showed a satisfactory fit to the data (Table 3.2), and significantly better fit than the three-factor model with the two attachment styles loading on the same factor and the one-factor model. Our factors also demonstrated discriminant validity with average shared variance of each factor exceeding the squared correlations with other factors (Fornell & Larcker, 1981).

As suggested by Finkel (1995), configural invariance and metric invariance are prerequisites in order to test cross-lagged models. We built the configural invariance model (MCFA model) where the four-factor structure was held constant across three waves by specifying the within and between part of the measurement model to account for the multi-level structure of the data. We then examined time invariance by building a metric invariance model where item-factor loadings were also fixed equal across T1 to T3. The results supported our four-factor model, which was not compromised by fixing the factor loadings equal across time (metric invariance model) (Table 3.2).

Table 3. 2 Fit Indices and Model Comparison Tests for Measurement Invariance

Model no.	Model Description	$\chi 2$	df	CFI	TLI	RMSEA	SRMR		Comparison to model no.	Satorra-Bentler corrected $\Delta\chi 2$	Δdf
1	4-factor	562.80	296	0.95	0.94	0.04	0.04		—	—	—
2	3-factor	859.78	303	0.90	0.89	0.05	0.06		1	465.33***	7
3	1-factor	2205.24	321	0.66	0.63	0.09	0.10		1	1170.87***	25
4	4-factor multilevel model (configural invariance model)	1175	592	0.92	0.90	0.04	Within 0.05	Between 0.14	—	—	—
5	Metric invariance model	1150	617	0.92	0.91	0.05	0.05	0.13	4	20.12 (p=0.74)	25

Note. Models 1-3 show measurement invariance; models 4-5 show time invariance. *p < .05. **p < .01.

Table 3. 3 Test of the Hypothesized Model

Model no.	Model Description	$\chi2$	df	CFI	TLI	RMSEA	SRMR within	SRMS between	Comparison to model no.	Satorra-Bentler corrected $\Delta\chi2$	Δdf
1	Baseline model	1165.70	631	0.92	0.91	0.04	0.05	0.18	—	—	—
2	Autoregressive paths fixed equal	1162.90	635	0.92	0.92	0.04	0.05	0.17	1	0.86	4
3	Full cross-lagged model	1210.21	661	0.92	0.92	0.04	0.06	0.17	2	47.89**	26
4	Final cross-lagged model with insignificant paths deleted	1188.49	661	0.92	0.92	0.03	0.06	0.16	2	18.95	26
5	Final model adding control variables	1361.05	811	0.92	0.92	0.03	0.06	0.15	2	140.78	150

Note. *$p < .05$. **$p < .01$.

We tested the hypothesized model by turning the measurement invariance model into a cross-lagged multilevel structural equation model. We added in control variables, autoregressive paths between the same constructs across three waves and cross-lagged paths as shown in Figure 3.1. Based on the metric invariance model, we built the baseline model by adding in autoregressive paths and hypothesized causal paths and compared it against a full cross-lagged model and a final model with control variables added (Table 3.3). The baseline model (Model 1) showed a satisfactory fit to the data and the model fit was not reduced by fixing autoregressive paths equal (Model 2). We then specified the full cross-lagged model (Model 3) by fixing the causal paths from predictor to mediator, predictor to outcome and mediator to outcome equal across time. In order to obtain a more parsimonious model, we removed insignificant paths in both the between and within parts of the model (Model 4), which did not reduce model fit compared with Model 2. Adding in control variables and specifying all paths in the model did not compromise model fit either (Model 5). Thus, the cross-lagged results we report in Figure 3.1 are based on the final model.

Results of the multilevel structural equation model analysis provide partial support for the hypothesized relationships. LMG was negatively related to follower loneliness (β = -0.13, SE = 0.05, $p < .01$), supporting Hypothesis 1. Follower attachment avoidance was negatively related to LMG (β = -0.16, SE = 0.06, $p < .01$), supporting Hypothesis 2a. However, we didn't find support for Hypothesis 2b on the relationship between attachment anxiety and LMG (β = 0.07, SE = 0.04, $p > .05$). We found a significant indirect effect of attachment avoidance at T1 on loneliness at T3 via LMG at T2 (β = 0.02, 95% CI = [0.002, 0.038]). We did not find evidence for the indirect effect of attachment anxiety on loneliness via LMG. Thus, Hypothesis 3 was partially supported.

Figure 3. 1 Results of cross-lagged multilevel path analysis for hypothesized model.
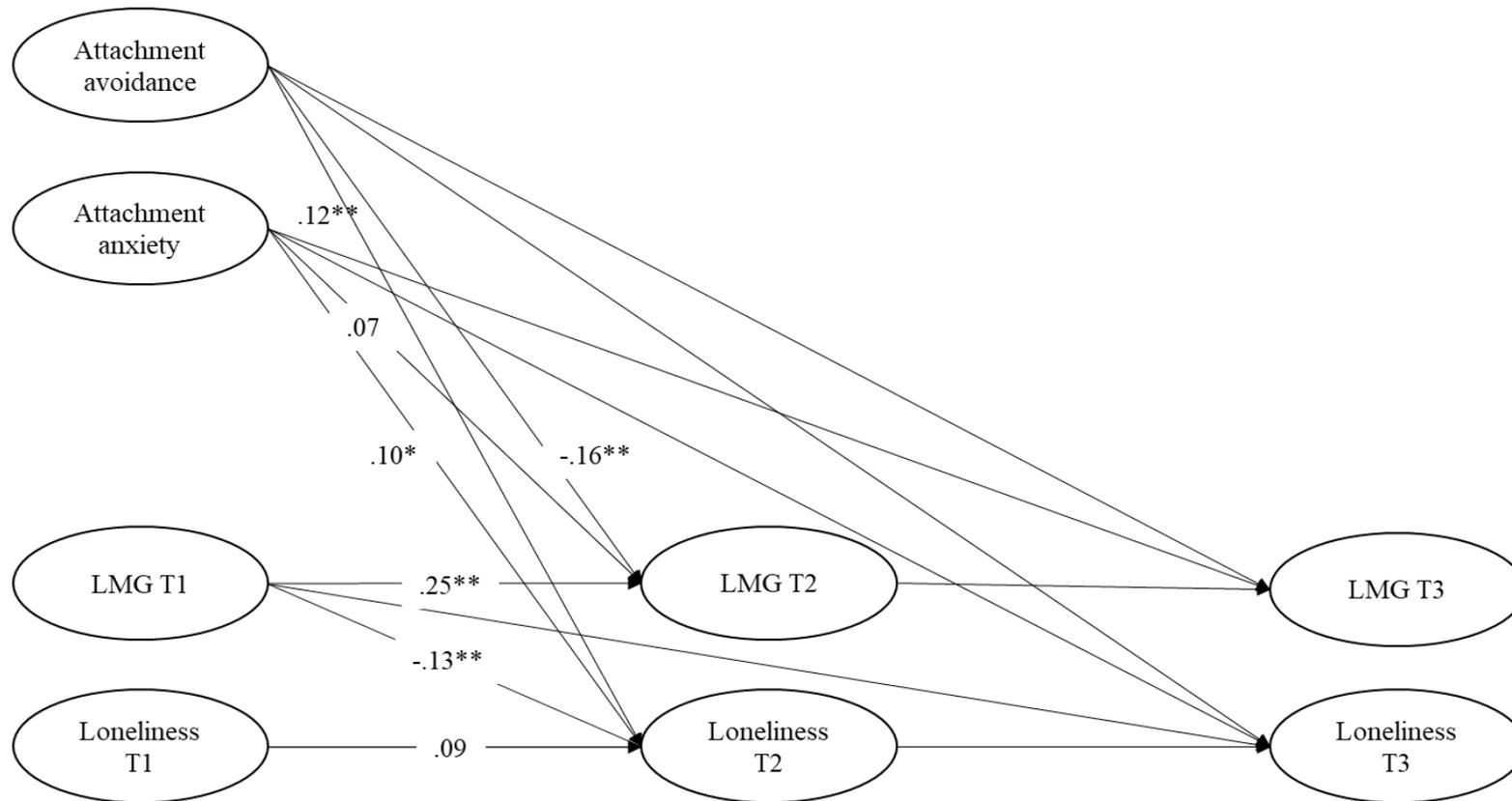
Note. Level 2 *n* = 66. Level 1 *n* = 454. LMG = Leader-member guanxi. T1 = Time 1. T2 = Time 2. T3 = Time 3. Unstandardized path coefficients for the hypothesized model. Control variables (gender, age, tenure) are omitted for clarity. T2 to T3 path coefficients were fixed to be equal to those between T1 and T2, thus omitted for clarity. *p* < .05. **p* < .01

3.5. DISCUSSION

3.5.1. THEORETICAL IMPLICATIONS

Adopting a multi-level cross-lagged approach, our research empirically tested an inclusive model of attachment styles, leader-follower relationship, follower loneliness. We found that both insecure attachment styles were positively related to follower loneliness, and follower attachment avoidance was negatively associated with follower-perceived leader-follower relationship quality. We also found evidence supporting leader-follower relationship quality as a mediator of attachment avoidance and follower loneliness.

Our research introduces the study of workplace-related antecedents of loneliness. Extant research mainly focuses on investigating the consequences of workplace loneliness; for example, in relation to their performance (Ozcelik & Barsade, 2018) and organizational citizenship behavior (Lam & Lau, 2012). However, with accumulating evidence suggesting that loneliness is detrimental to a variety of workplace factors, we feel it is important to investigate what work-related factors could potentially cause loneliness. There are a handful of empirical studies in the workplace literature and these treat leader-follower relationship quality as an outcome of workplace-specific loneliness (Peng et al., 2017; Lam & Lau, 2012), or a moderator in the relationship between workplace-specific loneliness and work-related outcomes (Anand & Mishra, 2019). Our research broadens the focus to loneliness in general and challenges the directionality of past studies by arguing that leader-member relationship quality is a crucial factor that contributes to employee loneliness, in line with theoretical developments both in the workplace domain (Wright & Silard, 2020) and outside (Perlman & Peplau, 1984).

Past research highlighted attachment orientations as a unique and powerful individual difference in explaining relationship quality (Harms, 2011; Noftle & Shaver, 2006) that have predictive power beyond the predominant Big Five approach (Goldberg, 1993; McCrae &

Costa, 1995). Our research adds to this line of research by offering an information processing approach in explaining how workplace relationship quality acts as a mechanism through which attachment style influences employees' loneliness. Our findings add to the accumulating body of evidence showing that the two insecure attachment styles have different patterns of relationships with outcomes (e.g., Davidovitz et al., 2007). In our study both attachment styles were linked to loneliness, but only attachment avoidance influenced leader-follower relationship quality, in line with extant evidence (e.g., Game, 2008; Towler & Stuhlmacher, 2003; Maslyn et al., 2017; also see review by Yip et al., 2018; Fein et al., 2019). This suggests that the pattern of social information processing for attachment anxiety may be more nuanced than we anticipated. Future research could explore this further by considering contextual moderators (e.g., leader attachment style) that determine whether or not followers' attachment anxiety influences their relationship quality with the leader.

Although it has been postulated that anxious individuals are more prone to feeling lonely (Mikulincer & Shaver, 2014) as they require more proximity in relationships to fulfill their needs, our findings show that avoidant individuals are equally prone to loneliness. This suggests that being distant and defensive does not give avoidant individual immunity to loneliness; on the contrary, avoidant individuals seem to acknowledge their deficiency in social relationships (Shaver & Hazan, 1987).

3.5.2. PRACTICAL IMPLICATIONS

Our findings indicate that insecure individuals are likely to be lonely because their working models tend to distort and bias their cognitive processing of social information. This finding echoes a meta-analysis of loneliness interventions outside of the work domain, which suggests that dealing with maladaptive social cognition is one of the most effective strategies (Masi et al., 2011) for alleviating loneliness. For example, insecure individuals could consciously direct their attention to more positive aspects of social interaction when processing social information. Similarly, organizations could offer interventions that focus on

cognitive skills associated with balanced processing of social information, which could be an effective way of preventing or alleviating employee loneliness.

Second, as previous research suggests, leader-follower relationships mirror parental relationships as followers seek comfort and support from leaders and expect them to provide a 'secure base' (Popper & Mayseless, 2003; Mayseless, 2010). Evidence suggest that improving parental sensitivity is an effective strategy for developing attachment security in infants (Braungart-Rieker et al., 2001; Bakermans-Kranenburg et al., 2003). Drawing on our findings, it is plausible that increasing managerial sensitivity towards their staff may be beneficial in fostering a secure attachment relationship between leaders and followers, and through improved relationships, lead to a reduction in employee loneliness.

Employee loneliness has performance and financial implications (e.g., Hendrix et al., 1994), and any effort to reduce it may carry benefits for organizational profitability and sustainability. Building and maintaining high-quality relationship with leaders could reduce loneliness, especially for avoidant employees. Therefore, investing in relationship building skills (e.g., social skills; Mesi et al., 2011) could be added to the repertoire of wellbeing interventions.

3.5.3. LIMITATIONS AND FUTURE RESEARCH

We encourage future research to adopt experimental methods to establish stronger evidence of the causal direction in the relationships between follower attachment styles, leader-follower relationship quality and loneliness. In addition, like many earlier studies in attachment and leadership, the attachment inventory used in our survey (Brennan et al., 1998), is based on the assumption that attachment orientations are stable and trait-like characteristics. However, some evidence shows that attachment styles could be relationship- or context-specific (Game, 2008; Overall et al., 2003). Further research is required to

establish whether attachment styles change in the work context and over time, and with what implications for outcomes such as relationship quality and loneliness.

While attachment insecurity is regarded as detrimental to perceived relationship quality, attachment style variability within a team may reflect a positive mix and balance (Lavy et al., 2015). We only considered follower attachment in our research, but future research could extend our findings to other workplace relationships, such as with team-mates, peers, subordinates, clients, or even competitors. Our model can also be extended to account for leader factors (such as leader attachment styles), group processes and organizational climate or culture as potential boundary conditions. As our study and a number of other studies (see review by Fein et al., 2019) find different effects regarding attachment avoidance and anxiety. Future theoretical and empirical endeavors should therefore address the differential processes associated with attachment anxiety and avoidance.

3.6. CONCLUSION

Organizational research into loneliness has focused mainly on its outcomes (e.g., Ozcelik & Barsade, 2018), while theoretical developments acknowledge the need to identify and study its antecedents (Wright & Silard, 2020). In this paper we start to address this gap by exploring how dysfunctional attachment styles lead to employees experiencing loneliness. We further investigate leader-follower relationship quality as a potential mediating mechanism and find evidence of such mediation for the attachment avoidance style, but not for attachment anxiety. Our findings provide extensions to this relatively unchartered theoretical domain, with practical implications for society at large. After all, at a time when self-worth is often counted in likes, links and followers, it is important to acknowledge the power of good relationships, both in the workplace and outside.

Appendix 1

As a supplementary analysis, we ran the same model with leader-member exchange (LMX) instead of LMG, using LMX-7 scale developed by Graen and Uhl-Bien (1995). Sample item: 'My supervisor recognizes my potential'. We found that LMX had a negative cross-lagged effect on loneliness, however it did not mediate the relationship between either of the attachment styles and loneliness (χ^2 = 1395.92, df = 811, CFI = 0.92, TLI = 0.91, RMSEA = 0.03, SRMR$_{within}$ = 0.05, SRMR$_{between}$ = 0.17)

Figure 3. 2 Results of cross-lagged multilevel path analysis for hypothesized model with LMX as mediator.
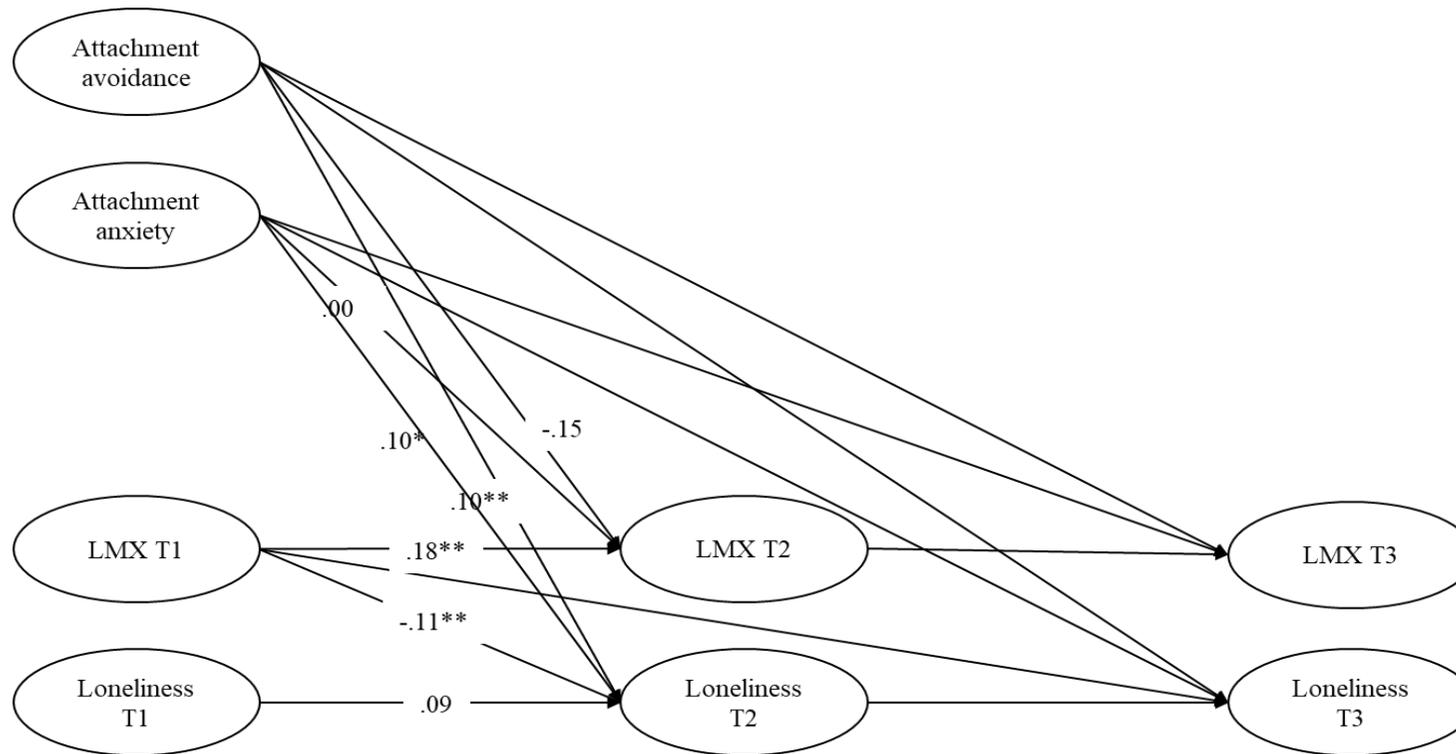
Note. Level 2 $n = 66$. Level 1 $n = 454$. LMX = Leader-member exchange. T1 = Time 1. T2 = Time 2. T3 = Time 3. Unstandardized path

coefficients for the hypothesized model. Control variables (gender, age, tenure) are omitted for clarity. T2 to T3 path coefficients were fixed to

be equal to those between T1 and T2, thus omitted for clarity. *$p < .05$. **$p < .01$

Appendix 2

In order to account for individual factors that are potentially theoretically relevant to perceptions of relationship quality and loneliness we measured the following: political skill (Ferris et al., 2005; sample item: I'm good at getting people to like me.), relational self (Cross, Bacon & Morris, 2000, sample item: My close relationships are an important reflection of who I am.), and promotion and prevention focus (Lockwood et al., 2002; sample item for promotion focus: I frequently imagine how I will achieve my hopes and aspirations; sample item for prevention focus: I am more oriented toward preventing losses than I am toward achieving gains). Controlling for these when testing the hypothesized model in MPlus caused convergence problems in our multilevel SEM model, so we performed this supplementary regression analysis and found that there are still significant effects even after controlling for these factors (Table 3.4).

Table 3. 4 Hierarchical Regressions with Loneliness at Time 3 as Dependent Variable

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Constant	2.06**	.18	.96**	.31	1.54**	.32	1.43**	.45	1.32**	.46
Gender	.00	.11	-.02	.11	.03	.10	.03	.10	.01	.10
Age	.00	.01	.00	.01	.00	.01	.00	.01	.00	.01
Tenure	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
Anxiety			.17**	.05	.18**	.05	.14*	.06	.05	.08
Avoidance			.25*	.10	.29**	.09	.30**	.10	.23*	.10
LMGT2					-.22**	.05	-.22**	.05	-.22**	.05
Relational self							-.03	.08	.02	.09
Promotion							-.05	.07	-.05	.07
Prevention							.05	.06	.05	.06
Political skill							.09	.08	.10	.08
Loneliness T1									.17*	.07
R^2	.02		.08		.12		.13		.14	
ΔR^2			.06**		.05**		.004		.01*	

Note. Gender 1 = male, 0 = female; LMG = Leader-member guanxi; T2 = Time2; T1 = Time1; Anxiety = attachment anxiety; Avoidance = attachment avoidance. promotion = promotion focus; prevention = prevention focus. *p < .05. **p < .01.

CHAPTER 4. LEADER-FOLLOWER PERSONALITY CONGRUENCE: HOW DOES LEADER-FOLLOWER SIMILARITY INFLUENCE RELATIONAL AND WORK-RELATED OUTCOMES

Abstract

Adopting the person-environment (PE) fit perspective and similarity attraction paradigm, this research explores leader-follower congruence on different aspects of personality in relation to four follower outcomes, namely leader-member relationship quality, loneliness, job satisfaction and follower-perceived leader effectiveness. The relational-level and task-level leader and follower personality traits are explored, covering individual attachment styles, relational self-construal, political skills and regulatory focus. Using a sample collected from 454 participants from a large Chinese hospital, polynomial regression analysis was used to examine the leader and follower congruence effects on these personality traits in relation to respective follower outcomes. Significant congruence effect was found for leader follower congruence on attachment avoidance in relation to LMG. Results also support the hypotheses regarding levels of congruence in relation to these personality traits except for promotion focus, in relation to LMG, loneliness, job satisfaction and leader effectiveness. Implications for theory and practice, as well as future research directions are discussed.

4.1. INTRODUCTION

"[T]he most important factor in the organizational environment is the other people" (Antonioni & Park, 2001, p.354). In the workplace, perhaps the most influential people for employees are their leaders, as leaders possess the power to supervise performance, deploy resources and provide support (Vecchio & Bullis, 2001). Research has evidenced that individual-level antecedents such as follower personality or behaviours are not the only factors that exert influence on follower work outcomes (Yammarino et al., 2005). There is an increasing number of investigations on leader-follower congruence (LFC),

looking at joint effects of leader- and follower-related factors in relation to employee outcomes, such as the similarity between leader-follower demography in relation to satisfaction with the leader (Vecchio & Bullis, 2001) and leader-follower value congruence on Leader Member Exchange (LMX) quality (Markham et al., 2010).

The fit literature in organizational research, which is based on person-environment (PE) fit, primarily adopts two perspectives: complementary fit and supplementary fit (Muchinsky & Monahan, 1987; Cable & Edwards, 2004). Complementary fit captures a need - supplies fit situation under which the need of a dyadic partner is fulfilled by the other, whereas a supplementary fit highlights the similarity attraction situation under which both parties possess similar characteristics such as traits or values. In leadership research, supplementary fit literature has mostly been the perspective adopted (Marstand et al., 2017), largely focusing on demographic similarity (e.g., Vecchio & Bullis, 2001) and value congruence (e.g. Hoffman et al., 2011). While the research on LFC on personality has drawn the attention of researchers in recent years, the focus of such studies has been on a narrow set of traits and dominated by LFC on proactive personality and follower outcomes at work (Zhang et al., 2012; Yang et al., 2017; Roopak et al., 2019). In this paper, I expand the scope of LFC research on personality by exploring different types of personality congruence and how they influence a range of important employee outcomes using the person-environment fit perspective (Muchinsky & Monahan, 1987; Cable & Edwards, 2004) and the similarity attraction paradigm (Byrne, 1971; Medin, Goldstone & Gentner, 1993).

Using the similarity attraction paradigm in cognitive psychology (Byrne, 1971; Medin, Goldstone & Gentner, 1993), the theoretical foundation for leader and follower congruence (LFC) literature (Tsui, Egan & O'Reilly, 1992), I argue that individuals are naturally attracted to those who share the same characteristics, such as personality, background, or value. I further adopt the supplementary fit perspective (Kristof, 1996; Kristof-Brown, Zimmerman,

& Johnson, 2005) in the PE fit literature, which builds on similarity attraction theory and propose that LFC in dispositions could lead to beneficial employee outcomes such as job satisfaction and performance. Previous LFC research largely focused on exploring surface-level leader-follower demographic congruence, such as gender and age (e.g., Tsui, Porter, & Egan, 2002). More recently, the empirical evidence of LFC at a deeper level, such as LFC on emotional tone, risk orientation and personality-related factors has started to accumulate (e.g., Gooty et al., 2019; Liu et al., 2019; Zhang, Wang & Shi, 2012; Strauss et al., 2001) as it presents a more salient effect than congruence at a surface-level (Turban, Dougherty, & Lee, 2002). I thus extend the line of research on LFC on personality by examining different aspects of personality (relating to relational perspective and task-perspective) in relation to follower outcomes: leader-member relationship quality, loneliness, job satisfaction and follower-perceived leader effectiveness.

One aspect deals with people's contemplation on their inner self, how they consciously or unconsciously acknowledge themselves and accumulate self-knowledge; this perception is usually formed from an early age and tends to be shaped by relationship experiences individuals have with their significant others. From this perspective, I used attachment styles and relational self as focal constructs. Attachment styles depict people's inclination to seek closeness, and how people perceive themselves in relation to others (Bowlby, 1969). Relational self-construal captures the extent to which individuals' self-representations are determined by close relationships with others (Cross & Morris, 2003). Regarding these two aspects, I examine relational (leader-follower relationship quality) and well-being-related (loneliness) outcomes when exploring attachment styles and relational self. Leader-follower relationship quality was captured by an indigenous construct called leader-member guanxi (LMG), which is personal connections with leaders developed outside of work and through socializing and involvement in personal lives (Chen, Yu & Son, 2014). The other outcome,

loneliness is "an unpleasant experience that occurs when a person's network of social relationships is significantly deficient in either quantity or quality" (Perlman & Peplau, 1998, p.179).

The other aspect of personality I aim to examine is how people wish to present themselves under certain contexts from a strategic and task-based perspective, exploring the factors that motivates people to achieve certain goals at work. From this perspective, two focal constructs stand out particularly in the management literature, which are political skill and regulatory focus. Political skill is related to individuals' work behaviour and delineates how people strategically exert influence on others in order to achieve their expected personal or work outcomes (Pfeffer, 1981a; Ahearn et al., 2004). Regulatory focus depicts a motivational perspective, which is related to how individuals' behaviours are shaped by past experiences, and how their approaches differ in terms of goal-attainment. Regulatory focus is also to do with the strategies people use to achieve goals (Lanaj et al., 2012) - either to attain matches to desired outcomes or to avoid mismatches to desired outcomes. Extant literature explored the role of both constructs in relation to work outcomes and established their impact on task-related scenarios. For example, Lanaj et al. (2012) investigated the role of regulatory focus in relation to task performance and commitment and found that promotion focus relates positively to task performance and both regulatory foci were positively related to job commitment. Similarly, political skill is found to be positively related to organizational commitment (Thompson et al., 2017). While the effects have been established on the individual level, few studies explored the congruence effects of leader and follower political skill and regulatory focus. As both constructs are drawing growing attention when exploring strategic aspects of individual differences, empirical research on LFC are needed.

Also, work-relevant characteristics such as work-related values are theorized to be more closely related to work outcomes (Huang & Iun, 2006). Since regulatory focus and

political skills are relevant on the task-level, I explore outcomes that are more directly related to work aspects (job satisfaction and leader effectiveness) when exploring political skills and regulatory focus, to see how they influence peoples' satisfaction level towards their jobs and how they perceive their leaders' performance and behavioural approaches.

This paper contributes to the individual differences literature and work literature from three perspectives. One is that I examine different aspects of leader and follower personality to gain a more comprehensive understanding of how different types of leader-follower personality congruence contribute to work outcomes. I differentiate those personality types which capture a relational perspective from those personality types that capture a task perspective. Doing so allows me to disentangle different perspectives of individual differences. The second is that extant literature has not yet reached a conclusive consensus on the effect of LFC in relation to work outcomes. This paper contributes to the understanding of leader-follower dyads which was also pointed out as an important deficiency in extant leadership studies (Kim et al., 2020). Moreover, methodologically, I move beyond simple, linear relationships to examine the congruence effect of these focal variables, taking into consideration the level of congruence and investigate their influence on outcomes. The third contribution is that I am able to provide deeper insights into workplace dynamics, the interaction between leaders and followers to be specific, by examining a range of outcomes, from wellbeing-related to performance-related outcomes, thus providing a holistic picture of the workplace.

In the following sections, I start by introducing the constructs and then discuss further in relation to the outcomes.

4.1.1. ATTACHMENT STYLES

Individuals' attachment styles are formed and developed from early ages (Bowlby, 1969). It depicts individuals' propensity to seek closeness to others. Based on the quality of their past relationship experiences, individuals form secure or insecure attachment styles. In the management literature, these attachment styles tend to be captured by two dimensions: attachment avoidance and attachment anxiety (Brennan et al., 1998). Attachment avoidance is formed through long frustration in past close relationships whereas attachment anxiety is formed through inconsistency and fear of loss during past relationships. Attachment styles are not only examined in relationship literature, but also used in management literature to explore individual differences in the workplace (see review by Yip et al., 2018).

I have examined the effect of follower attachment styles on the individual level in Paper 2 (Chapter 3). However, to delineate a fuller picture, I need to also account for leader attachment styles. So far, there are only a small number of studies examining cross-level effects with inconsistent findings, for example, Richards and Hackett (2012) found significant interaction effects regarding leader and follower attachment anxiety but non-significant effects on avoidance. Following the important line of research in leader-follower personality congruence (e.g. Zhang, Wang & Shi, 2012), I aim to examine the effect that attachment styles have at the dyadic level to account for the interactions and interdependencies inherent in the leadership process. Specifically, I examine two outcome variables, a workplace relationship outcome, leader and follower relationship (depicted by this paper using leader-member guanxi, LMG, to account for the cultural background of the participants) and a well-being related outcome, loneliness.

To explain LFC on attachment styles, the arguments are guided by similarity attraction-paradigm (Byrne, 1971; Medin, Goldstone & Gentner, 1993), and a specific congruence model proposed by Keller (2003) to adopt a cognitive and relational approach to explain the congruence effect of leader-follower attachment styles. Keller's congruence model

delineates the close link between leaders' and followers' attachment styles and their implicit leadership theories (ILT; Lord & Maher, 1991) – the cognitive schemas or prototypes of what being a leader entails. Individuals' attachment styles will inform both their self-views and leadership prototypes, and that the similarity in the resulting ILT will predict responses to leadership efforts and performance outcomes. People use ILT to make sense of others' behaviours and at the same time, shape their own behaviour (Lord & Maher, 1991). Empirical research also provides evidence that LFC in their ILTs are beneficial to their relationship quality (Riggs & Potter, 2017) as it increases leader and follower identification and establishes common understanding (Engle & Lord, 1997). Therefore, it can be postulated that when a leader and a follower have the same attachment style, they will form similar expectations of what leadership entails. Leaders and followers will therefore adopt behaviours in line with each other's expectations, providing fertile ground for relationship development. Thus, I expect that similarity in leader and follower attachment styles is positively related to LMG quality.

If both parties are avoidantly attached, they are likely to show a tendency of avoiding interactions, so they would choose to devote more time to autonomous work. As both parties are highly independent, they may respect each other's autonomy. The internal working models display a negative view of others; however, in this case, the leader or the follower's independent working styles may leave a positive impression on the other party, thus they may have a positive relationship. Regarding the level of congruence, avoidant individuals seek autonomy and are self-reliant; certain levels of autonomy will result in higher satisfaction; however, when leaders and followers are congruent at high levels of avoidance, they may lose the opportunity to build and maintain relationships, especially the connections outside of work.

When both members in the dyadic relationship score high in anxiety, the anxious leader would pose self-doubt on his/her own leadership and capability. They would express a need for closeness and favour follower dependence. Meanwhile, anxious followers' inseparability

and need for closeness may well complement the leader's lack of confidence. Thus, the reciprocal effect of attachment anxiety similarity on LMG would likely be positive. Also, it is important to consider the level of congruence, leaders and followers can match at either high levels of anxiety or low levels of anxiety. Anxious individuals enjoy a certain degree of close attention; however, when leaders and followers match at a high level of anxiety, both parties are tied by the mutual obligations, and they are more likely to be exhausted by the excessive needs compared to when they are matched at a low level.

Thus, I hypothesize that:

H1: Leader-follower congruence on attachment avoidance will be positively associated with follower-perceived LMG, with follower-perceived LMG increasing along the line of congruence, such that LMG will be highest when leader and follower are congruent at a low level of attachment avoidance.

H2: Leader-follower congruence on attachment anxiety will be positively associated with follower-perceived LMG, with follower-perceived LMG increasing along the line of congruence, such that LMG will be highest when leader and follower are congruent at a low level of attachment anxiety.

Similarly, when leaders and followers are aligned in terms of their attachment styles, they are more likely to feel that they share a mutual understanding of workplace relationships and are able to provide what the other party expects in a relationship. Avoidant leaders and followers share a similar value for autonomy in a relationship. Anxious leaders and followers are more likely to initiate communication and more opportunities to exchange thoughts and feelings. Thus, I expect that individuals tend to feel less lonely in this context. However, when leaders and followers are both highly avoidant or highly anxious in a relationship, it is harder to fulfill

their relationship needs compared with when their attachment avoidance and anxiety are at a lower level. Thus, I hypothesize that:

H3: Leader-follower congruence on attachment avoidance will be negatively associated with follower-perceived loneliness, with follower-perceived loneliness decreasing along the line of congruence, such that loneliness will be lowest when leader and follower are congruent at a low level of attachment avoidance.

H4: Leader-follower congruence on attachment anxiety will be negatively associated with follower-perceived loneliness, with follower-perceived loneliness decreasing along the line of congruence, such that loneliness will be lowest when leader and follower are congruent at a low level of attachment anxiety.

4.1.2. RELATIONAL SELF

In the leadership literature, self-concept has been used repeatedly to aid understanding of the leadership process and phenomena (e.g., Van Knippenberg, Van Knippenberg, De Cremer, and Hogg, 2004). The way people perceive themselves has important implications on their feelings, attitudes and behaviours in different contexts including the workplace (Lapierre, Naidoo, & Bonaccio, 2012). For a long time, the concept of self was considered to be independent and autonomous, as under the influence of the Western ideology or individualistic culture each individual is regarded as unique and different from others (Markus & Kitayama, 1991). Later, psychologists identified that people in a collectivist culture (such as China and Japan) are more inclined to think themselves as a part of a larger group, forming a collective or interdependent self-construal (Hogg, 2003). Whereas the concept of relational self originates from the interpersonal level, which is the influence of significant others and close relationships. It is the degree to which an individual believes the self is reflected and defined by the connection with significant others (Cross, Morris & Gore, 2002).

Relational self is of particular importance for understanding people's need for close relationships and the degree in which people relate to significant others in a dyadic relationship. Cross et al. (2000) pointed out that people with a high relational self-construal tend to pay more attention to and remember the information of significant others in their cognitive process (Cross, Morris & Gore, 2002). Also, they are usually motivated by the positive feeling of building and maintaining close relationships. When approaching relationships, individuals with a high relational self are more open to sharing their feelings with significant others and are more sensitive, pursuing a close relationship (Cross & Madson, 1997). They put more effort in developing skills and knowledge used for maintaining close relationships.

People with a strong relational self will likely be successful in building and maintaining relationships in the workplace (Eberly et al., 2017). When both parties in the leader-follower dyads possess a strong relational self-concept, they place more importance on the relationships they build with their partners, and are more willing to facilitate communication processes, sensitive to the others' needs and benefits (Lapierre, Naidoo, & Bonaccio, 2012), and take into consideration mutual benefits when making decisions (Gore and Cross, 2011). In the leadership process, the importance of both leaders and followers' self identity has been acknowledged. There is empirical evidence suggesting that leaders' high relational self-construal is positively associated with follower LMX (Chang & Johnson, 2010). Follower self identity has also been regarded as an equally important factor to the effectiveness of the leadership process (Lord & Brown, 2004). Though empirical support for leader-follower similarity on their relational self-construct has been scarce (Jackson & Johnson, 2012), we argue that it is worth exploring as the focal outcomes this paper is interested in - leader follower relationships (LMG) and relationship satisfaction (loneliness) are both relational in nature and depicted by the interaction between both parties.

I argue that when leader and follower relational self-constructs are similar, there will be overlap in terms of their interpersonal goals and motivations and they will share agreement on how to initiate and maintain a relationship, which is likely to facilitate communication and mutual understanding thus leading to positive rating of the level of relationship satisfaction (Jackson & Johnson, 2012). I also argue that this is particularly the case when both parties have a strong relational self-construal compared to weaker relational self-construal as both parties are more likely to be motivated by relational needs. They are more likely to develop good quality relationships (LMG) and satisfy each other's relational needs (loneliness). Followers are particularly likely to experience these positive outcomes because of the asymmetry that is inherent in leader-follower relationships and the disproportionate influence the leader-follower relationship has on followers, hence I focus on follower-rated LMG and loneliness as outcomes of leader-follower congruence in relational self-construal. Thus, I construct the hypothesis as follows:

H5: *Leader-follower congruence on relational self will be positively associated with follower-perceived LMG, with follower-perceived LMG increasing along the line of congruence, such that LMG will be highest when leader and follower are congruent at a high level of relational self.*

H6: *Leader-follower congruence on relational self will be negatively associated with follower-perceived loneliness, with follower-perceived loneliness decreasing along the line of congruence, such that loneliness will be lowest when leader and follower are congruent at a high level of relational self.*

4.1.3. POLITICAL SKILL

It is acknowledged by academics and practitioners alike that politics exist in organizations (Ferris et al., 2018). In order to be successful in an organization, it is not sufficient

to merely work hard (Gandz & Murray, 1980). The use of networking skills, negotiation and manipulation are often necessary in order to achieve certain goals (Mintzberg, 1985). The term 'political skill' was first used by Pfeffer (1981a) and was formally defined as "the ability to effectively understand others at work, and to use such knowledge to influence others to act in ways that enhance one's personal and/or organizational objectives" (Ahearn et al., 2004, p.311). The conceptualization of political skill involves four dimensions: social astuteness, interpersonal influence, networking ability and apparent sincerity (Ferris et al., 2005). These dimensions present skills that individuals need in order to be politically skilful: The awareness of social surroundings and the ability to accurately interpret interactions; the tactics to exert influence on others; the ability to build and maintain social network and put into effective use; and the act to be perceived as sincere and genuine without being observed as manipulative by others.

Distinct from other constructs such as social skills, political skill puts an emphasis on the work context and captures an individual's ability to understand and influence others in a work setting (Harris et al., 2009). The majority of research in this area focuses on the direct effect of political skill on work outcomes, such as its positive influence on team performance (Ahearn et al.,2004). In a Chinese organizational setting, Wei et al. (2010) found that the use of political skill is positively related to LMG. Followers employ political skill to improve their relationships with their leaders in order to gain career advancement (Liu, Liu & Wu, 2010) as well as to improve their discretion in engaging in proactive behaviours (Granger et al., 2020). Similarly, Epitropaki and colleagues (2016) have found political skill to be associated with LMX across two studies conducted in Greece. In developing a measurement scale for political skill, Farris et al. (2005) suggested political skill as an important moderator in interpreting workplace relationships. Following this direction, there have been a few attempts to test political skill as a moderator of workplace relationships in recent years. Harris et al. (2009)

examined political skill as a moderator of LMX-outcome relationships; specifically, they investigated and found the moderating effect of political skill on the relationship between LMX and job satisfaction and turnover intentions. Treadway et al. (2007) found evidence to support that political skill interacts with self-rated ingratiation to influence the degree to which the supervisor perceives follower ingratiation.

I expect that when leader and follower political skills are aligned, it is easier for them to find the balance of using social tactics and presenting sincerity during interaction without being perceived as either socially incapable or hypocritical. This is particular the case with high-high dyads, in which their approaches to work are more likely to receive recognition by each other and to be perceived as competent and effective compared with low-low dyads in which both parties will be less likely to manage positive impressions with each other and other parties in the organization, resulting in less access to organizational support and resources. Moreover, high-high dyads will be able to adapt their behaviours according to different situations. I expect that these dyads who are politically skilful are able to increase the frequency and quality of their interactions with each other to achieve their work goals. Followers in such dyads are particularly likely to enjoy the benefits such as resources brought by a high-high combination, thus will be more likely to experience higher job satisfaction and similarly, rate their leaders as more effective. Thus, I hypothesize that:

H7: Leader-follower congruence on political skills will be positively associated with job satisfaction, with job satisfaction increasing along the line of congruence, such that job satisfaction will be highest when leader and follower are congruent at a high level of political skills.

H8: Leader-follower congruence on political skills will be positively associated with follower-rated leader effectiveness, with follower-rated leader effectiveness increasing along

the line of congruence, such that leader effectiveness will be highest when leader and follower are congruent at a high level of political skills.

4.1.4. REGULATORY FOCUS

For centuries, the principle of hedonism has been used to conceptualise people's tendency or motivation to approach pleasure and avoid pain, before Higgins (1997) suggested that psychologists depend too heavily on this principle to explain people's behaviours. While hedonism's conceptualisation recognises that it is natural for people to behave this way, Higgins was interested in finding out the mechanisms behind the phenomenon and argued that the theory is limited by this narrow view and it could be problematic to rely solely on hedonism to conceptualise people's motivation in seeking pleasure and avoiding pain. Thus, regulatory focus theory was proposed by incorporating and making sense of different strategies that underlie people's goal-pursuing behaviours and the desired end-state: a promotion focus which orients towards aspiration and achievement and a prevention focus which focuses on safety and obligations (Higgins, 1997; Higgins et al., 2001).

Both promotion and prevention strategies serve the achievement goals (Lanaj et al., 2012) - either to attain matches to desired outcomes (promotion focus) or to avoid mismatches to desired outcomes (prevention focus). A promotion focus is characterized by a nurturance-related regulation. People who adopt a promotion focus are inclined to achieve ideals and are sensitive to a positive end-state. In the presence of rewards, they are more likely to show eagerness and accelerate work speed in order to accomplish more (Wallace & Chen, 2006). In contrast, prevention-focus corresponds to a security-based strategy, focusing on avoiding mistakes and losses by fulfilling responsibility (Higgins, 1997). People with a prevention focus pay attention to the presence and absence of negative outcomes, in particular, minimizing the

possibility of making mistakes caused by being irresponsible and careless. In all, the prevention focus is concerned with obligations, responsibility, accuracy and safety.

In the workplace, promotion focused employees are likely to be motivated by financial outcomes or advancement that seems desirable to them, whereas prevention focused individuals are more likely to perform according to rules and regulations, or aim at fulfilling obligations (Gorman et al., 2012). Prevention focused employees are less likely to be high-performing in work scenarios compared with promotion focused individuals because they are vigilant against errors and mistakes instead of achievement. However, although people who adopt a promotion focus are able to manifest more efficiency, prevention-focused individuals have been found to be more likely to perform more accurately in laboratory tasks than promotion-focused people (Forster et al., 2003). They can identify more difficult errors and concentrate more on accuracy. Wallace and Chen (2005) also found that while promotion focus is associated with higher productivity, prevention focus is more likely to lead to safety performance.

It is suggested that the regulatory system an individual adopts could be either stable (influenced by personality or childhood history) or momentary (influenced by the context) (Gorman et al., 2012; Wallace & Chen, 2006; Higgins, 1997). People could have a chronic tendency of adopting a particular regulatory foci shaped by early experiences, but situational cues could activate the other (Friedman & Förster, 2001). Higgins (2000) suggested a regulatory fit state in which individuals' motivation towards achieving goals match the situational demands. More recent investigations explore an interpersonal regulatory fit that depicts a match between a person and their dyadic partners' regulatory focus (Righetti et al., 2011). In leadership dyads, it is suggested that leadership styles could serve as contextual cues that prime follower's regulatory foci (Shin et al., 2017). Promotion focus in followers could be activated by transformational leadership style whereas prevention focus in followers could be

activated by transactional leadership style (Kark & Van Dijk, 2007). Regarding the outcomes, evidence suggests that when transformational leaders interact with followers with a promotion focus, followers exhibited lower turnover intentions, similar with transactional leaders working with prevention-focused followers (Benjamin & Flynn, 2006). Also, findings show that leader prevention focus moderates the relationship between follower prevention focus and their organizational citizenship behaviour (Shin et al., 2017). However, research has focused on interactions, but have not accounted for the levels of similarity.

Thus, I aim to examine how regulatory fit between leaders and followers and the levels of their similarity affect how followers perceive their own job (job satisfaction) and how followers perceive their leaders (leader effectiveness). I first propose that followers' job satisfaction will be affected by the leaders' regulatory focus, such that when the leader's regulatory focus matches their own, they will be more satisfied with their work, as they take similar approaches towards work, either focusing on fulfilling goals at work (promotion focus) or holding a more conservative attitude and avoiding mistakes (prevention focus). Followers' work needs will be satisfied by such a combination. Followers with a low promotion focus will enjoy higher job satisfaction when their leaders are equally low on promotion focus because their ambition on work goals are easier to be fulfilled compared to a high-high combination. With a low prevention focus, followers will be less likely to be obsessed with accuracy or obeying the rules, thus their expectations are easier to be met.

Similarly, followers will rate their leader as more effective when the leader's regulatory focus matches their own. In this scenario, leaders' way of approaching work issues tend to meet followers' expectations by either adopting an adventurous attitude or a more conservative approach. Thus, followers will perceive leaders' approach as effective. Regarding levels of congruence, I argue that the outcome will be more beneficial when matching at a lower level rather than a higher level. Individuals with high regulatory focus are highly goal-driven, thus

hold higher expectations towards achieving goals and it is harder to satisfy their needs for goal-attainment. With higher promotion focus, followers will expect to achieve more work goals and with higher prevention focus, followers will be more vigilant, thus it is more difficult for them to meet their respective expectations compared to lower levels, and also more difficult for them to be convinced that their leaders are effective in terms of goal-attainment. Based on these arguments, I list the hypotheses below:

For regulatory focus and job satisfaction:

H9*: Leader-follower congruence on prevention focus will be positively associated with follower job satisfaction, with job satisfaction increasing along the line of congruence, such that follower job satisfaction will be highest when leader and follower are congruent at a low level of prevention focus.*

H10*: Leader-follower congruence on promotion focus will be positively associated with follower job satisfaction, with job satisfaction increasing along the line of congruence, such that follower job satisfaction will be highest when leader and follower are congruent at a low level of promotion focus.*

For regulatory focus and leader effectiveness:

H11*: Leader-follower congruence on prevention focus will be positively associated with follower-rated leader effectiveness, with follower-rated leader effectiveness increasing along the line of congruence, such that leader effectiveness will be highest when leader and follower are congruent at a low level of prevention focus.*

H12*: Leader-follower congruence on promotion focus will be positively associated with follower-rated leader effectiveness, with follower-rated leader effectiveness increasing along*

the line of congruence, such that leader effectiveness will be highest when leader and follower

are congruent at a low level of promotion focus.

4.2. METHODS

4.2.1. SAMPLE

I collected data from a large local Chinese hospital. After contacting and obtaining

consent from the HR department, I invited potential participants to a meeting where I

introduced this research project and the research process. Information sheets were provided,

and it was made clear that participation was voluntary, and responses would be kept strictly

confidential. I distributed questionnaires to 920 employees in the hospital. To avoid common

method bias, the focal constructs were measured separately. All control variables and

personality constructs were measured at Time 1. The outcome variables were measured

subsequently at Time 2 and Time 3 (with three-month time intervals between each wave).

673 participants responded at Time 1. 590 matched responses were obtained at Time 2 and at

Time 3, I received a final sample of 454 matched responses, among which 66 participants

were team leaders, matched with their respective followers (match response rate 49.3%). The

average team size was 10.3 (team sizes vary from 3 - 25).

4.2.2. MEASURES

All constructs were measured on a 5-point Likert scale (1 = strongly disagree, 5 =

strongly agree). Cronbach' a for respective constructs are shown in Table 4.1.

Attachment styles. Attachment styles were assessed with the adapted version of the 36-item

Experience in Close Relationship Scale (ECRS) (Brennan et al., 1998), referred to as the

Experience of Relationships Scale (ERS). The adapted version (ERS) was developed by

Richards and Schat (2011) by changing the original choice of words 'partner' to 'others' or

'other people', which is more suitable for examining a general attachment style across all settings. It measures attachment orientations from two dimensions - avoidance (or self) dimension and anxiety (or others) dimension. The 36-item scale is divided into two subscales accordingly: 18 items for anxiety (e.g. I get frustrated when other people are not around as much as I would like) and 18 items for avoidance (e.g. I prefer not to show others how I feel deep down).

Relational self. This research will use Relational-Interdependent Self-Construal Scale (RISC) to assess the levels of the interdependence self-construal. RISC is a single-factor scale developed by Cross, Bacon and Morris (2000) who compared the scales measuring various aspects relating interdependent self-construal such as personality and collectivism, and confirmed the validity of this measure. A sample item was 'My close relationships are an important reflection of who I am'. Participants who score high on the scale are more likely to devote time and effort to be with significant others, indicating that they are more willing to seek closeness and contribute to this relationship.

Political skill. I measured followers' political skill using the Political Skill Inventory developed by Ferris et al. (2005). This is an 18-item scale capturing four dimensions including networking ability, apparent sincerity, social astuteness and interpersonal influence. Sample items are 'I spend a lot of time and effort at work networking with others' and 'I am able to communicate easily and effectively with others'.

Regulatory focus. Regulatory Focus Questionnaire (RFQ) was used to measure regulatory focus. The scale was developed by Higgins et al. (2001) using 11 items to measure two factors --- promotion focus (6 items) and prevention focus (5 items). It was reviewed by Gorman et al. (2012) as one of the most popular scales of measuring regulatory focus. A 5-point scale is used to indicate the frequency of event occurrence in respondents' life experiences (1 = never or seldom 5 = very often or many times). RFQ takes into consideration both parental experiences

and non-parental experiences for both promotion and prevention foci. Examples of sample items include: 'How often have you accomplished things that got you 'psyched' to work even harder?' (promotion focus), and 'how often did you obey rules and regulations that were established by your parents?' (prevention focus).

Leader-member guanxi. LMG was measured using a 6-item scale developed by (Law et al., 2000). For the follower version, sample items include 'I always actively share with my supervisor about my thoughts, problems, needs and feelings'.

Loneliness. Loneliness was measured using an 8-item short-form UCLA scale (Hays and DiMatteo, 1987). A sample item reads 'People are around me but not with me'.

Job satisfaction. Job satisfaction was measured using the job satisfaction subscale of Michigan Organisational Assessment Questionnaire (MOAQ-JSS) developed by Cammann, Fichman, Jenkins and Klesh (1979). This subscale contains three items. Sample items are 'In general, I like working here', and 'All in all, I am satisfied with my job'.

Leader effectiveness. To measure leader job performance, this research used the reputational effectiveness scale originally developed by Tsui (1984). The scale consists of three-items and were rated by subordinates using a 5-point Likert scale (1 = not at all, 5 = entirely) to assess the managerial effectiveness. The scale was used in Tsui et al. (1995), and a sample item is 'Overall, to what extent is the manager performing his/her job the way you would like it to be performed?'. Leaders who score high on this scale means he/she has largely met the expectations of subordinates and have higher levels of managerial effectiveness.

Control variables. In previous research, employee age, gender and tenure were suggested to have an effect on outcome variables (e.g. Bernerth, Cole, Taylor & Walker, 2018), thus they are controlled for in this paper. Also, as LMX and LMG are similar constructs, both measuring leader-follower relationship quality, thus LMX was used as a control variable when analyzing LMG as an outcome variable in this paper. It was measured using LMX-7, a seven-item scale

developed by Graen and Uhl-Bien (1995). Sample items include 'I feel that my team leader understands my problems and needs' and 'My team leader recognises my potential'.

4.2.3. ANALYTICAL STRATEGY

To test the hypotheses, I adopt cross-level polynomial regression (Jansen & Kristof-Brown, 2005) and response surface analyses (Edwards & Parry, 1993). By using polynomial regression, I was able to capture congruence effects and graph three-dimensional response surfaces, which provide visual representations and more nuanced information than traditional methods such as difference scores or moderation analyses (Edwards & Harrison, 1993; Shanock, Baran, Gentry, Pattison & Heggestad, 2010). Cross-level polynomial regression (Jansen & Kristof-Brown, 2005) allowed me to integrate polynomial regression analyses with hierarchical linear modeling (HLM) to address the nonindependence of the data (multiple followers working for the same leader).

Following the recommendations of Edwards (1994), I scale-centered leader and follower trait variables to reduce multicollinearity and created five second-order polynomial terms for each construct respectively, that is, follower trait (F), leader trait (L), follower trait squared (F^2), follower trait times leader trait ($F \times L$) and leader trait squared (L^2). I then ran a multilevel polynomial regression by regressing the dependent variable onto the control variables (age, gender and tenure) as well as five polynomial terms for each trait construct respectively. I also controlled for outcomes that measured at previous time points to obtain a time-lagged effect.

To test the congruence effects of each hypothesis, I followed the procedures suggested by Shanock et al. (2010) and examined four surface test values a_1, a_2, a_3, a_4 for each model. a_1 represents the slope of the line of agreement (X = Y). When a_1 is positive and significant, Z (the outcome) will be higher X and Y are aligned at a high level compared with low level.

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a_2 represents the curvature of the line of agreement ($X = Y$). A significant a_2 indicates that the slope of the line of agreement ($X = Y$) is non-linear. a_3 and a_4 represent the line of incongruence ($X = -Y$). a_4 (the curvature of $X = -Y$) represents how the degree of X and Y incongruence affect Z. A significant and negative a_4 indicates that when the degree of incongruence increases, Z decreases, in contrast, a significant positive a_4 suggests that Z increases as the degree of incongruence increases. Finally, a_3 (the slope of $X = -Y$) is an indication of direction of incongruence. A significant positive a_3 suggest that when the value of Y is higher than X, Z is higher; in contrast, a significant negative a_3 is an indication of lower value of Z when Y is higher than X. Response surfaces were generated to aid further interpretations.

Table 4. 1 Means, Standard Deviations, and Bivariate Correlations.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.age	32.32	7.07																			
2.gender	.08	.27	.09*																		
3.tenure	9.18	7.18	.82**	.03																	
4.avoidance	2.80	.35	.09*	.01	.08*	(.85)															
5.anxiety	2.78	.65	.02	.05	-.00	.35**	(.93)														
6.relational self	3.45	.45	.08*	.08*	.10*	-.16**	.12**	(.84)													
7.political skill	3.26	.53	.06	.09*	.04	-.11**	.31**	.50**	(.91)												
8.prevention	3.51	.60	.00	.04	-.01	.09*	.38**	.33**	.30**	(.79)											
9.promotion	3.78	.57	-.05	.07	-.03	-.10**	.18**	.45**	.45**	.59**	(.84)										
10.LMXT2	3.78	.54	-.03	.02	-.03	-.08	-.04	.07	.03	.03	.11*	(.78)									
11.LMXT3	3.65	.50	.06	.05	.01	-.24**	-.06	-.01	.03	-.05	.07	.06	(.77)								
12.LMGT2	3.27	.66	-.05	.08	-.07	.91*	.09*	.02	.05	.05	.12**	.55**	.03	(.71)							
13.LMGT3	3.22	.63	0.03	.07	-.01	-.27**	-.04	.06	.04	.07	.23**	.07	.51**	.16**	(.77)						
14.loneT2	2.19	.64	.11*	.02	.13**	.21**	.18**	.01	.06	.09*	-.03	-.28**	-.03	-.21**	-.14**	(.80)					
15.loneT3	2.27	.74	.02	-.02	.01	.23**	.16**	.00	-.01	-.01	-.13**	-.08	-.33**	-.08	-.28**	.15**	(.83)				
16.jobsatT2	4.09	.66	-.06	-.01	-.04	-.12**	-.07	.09*	.06	.10*	.25**	.42**	.03	.23**	.10	-.32**	-.10*	(.84)			
17.jobsatT3	3.95	.63	.02	.04	-.01	-.14**	-.08	.07	.07	.07	.15**	.85	.40**	.64	.27**	-.11*	-.40**	.12*	(.74)		
18.effectiveT2	3.93	.63	-.10*	.03	-.08	-.07	-.08	.10*	-.03	.08	.16**	.52**	.05	.32**	.09	-.26**	-.04	.56**	.05	(.72)	
19.effectiveT3	3.75	.59	.00	.03	-.04	-.24**	-.07	.06	.05	.06	.17**	.15**	.41**	.10	.31**	-.18**	-.37**	.08	.58**	.10*	(.75)

Note. N = 454. Cronbach's alpha in parentheses. Gender 1 = male, 0 = female; avoidance = attachment avoidance; anxiety = attachment anxiety; prevention = prevention focus; promotion = promotion focus; LMX = Leader-member exchange; LMG = Leader-member guanxi; lone = loneliness; jobsat = job satisfaction; effective = leader effectiveness .T2 = Time 2; T3 = Time 3; *p < .05. **p < .01.

Table 4. 2 Frequencies of leader personality scores over, under and in-agreement with follower personality scores.

	avoidance	anxiety	Relational self	Political skill	Prevention focus	Promotion focus
Leader score > follower score	31.4%	33.2%	30.3%	28.4%	30.3%	31.6%
In agreement	33.2%	36.6%	33.3%	37.3%	39.3%	35%
Leader score < follower score	35.4%	30.2%	36.4%	34.3%	30.4%	33.4%

Note. $N = 454$. Avoidance = attachment avoidance; anxiety = attachment anxiety

4.3. RESULTS

Means, standard deviations, and bivariate correlations of the variables in this paper are shown in Table 4.1.

As a first step, I followed Shanock et al. (2010) and inspected whether there were discrepancies between leader and follower scores of personality to determine if there was practical value of investigating the discrepancy effects. We standardized the scores for the predictors (attachment styles, relational self, political skill and regulatory focus). We consider leader and follower constructs having discrepant values when one predictor value is half a standard deviation above or below the other. For all the predictor variables, I observed that more than half of the sample (approximately 60%) had discrepant values (see Table 4.2). Then I proceeded to enter the higher-order polynomial terms into the analysis. I observed that the polynomial terms explained 4%-7% of the outcome variables.

For both attachment avoidance and anxiety, I hypothesized that there will be a congruence effect where LMG will be higher when leader and follower attachment styles match, and when leaders and followers attachment anxiety and avoidance match at a low level rather than high level.

The first part of Hypothesis 1 suggests a congruence effect of leader and follower attachment avoidance on LMG. As shown in Table 4.3, a significant negative curvature ($a_4 =$ -.74, $p < .05$) indicates a concave surface, and inspection of the surface (Figure 4.1) suggests the shape of the surface is inverted U-shaped, which suggests that when the degree of discrepancy between leader and follower attachment avoidance increases, LMG decreases. Thus, the first part of H1 is supported. As proposed in the second part of H1, LMG will be higher when leader and follower are aligned at a low level of attachment avoidance as opposed to their alignment at high level. The line of interest is the slope (a_1) along the line of congruence (X = Y). As shown in Table 4.3, the curvature along the congruence line was not significant

(a_2 = -.13, p >.05) indicating a linear relationship. The slope along the line of X = Y was negative and significant (a_1 = -.69, p < .01), suggesting that LMG is higher in the low-low congruence condition rather than high-high congruence condition. Visual inspection of Figure 4.1 shows no significant curvature for the line of congruence either. Taken together, H1 is supported.

For attachment anxiety, both the slope and curvature along the line of incongruence were not significant (slope a_3 = .05, p>.05; curvature a_4 = -.12, p>.05), thus there was no evidence suggesting a congruence effect for leader and follower attachment anxiety (Table 4.4 and Figure 4.3). The curvature (a_2 = 0.29, p <.05) is positive and significant, indicating the line of agreement has an upward curving surface. The slope (a_1) along the line of congruence was not significant (a_1 = .01, p>.05), thus H2 was not supported.

For loneliness as the outcome (see Table 4.3 and 4.4), I hypothesized that there will be congruence effects for both attachment avoidance (H3) and anxiety (H4). However, for both constructs, the first part of respective hypotheses were not supported as both curvatures along the incongruence line were not significant (for attachment avoidance, a_4 = 0.02, p > 0.05; for attachment anxiety, a_4 = 0.20, p > 0.05). a_2 for both attachment anxiety (-0.61, p > 0.05) and avoidance (-0.29, p > 0.05) were not significant, which suggest linear relationships along X = Y. Regarding how levels of agreement affected follower loneliness, I hypothesized that for both attachment avoidance (H3) and anxiety (H4), follower loneliness will be higher when leader and follower are in agreement at high levels compared to low levels. Both hypotheses were supported with significant positive slopes along lines of congruence (for attachment avoidance, a_1 = 0.12, p < 0.001; for anxiety, a_1 = 0.09, p < 0.001; see Figure 4.2 and 4.4). Thus, H3 and H4 were partially supported.

Table 4. 3 The effect of attachment avoidance congruence on LMG and loneliness

	LMG	Loneliness
constant	2.90 **(0.29)	1.98**(0.311)
avoid_F	-0.71**(0.16)	0.29(0.16)
avoid_L	0.03(0.12)	-0.18(0.12)
avoid_F²	-0.35(0.19)	-0.24(0.22)
avoid_F * avoid_L	0.30(0.20)	-0.29(0.22)
avoid_L²	-0.09(0.18)	0.25(0.18)
surface along the congruence line		
slope	-0.698**(0.21)	0.12**(0.18)
curvature	-0.11(0.32)	-0.29(0.28)
surface along the incongruence line		
slope	-0.76**(0.18)	0.47*(0.21)
curvature	-0.74*(0.34)	0.30(0.39)

Note. $N = 454$. avoid_F = follower attachment avoidance; avoid_L = leader attachment avoidance
 *p < .05. **p < .01.*

Table 4. 4 The effect of attachment anxiety congruence on LMG and loneliness

	LMG	Loneliness
constant	2.96**(0.30)	1.90**(0.32)
anx_F	0.30(0.07)	0.13(0.01)
anx_L	-0.02(0.15)	-0.04(0.17)
anx_F²	0.05(0.06)	-0.04(0.07)
anx_F * anx_L	0.21(0.11)	-0.13(0.13)
avoid_L²	0.04(0.13)	0.01(0.15)
surface along the congruence line		
slope	0.01(0.13)	0.09**(0.15)
curvature	0.29*(0.13)	-0.16(0.15)
surface along the incongruence line		
slope	0.05(0.19)	0.17(0.22)
curvature	-0.12(0.21)	0.10(0.25)

Note. $N = 454$. anx_F = follower attachment anxiety; anx_L = leader attachment anxiety
 *p < .05. **p < .01.*

Figure 4. 1 Leader and follower attachment avoidance and LMG
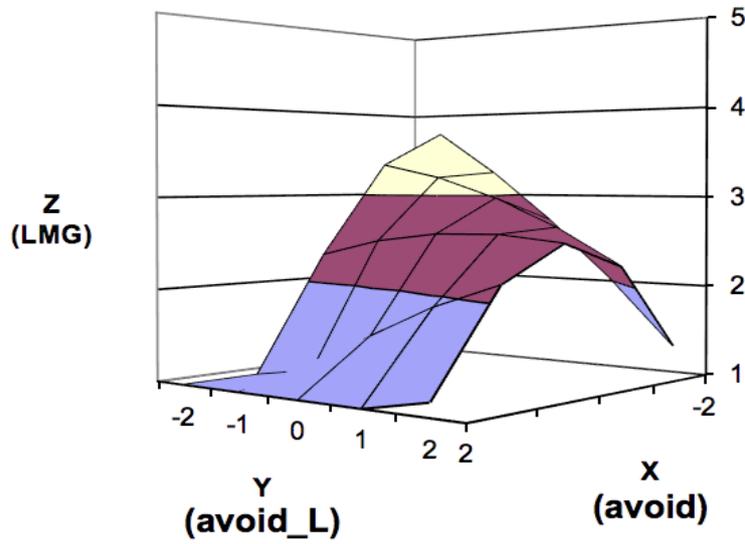
Figure 4. 2 Leader and follower attachment avoidance and Loneliness
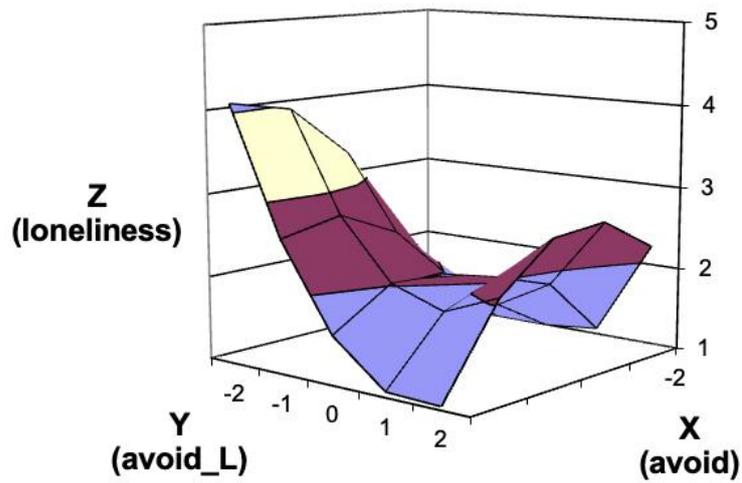
Figure 4. 3 Leader and follower attachment anxiety and LMG
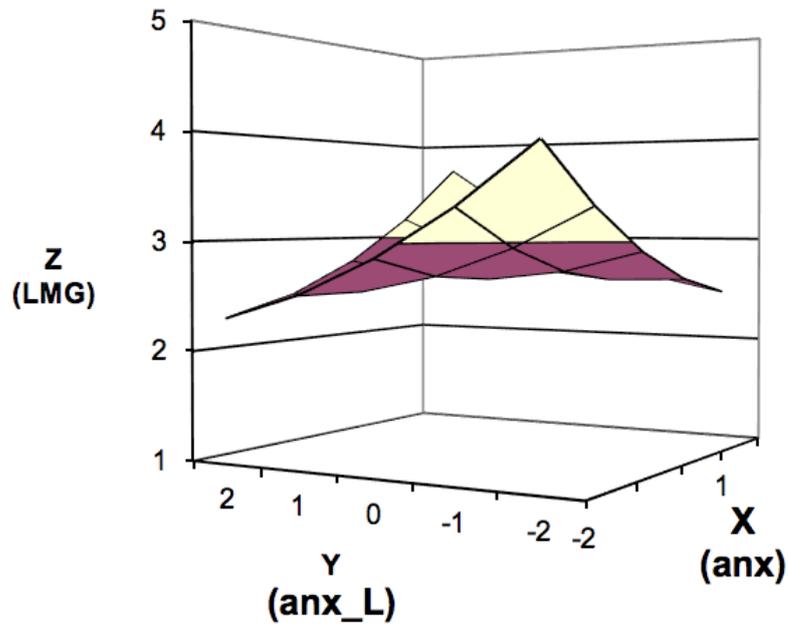

Figure 4. 4 Leader and follower attachment anxiety and loneliness
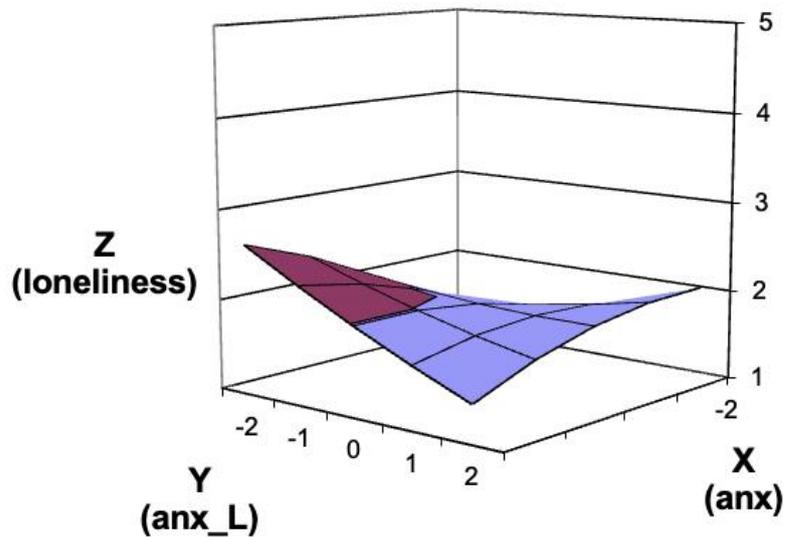
Hypothesis 5 is related to the relationship between leader and follower relational self congruence and LMG. Specifically, it posits that there is a congruence effect between leader and follower relational self, the more aligned they are, the higher follower-perceived LMG is. To obtain a congruence effect, a_4 needs to be significantly different from zero. Results suggested that the curvature along the line of incongruence was not significant (0.12, $p > 0.5$; see Table 4.5 and Figure 4.5). Also, a_2 is not significant (0.05, $p > 0.5$) indicating a linear relationship along the line of X = Y. I also hypothesized that when followers and leaders are in agreement at a high level of relational self, LMG would be higher compared to when they are in agreement at a low level of relational self (H5). To support this part of the hypothesis, the slope along the congruence line needs to be positive and significantly different from zero. The result showed a positive slope of 0.01 ($p < 0.001$). Thus, H5 was partially supported.

With regard to the relationship between relational self and loneliness (H6; see Figure 4.6), I did not find support for the congruence effect ($a_4 = $ -0.12, $p > 0.05$), a_2 is also not significant (-0.25, $p > 0.5$)Regarding the level of congruence, the result was contrary to the

hypothesis with a positive and significant slope along the line of perfect agreement ($a_1 = 0.18$,

p<0.001). Therefore, H6 was not supported.

Table 4. 5 The effect of relational self congruence on LMG and loneliness

	LMG	Loneliness
constant	2.94**(0.33)	1.87**(0.31)
rel_F	0.05(0.17)	0.07(0.17)
rel_L	-0.09(0.17)	0.12(0.16)
rel_F²	0.04(0.12)	-0.04(0.13)
rel_F * rel_L	-0.16(0.19)	-0.06(0.20)
rel_L²	0.16(0.11)	-0.14(0.12)
surface along the congruence line		
slope (a1)	0.01**(0.25)	0.18**(0.24)
curvature (a2)	0.05(0.22)	-0.25(0.21)
surface along the incongruence line		
slope (a3)	0.18(0.21)	-0.05(0.23)
curvature (a4)	0.39(0.28)	-0.12(0.32)

Note. N = 454. rel_F = follower relational self; rel_L = leader relational self
  *p < .05. **p < .01.*

Figure 4. 5 Leader and follower relational self and LMG
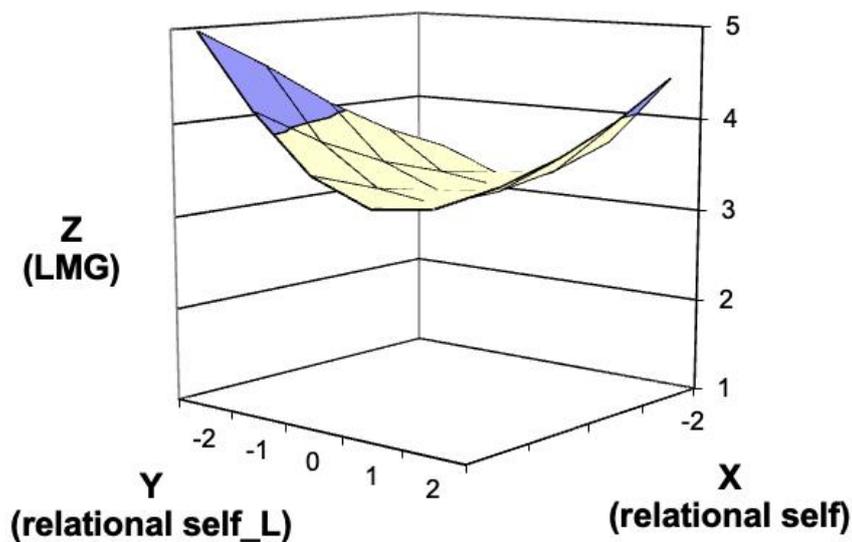
Figure 4. 6 Leader and follower relational self and Loneliness
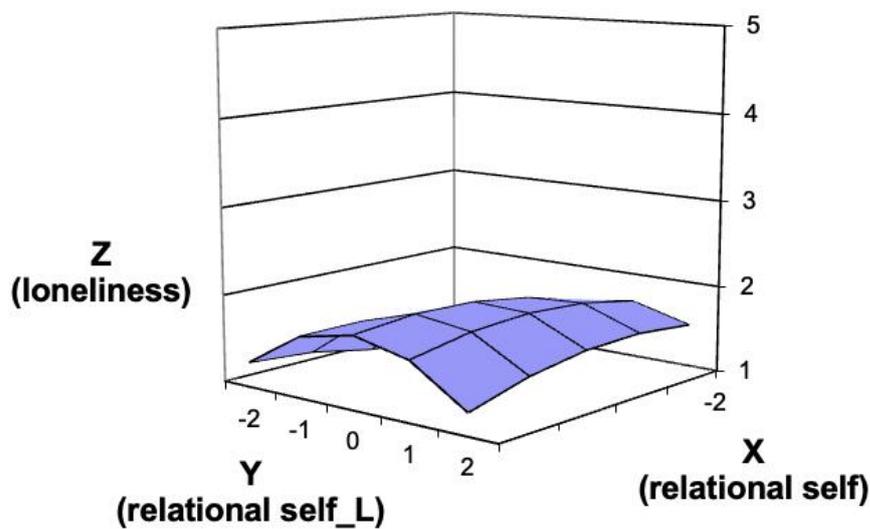
Regarding political skill and job satisfaction (H7; see Table 4.6), I did not obtain support for a congruence effect ($a_4 = 0.10$, $p > 0.05$; $a_2 = 0.01$, $p > 0.05$). Contrary to the hypothesis, job satisfaction was higher when leader and follower political skill were aligned at a lower level compared to a higher level of alignment ($a_1 = -0.15$, $p < 0.001$). For Hypothesis 8, I posited that there will be a congruence effect between leader and follower political skill in relation to follower-perceived leader effectiveness. This hypothesis was not supported as the curvature along the line of incongruence is not significantly different from zero ($a_4 = 0$, $p > 0.05$; $a_2 = -0.12$, $p > 0.05$). However, I observed a significant positive slope along the line of congruence ($a_1 = 0.45$, $p < 0.01$), suggesting that follower-perceived leader performance was higher when leader and follower political skill were at higher level of congruence. H8 was thus partially supported.

Table 4. 6 The effect of political skill congruence on job satisfaction and leader effectiveness

	Job satisfaction	Leader effectiveness
constant	3.24**(0.85)	3.29**(0.76)
pol_F	0.04(0.34)	0.27(0.43)
pol_L	-0.19(0.61)	0.18(0.53)
pol_F²	0.07(0.08)	-0.04(0.09)
pol_F * pol_L	0.00(0.10)	-0.06(0.13)
pol_L²	0.03(0.08)	-0.02(0.74)
surface along the congruence line		
slope (a1)	-0.15**(0.69)	0.45**(0.74)
curvature (a2)	0.10(0.14)	-0.12(0.18)
surface along the incongruence line		
slope (a3)	0.22(0.72)	0.10(0.63)
curvature (a4)	0.10(0.17)	0.00(0.16)

Note. N = 454. pol_F = follower political skill; pol_L = leader political skill;
   *p < .05. **p < .01.*

Figure 4. 7 Leader and follower political skill and job satisfaction
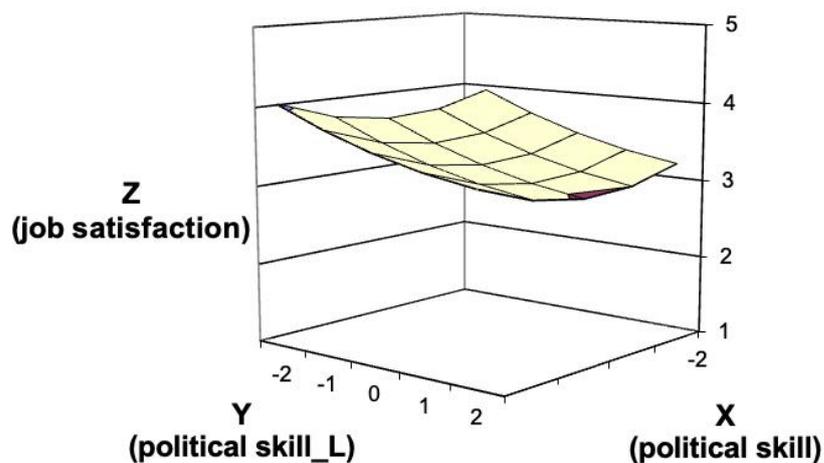
Figure 4. 8 Leader and follower political skill and leader effectiveness
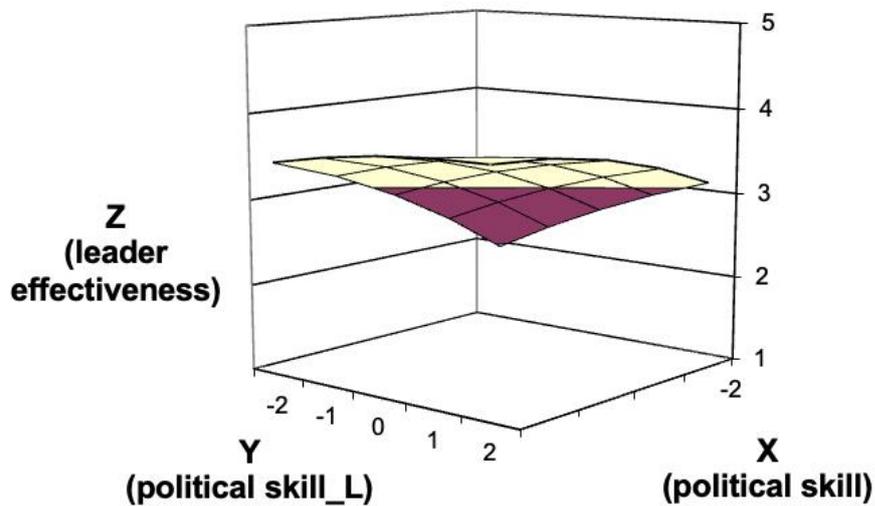
I hypothesized that congruence effects exist for the relationship between leader and follower regulatory focus and follower job satisfaction (H9 and H10). For prevention focus (see Table 4.7 and Figure 4.11), I observed that the curvature along the line of incongruence was not significant ($a_4 = 0.18$, $p > 0.05$), the curvature along the line of congruence was also not significant ($a_2 = 0.21$, $p > 0.05$). Similar results were found for promotion focus ($a_4 = 0.12$, $p > 0.05$; $a_2 = 0.15$, $p > 0.05$). However, for prevention focus, the slope along the line of congruence was negative and significant ($a_1 = -0.13$, $p < 0.001$), indicating that job satisfaction was higher when leader and follower prevention focus were aligned at a lower level of agreement. Similarly, for promotion focus (Figure 4.9), the slope along the line of congruence

was also negative and significant (a_1 = -0.05, p <0.001). Hypothesis H9 and H10 were both partially supported.

H11 and H12 suggested the congruence effect for leader and follower regulatory focus and follower-perceived leader effectiveness. For prevention focus (see Table 4.7), congruence effect was not obtained (a4 = 0.31, p> 0.05; a_2 = 0.09, p > 0.05). However, the slope along the line of congruence was negative and significant (a1 = -0.07, p < 0.05), thus partially supporting hypothesis 11. For promotion focus (see Table 4.8), I observe a congruence effect (curvature along the line of incongruence a4 = 0.36, p < 0.001), suggesting that follower-perceived leader effectiveness increased more sharply as leader and follower promotion focus became more discrepant, which was contrary to expectation (H12). Moreover, curvature along the line of perfect agreement was not significant (a_2 = -0.18, p > 0.05), and the slope along the congruence line was positive and significant (a1 = 0.37, p < 0.001), suggesting that when leader and follower promotion focus were aligned at a high level of agreement, follower-perceived leader effectiveness was higher compared to when both parties were aligned at lower levels, which was also contrary to the hypothesis (H12).

Table 4. 7 The effect of prevention focus congruence on job satisfaction and leader effectiveness

	Job satisfaction	Leader effectiveness
constant	3.59**(0.32)	3.09**(0.32)
prev_F	0.13(0.09)	0.08(0.10)
prev_L	-0.44**(0.14)	-0.15(0.15)
prev_F²	-0.09(0.06)	-0.01(0.06)
prev_F * prev_L	0.02(0.11)	-0.11(0.11)
prev_L²	0.28*(0.14)	0.21(0.13)
surface along the congruence line		
slope (a1)	-0.31**(0.17)	-0.07**(0.19)
curvature (a2)	0.21(0.15)	0.09(0.17)

surface along the incongruence line

slope (a3)	0.58**(0.17)	0.23(0.16)
curvature (a4)	0.18(0.21)	0.31(0.20)

Note. $N = 454$. prev_F = follower prevention focus; prev_L = leader prevention focus
 *p < .05. **p < .01.*

Table 4. 8 The effect of promotion focus congruence on job satisfaction and leader effectiveness

	Job satisfaction	Leader effectiveness
constant	3.51**(0.32)	2.97**(0.32)
prom_F	0.19(0.10)	0.21(0.10)
prom_L	-0.25(0.12)	0.16(0.12)
prom_F²	-0.04(0.07)	0.06(0.07)
prom_F * prom_L	0.02(0.10)	-0.27*(0.11)
prom_L²	0.18(0.09)	0.04(0.08)
surface along the congruence line		
slope (a1)	-0.05**(0.16)	0.37**(0.17)
curvature (a2)	0.15(0.13)	-0.18(0.19)
surface along the incongruence line		
slope (a3)	0.46**(0.16)	0.06(0.14)
curvature (a4)	0.12(0.17)	0.36**(0.10)

Note. $N = 454$. prom_F = follower promotion focus; prom_L = leader promotion focus
 *p < .05. **p < .01.*

Figure 4. 9 Leader and follower promotion focus and job satisfaction
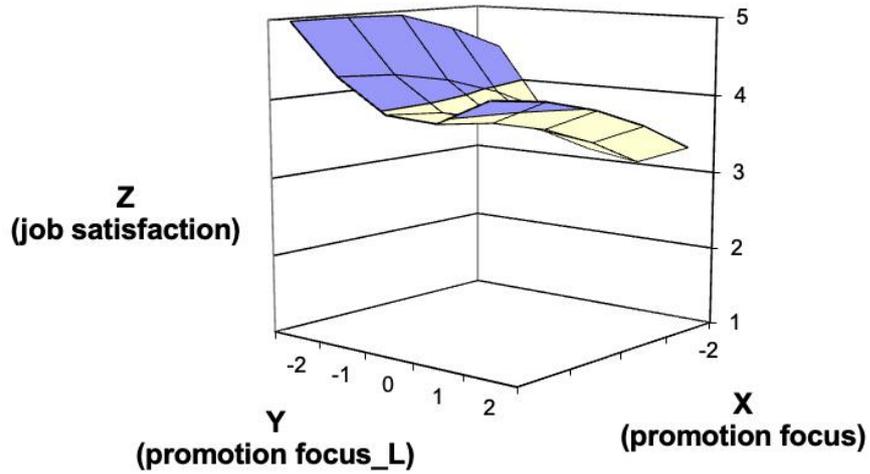
Figure 4. 10 Leader and follower promotion focus and leader effectiveness
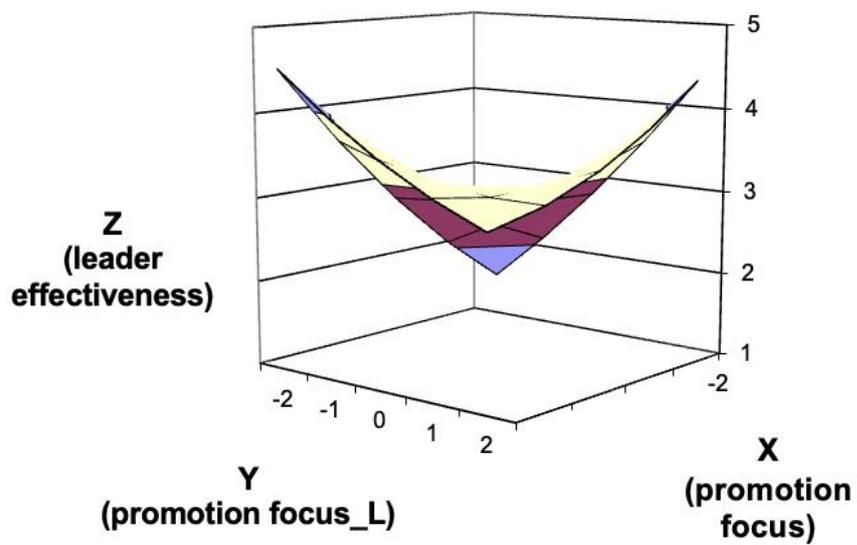
Figure 4. 11 Leader and follower prevention focus and job satisfaction
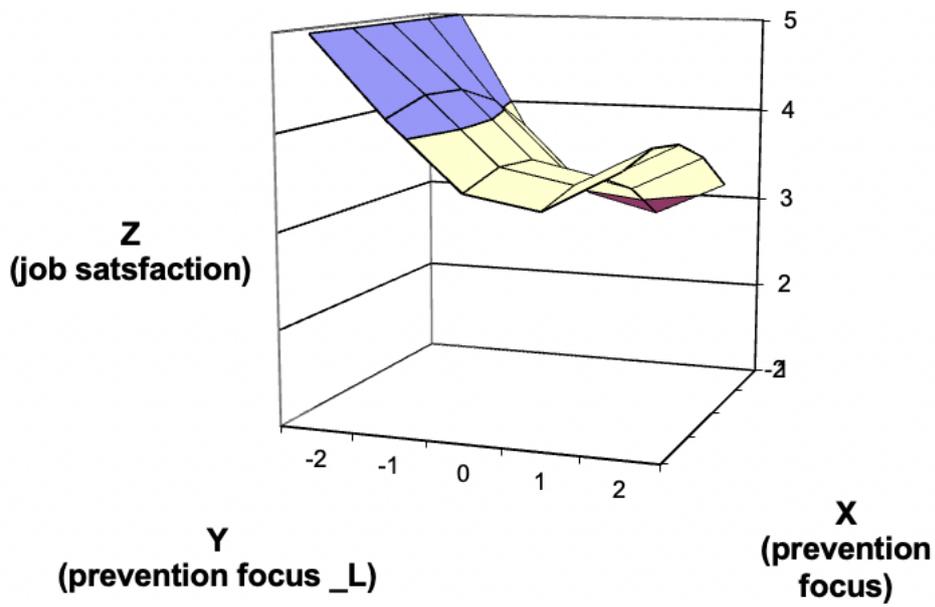
Figure 4. 12 Leader and follower prevention focus and leader effectiveness
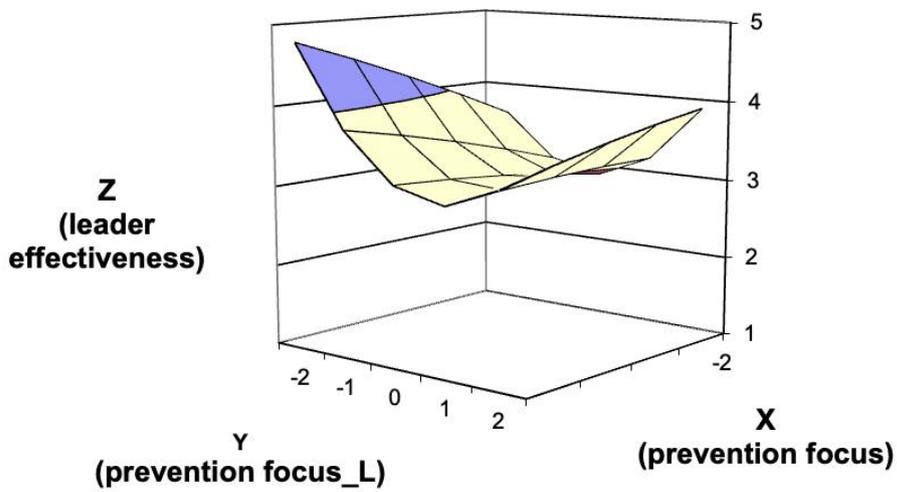
4.4. DISCUSSION

This paper examined leader-follower personality congruence and outcomes. Past research has focused on the individual level (Yammarino et al., 2005). However, given that leadership is essentially a relationship (Kouzes & Posner, 2003), its outcomes are determined by leaders, followers and their interaction, looking at one party alone will lead to an incomplete understanding of the role of traits in leadership. Exploring congruence effects allow us to gain a deeper understanding of the dyadic relationship compared with adopting an individual-level perspective.

I examined different aspects of LFC on personality. From the cognitive and interpersonal perspective, individuals' attachment styles and relational self were examined, capturing individuals' perceptions towards relationships and significant others. I used leader and follower congruence on the constructs to explain two types of relationship-relevant outcomes, LMG and loneliness. I found a beneficial effect of attachment avoidance LFC on follower-rated LMG; specifically, LMG increased when leader and follower attachment avoidance aligned, and LMG was higher when leader and follower attachment avoidance was matched at a low level compared with when they were matched at a high level. For follower loneliness, I found that when leader and follower dyads were matched at low levels of attachment anxiety and avoidance, follower loneliness was lower. This suggests that even though attachment avoidance is a representation of a dysfunctional trait that is generally considered to be detrimental to relationship building (Hazan & Shaver, 1994), LFC in

attachment avoidance is able to mitigate the detrimental effect. However, when they are matched at a high level, it is likely that both parties hide from building relationships in the first place and it is difficult to initiate functioning and meaningful relationships. When both parties are high on attachment avoidance or attachment anxiety, their relationship needs tend to be difficult to fulfil, avoidance leaders and followers tend to be pessimistic about close relationships whereas anxious leader-follower dyads hold excessive needs for attention. Thus, under both contexts, they are more likely to feel lonely compared with when both parties match at a lower level of attachment insecurity.

For relational self, the findings show that compared to higher levels of agreement, follower LMG and loneliness were both lower when LFC was at lower levels. The findings suggest that it is beneficial for leader-follower relationships when both parties place value on relationship building. However, the level of LFC on relational self and its relationship with loneliness was contrary to the initial expectation. It manifests a similar pattern with attachment anxiety, which suggests that followers show a tendency to experience more loneliness when LFC is at a high level of relational self rather than low level. I suspect the reason is that individuals who have a high relational self value close relationships to the extent that these relationships form an important part of the individuals' self-concept and self knowledge (Brewer & Gardner, 1996). To some extent, though they are more willing to devote time and energy to initiate and form close relationships; in return, they tend to have stronger needs for affiliation. In the leadership context, when followers' levels of relational self are high, they are likely to show a stronger tendency for dependence on leaders, and are more prone to feel lonely as their needs for close relationships quality and quantity are not easily met compared to those who value relationships less.

For the behaviour-based individual differences, political skill and regulatory focus, the results show that the effects on work-related outcomes are more complicated. I postulated

that the level of congruence between political skill LFC and job satisfaction were such that follower job satisfaction would be higher when leader and follower are matched at a high level of political skill rather than lower level; however, findings were contrary to the hypothesis. It seems that patterns on the individual-level persist in the dyadic context that a higher level political skill is related to lower job satisfaction (Kolodinsky, Hochwarter & Ferris, 2004). When a leader's political skill is too high, their intentions are difficult to be interpreted as sincere. They are also good at manipulating situations or others to serve self-interest (Ferris et al., 1999) thus it is more likely that followers would have lower job satisfaction. When it comes to follower-rated leader effectiveness as the outcome, results regarding level of congruence supported the hypothesis, suggesting that when leader and follower were aligned at a high level of political skill, followers perceived leaders as more effective. This is in line with the postulation that followers with high political skill possess more social astuteness and it is easier for them to identify and evaluate leaders' skills and approaches (Ahearn et al., 2004). When leaders are more politically skilful, they are more likely to perceive and recognize their competence and thus perceive them as effective.

For regulatory focus, in line with the hypotheses on the level of congruence, follower job satisfaction is higher when both parties are matched at a low level of prevention, similar effects are found for promotion focus. This suggests that compared with matching at a high-level of prevention focus, a low prevention focus dyad will have higher tolerance for making mistakes and dealing with risks. Leaders are not likely to be over-demanding in terms of being cautious and avoiding errors, thus followers are more likely to experience higher job satisfaction. Similarly, followers with a low promotion focus have lower expectancy regarding goal attainment, thus goals are easier to be fulfilled. Interacting with a leader who is similarly low on promotion focus, they will not perceive their job as demanding and effortful, thus leading to higher job satisfaction.

With regard to leader effectiveness as an outcome, prevention focus exhibited a similar pattern - followers rated leaders as more effective when they are aligned at a low level of prevention focus compared to LFC at a high level. This is not surprising as highly prevention-focused followers are encouraged by extrinsic motivators rather than intrinsic (Brockner and Higgins, 2001), suggesting they are more likely to be motivated by external factors such as leaders' demands or encouragement. However, when leaders are high on prevention focus, they are likely to put more effort into avoiding mistakes and keeping the status quo rather than actively pursuing goals. Thus, followers would not be motivated by the leader and perceive the leader as less effective compared with low-low dyads. However, the results for promotion focus demonstrated an opposite pattern. I suspect this is plausible as followers with a high promotion focus are motivated by intrinsic factors, such as their own ambition at work; a highly promotion-focused leader is more likely to be open to new ideas and encourage followers to be creative, presenting themselves as a competent and supportive leader compared with a low-low dyad where followers and leaders are both less motivated by pursuing goals.

I found a number of significant effects regarding configurations of congruence, that is leader and follower personalities at a high-high configuration compared with a low-low configuration. For example, we found leader and follower that matched at a high level of relational self related to a higher LMG compared with matching at a low level. However, I have not identified how the degree of discrepancy except for attachment avoidance in relation to LMG. I postulate that it is related to the sample. Given that the sample is based in the healthcare industry, where jobs are depicted by routines and safety procedures, it is possible that LFC in personality is not important compared with industries that characterized as less routinized and governed by less set best-practices.

This paper contributed to the leader-follower congruence literature in that I move beyond examining surface-level congruence (e.g., demographics) to explore deep-level personality congruence (Huang & Iun, 2006) and explore relevant outcomes in the work context. Moreover, among the personalities examined in this paper, I identified and categorised personalities that are more relevant to relationship building and maintenance, and those that are more work-based. In categorising and differentiating their relative effects on different outcomes, either relationship-related or work-related, this paper is able to piece together a more holistic picture of LFC on different types of personalities and the effects on outcomes.

The LFC congruence literature is mostly guided by similarity-attraction paradigm and person-environment fit theories (e.g., Marstand et al., 2017). I extended the conceptualization of LFC by complementing the similarity attraction paradigm with interdependence theory. In this paper, interdependence theory was adopted to explain the expectancy and need fulfilment of dyadic partners. In particular, how the dyadic partners' relationship-based personalities inherently affect their needs and how the interaction with the other party's personality fulfils the needs.

This paper also contributed to the personality literature in leadership by theorizing multiple personalities and multiple outcomes in the leadership context. I focusd on multiple follower outcomes, as leaders are more dominant in the relationship, the asymmetry in position indicates that followers are more prone to experience these outcomes. Methodologically, this paper used multi-wave data and accounted for the lagged effects thus addressed common method variance.

4.4.1. PRACTICAL IMPLICATIONS

The research findings inform managerial practice in several ways. On the relationship-relevant personality side, it is important for employees to gain a clear perception of their own personalities. For managers, it is beneficial to be aware of both their own and team members' personalities. Organizations could develop intervention schemes to help alleviate attachment avoidance and to train managers to have a better understanding of the needs of avoidantly attached followers. On the behaviour based personality side, the approaches that leaders adopt have significant implications for follower-rated leader effectiveness. It is thus important for organizations to offer training on social skills such as the use of political skills to help managers approach work issues and deal with workplace relationships strategically.

4.4.2. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Even though this paper considered multiple leader and follower personalities in this paper, I have explored them separately in relation to the outcomes. Further research is recommended to investigate multivariate models such as using structural equation modeling to build a more comprehensive model (Antonakis et al., 2012).

To avoid common method variance, I collected and measured lagged data in this research. However, it is still not sufficient to make causal inferences in this paper. Further research could explore long-term effects of LFC on work outcomes by designing and implementing longitudinal research. Experiment studies are also recommended to establish causal effects of LFC on outcomes.

Though the main focus of the outcomes were from the followers' perspectives in this paper as they are more prone to experience these outcomes in the relationship, I encourage future investigations on both leader and follower outcomes (Kim et al., 2020). I was not able to identify the effects on the incongruence line for some personalities (e.g. relational self), suggesting that the underlying process could be more complicated than I initially hypothesized.

Future research could examine the moderating and mediating mechanisms between the distal

factors of personality and outcome.

CHAPTER FIVE: OVERALL DISCUSSION

This doctoral research aimed to investigate the role of individual difference in the leadership process and in relation to work outcomes, with a particular focus on attachment theory which addresses the fundamental differences between individuals from a developmental perspective. This research also expands the personality research landscape to other important personality constructs, relational self, political skill, and regulatory focus, in relation to relational, perceptual, and behavioural work outcomes. The investigation of attachment theory in the workplace is relatively new and extant research yields inconsistent findings regarding attachment styles in relation to work outcomes (Yip et al., 2018). This doctoral thesis first addresses how employee attachment styles influence their perceptions of leader-member relationship quality and subsequently influence their levels of loneliness. To explore it further, leader-follower attachment interaction was examined in relation to these outcomes. Collectively, the three papers in this thesis explored attachment theory and other personality traits to interpret workplace relationships and outcomes, offering theoretical and empirical support to advance personality literature in leadership.

In this chapter, I bring the three papers together and elaborate on the overall findings as well as how this thesis contributes to the personality and leadership literature. First of all, I review the key findings from the three papers in this thesis. As the papers from previous chapters have detailed all the findings, I will only provide a brief overview. This is followed by a general discussion of the theoretical and practical implications of the studies. As previous chapters have described the specific implications of each of the studies, this section provides the overarching contributions linking the three papers. The next section discusses the limitations of this thesis and suggests future research directions. Finally, the last section presents the conclusion of this doctoral research.

5.1. A BRIEF OVERVIEW OF FINDINGS

In paper 1 (Chapter 2), I provided theoretical integration on extant theorization and empirical evidence on attachment system functioning, and proposed a theoretical framework that incorporated the regulatory mechanisms and attachment theory activation process, interpreting how attachment systems function in relation to work outcomes from cognitive, affective, interpersonal and behavioural perspectives, and how specific work contexts could activate individual's attachment system.

In paper 2 (Chapter 3), I built and tested a model of individual attachment style differences in relation to an important outcome, loneliness, and I also examined the role of leader-follower relationships as a mediating mechanism. Using cross-lagged data, I found evidence for attachment avoidance as a negative antecedent of leader-follower relationships operationalized as LMG, and I identified LMG as a mediating mechanism of attachment avoidance and employee feeling of loneliness.

Paper 3 (Chapter 4) extended the research on attachment styles to a broader range of personality traits. Moreover, the focus also extended from follower personality traits to leader and follower trait interaction to explore the congruence effects. Different aspects of personality traits were examined, covering the relational-level and task-level individual differences which are depicted by attachment styles, relational self, political skill, and regulatory focus respectively. These were explored in relation to relationship-focused follower outcomes (LMG and loneliness) and work-related outcomes (job satisfaction and leader effectiveness) respectively. Using polynomial regression and response surface methodology, the paper obtained limited evidence for the effects along the incongruence line. However, I was able to find some evidence regarding levels of congruence and outcomes; for example, follower LMG was found to be higher when leader follower congruence (LFC) on relational self was at a high-high configuration compared with a low-low configuration.

Similar patterns were detected for LFC on promotion focus in relation to follower perceived leader-effectiveness.

5.2. THEORETICAL IMPLICATIONS

In this section, I summarise the contributions to theory and research of this doctoral thesis from four aspects: personality in leadership research, attachment theory, employee outcomes (loneliness, LMG, job satisfaction and employee ratings of leader effectiveness) and LFC literature.

5.2.1. CONTRIBUTIONS TO WORK-BASED APPLICATIONS OF ATTACHMENT THEORY

The primary focus of this thesis is the use of attachment theory as a lens to study workplace relationship and employee outcomes. This thesis offers both theoretical advancement and empirical evidence and highlights the role of individual attachment style differences in the workplace. The significance of attachment research is being acknowledged in leadership and organizational research, and empirical evidence is accumulating (Fein et al., 2019; Yip et al., 2017; Harms, 2011). However, there are still deficiencies in terms of the scope of research and amount of empirical evidence in this area, which could be the reason for inconclusive results. Paper 1 contributed to this literature by addressing this issue and unpicking the attachment-based regulatory mechanisms. Drawing on extant theorization and evidence from the domain of cognition, relationships, emotions and behaviours, paper 1 provided an interpretation of how attachment systems function as regulatory devices. By doing so, I provide theoretical integration and advancement of how attachment system functions through these regulatory mechanisms and influences outcomes, and also highlight how attachment systems are primed in the workplace by identifying relevant contextual factors.

Paper 2 and paper 3 provided empirical evidence from two perspectives. Paper 2 addressed the follower-level attachment in workplace dynamics and paper 3 focused on the

leader-follower interaction perspective. Hypotheses were supported in relation to the negative effect of attachment avoidance on LMG, both in terms of follower-level and dyadic level. At the individual level, attachment avoidance was found to have detrimental effects on the building of LMG, which is consistent with previous research on LMX (e.g., Richards & Hackett, 2012). The dyadic level of research on attachment is more scarce in the literature (Fein et al., 2019). To my knowledge, this doctoral research is the first to employ a leader-follower congruence perspective to study attachment congruence and work outcomes. The dyadic level evidence supported the congruence effect of leader-follower attachment avoidance on LMG, that is, the more similar leader-follower dyads are in terms of their degree of avoidance, the better LMG they will have.

The empirical evidence from paper 2 also demonstrated the different functioning of attachment anxiety and avoidance. Attachment avoidance exerted a significant impact on loneliness and LMG whereas attachment anxiety is more ambiguous. This is consistent with previous investigations and reviews which suggested that the priming of attachment anxiety is perhaps more nuanced and complicated (Fein et al., 2019).

This thesis also answered the call in a recent review by Tuncdogan et al. (2017) to investigate the developmental perspective of individual differences in relation to leadership outcomes. They highlight family background such as parenting styles as an important antecedent that contributes to leadership behaviours and requires further investigation. This is very similar to what attachment theory entails as the fundamental premise of attachment theory is to do with how individuals are shaped by early relationship experiences (Bowlby, 1969). Thus, addressing this issue reinforces the significance of attachment research in leadership.

5.2.2. CONTRIBUTIONS TO PERSONALITY IN LEADERSHIP RESEARCH

This thesis contributes to the revival of personality research in leadership. The development of this area has experienced many twists and turns (Zaccaro, 2007). The early research faced criticisms as a result of inconclusive research findings and the inability to address contextual factors (Zaccaro, 2007) and thus went through a period of stagnation. Later, with the development of the process model by Antonakis et al (2012) and various empirical evidence suggesting the unique explanatory power of personality, it is experiencing a "cusp of renaissance". This research joined such exploration and contributed in several ways.

First, the personality literature in leadership is fragmented and not comprehensive enough (Tuncdogan et al., 2017). It is dominated by a few personality traits such as the Big Five (Day & Schleicher, 2006) and proactive personality (Parker, 1998; Parker, Williams, & Turner, 2006). However, personality traits such as individual attachment styles that are also reliable predictors of work outcomes and could yield significant findings, thus worthwhile of attention (Joel et al., 2020). This thesis thus contributed to a more holistic picture of personality research in leadership by investigating those under-explored personality traits.

It is also worth noting that the model developed in paper 1 is by no means limited to individual attachment orientations. The regulating mechanisms are also relevant to other personality traits investigated in this thesis, including relational self, regulatory focus and political skill. For example, the regulatory process of relational self is to do with how individuals perceive relationships and significant others. Significant others are so important to individuals that they store memories about significant others which form a repertoire of knowledge base. Individuals' interpersonal patterns stem from this repertoire of knowledge and influences how they perceive others in life (Anderson & Chen, 2002). In the work context, this regulatory process will influence individuals' perceptions towards workplace relationship and eventually influence work outcomes. Similarly, towards a tactical level, the

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regulatory process of promotion and prevention focus is related to individuals' perceptions towards risk and attainment (Crowe & Higgins, 1997). Individuals achieve goals through behaviour regulation, either actively achieve more goals or work toward mismatching of goals. Also, this general tendency is dependent on specific situations. When individuals perceive a situation as demanding, they will regulate their perceptions towards the situation and this could activate their specific regulatory foci, and could adopt more radical approaches. Another personality trait adopt in this thesis is another strategic relevant concept, political skill, which involves a regulation process of emotions and interpersonal approaches. Specifically, individuals could assess the scenario and deciding on the use of social influencing tactics to achieve certain goals. They are able to illustrate apparent sincerity through emotion regulation, and social astuteness through cognition regulation (Ferris et al., 2005).

These personality traits that adopted in this thesis are reflections of how past experiences shape individuals' cognition, emotion and behaviors. Investigating these different traits under work context allows a deeper understanding of how personality and individuals' social relationships influence different work outcomes and also give the opportunity to identify the activating processes that allow these personality to work under different circumstances.

Second, given that leadership is an interpersonal process and its outcomes are determined by leaders, followers and their interaction, looking at traits of either the leader or the follower will lead to an incomplete understanding of the role of traits in leadership. Thus, I addressed this shortcoming of past traits studies by looking at both leader and follower traits and capturing their shared effect by taking a congruence approach. Moreover, I examined different aspects of individual difference, covering relational and task perspectives and demonstrated that LFC on different traits matters for different outcomes.

In paper 3 of this doctoral thesis, I adopted the polynomial regression approach to studying congruence and looked at both linear and non-linear effects between personality and work outcomes. Past research has identified both linear and non-linear relationships between employee personality and work outcomes (e.g. Barry & Stewart, 1997). Various researchers have suggested that there could be non-linear relationships between employee personality and work outcomes other than simple, linear relationships (e.g. Petrou et al., 2020; Blickle et al., 2015; Robertson, 1994) and called for further research to address this issue. For example, previous research found evidence supporting the non-linearity between employee political skill and job satisfaction (Kolodinsky, Hochwarter, & Ferris, 2004). However, the findings of this doctoral research did not yield conclusive results regarding non-linear relationships between leader-follower personality and work outcomes. For example, I was able to identify the non-linear relationship (a congruence effect) between LFC on attachment avoidance and LMG, but in terms of other personality traits such as relational self, I did not find curvilinear relationships. Thus, it is still too early to jump to the conclusion of either linear or non-linear relationships between personality traits and work outcomes, these should be carefully guided by theory, and moderators or mediating mechanisms should be explored to unpack the process.

5.2.3. LINKING PERSONALITY TO EMPLOYEE OUTCOMES

Paper 2 aimed to build a processes model of attachment styles in relation to LMG as the mediating mechanism and loneliness as the outcome, and paper 3 aimed to investigate different types of important work outcomes, from relationship outcomes to behavioural outcomes. I detail how this research contributed to the various work outcomes, which includes loneliness, leader effectiveness, job satisfaction and leader-follower relationship literature as addressed in this research.

First, in relation to loneliness literature, extant research in OB focuses mostly on the detrimental effects of loneliness, such as low employee performance (Ozcelik & Barsade, 2018). However, it is equally important to understand first what contributes to employee loneliness (Ong, 2021). From this perspective, paper 2 has demonstrated that follower attachment styles and leader-follower relationships functioned as important antecedents of employee loneliness. Extending on this, paper 3 looked at leaders' personalities as contextual factors and investigated the effect of LFC on relationship-oriented personality on follower loneliness. Paper 3 found that LFC on relationship-oriented personalities (attachment styles and relational self) influences employee loneliness. This is, to my knowledge, the first research that investigated the relationship between personality LFC and loneliness. It provided evidence for the influential role of workplace relationship quality and demonstrated that relational-based personalities are important influencers of loneliness.

Second, in relation to leader effectiveness literature, paper 3 investigated strategic-related personality in relation to follower-perceived leader effectiveness. Researchers have been interested in finding out factors that make a leader effective for over a century, and previous research has already established a link between personalities and effective leadership (Lord, De Vader, & Alliger, 1986; Judge, Colbert, & Ilies, 2004). Paper 3 added an under-explored twist to this investigation and investigated how both follower and leader traits influence leader behaviours. A large volume of literature focuses on exploring the effects of leader traits, especially in early research (Carlyle, 1907; Craig & Charters, 1925). However, as suggested by Matthews, Kelemen & Bolino (2021), follower traits could also significantly influence their perceptions of leader behaviours. Thus, combining both leader and follower traits to view the outcomes this research was able to provide a more holistic picture of viewing the effectiveness of a leader.

Third, in relation to job satisfaction literature, this thesis provided evidence for the relationship of LFC on the task-level, which are strategic-related and motivation-related personality traits (political skill and regulatory focus) and follower job satisfaction. The dispositional approach of studying job attitudes such as job satisfaction demonstrates that individuals' stable traits relate to job satisfaction, but later investigations pointed out that this approach has not considered situational factors thus could be problematic (Judge et al., 2017). As Person-Environment fit theory suggests, the match between employee characteristics and work environment could yield positive work outcomes (Kristof, 1996; Kristof-Brown, Zimmerman, & Johnson, 2005). This thesis thus addressed this issue by complementing the dispositional approach and use leader traits as the situational factor.

Finally, the leader-follower relationship literature is proliferating since the development of the LMX construct (Danserau, Graen, & Haga, 1975; Graen & Uhl-Bien, 1995). Decades of research have covered various topics relating cognitive, affective and behavioural factors to LMX (e.g. Riggs & Porter, 2017; Martin et al., 2016; Fisk & Friesen, 2012). However, recent investigations of attachment styles in relation to leader-member relationships have yielded inconsistent results (Fein et al., 2019). In this research, the leader-follower relationship was explored from two aspects, one is in relation to follower attachment styles, the other is in relation to LFC. Results of attachment avoidance have been consistent with the majority of extant research (Fein et al., 2019), highlighting its detrimental effects. Also, Leader-follower relationship was identified as a mediating mechanism of employee attachment styles and follower loneliness. This suggests that building and maintaining a good relationship with leaders is beneficial for followers' emotional well-being.

5.2.4. LEADER-FOLLOWER CONGRUENCE

This thesis contributed to the person-environment (PE) fit literature by providing empirical evidence on person-supervisor (PS) fit, which is the most under-explored among the different forms of fit explorations (Kristof-Brown et al., 2005). The research is also driven by a supplementary fit perspective, which is in line with the similarity attraction paradigm (Muchinsky & Monahan, 1987; Cable & Edwards, 2004), and explored the relationship between LFC on different personality traits and respective follower outcomes. Leader-follower congruence literature resides at the dyadic level of leadership research. Among the four levels of leadership research (individual level, dyadic level, team level, and organizational level) (Dansereau et al., 1984), the dyadic level is the most under-explored area and deserves more attention (Yammarino & Gooty, 2017). Similar calls were posed by Tuncdogan et al. (2017) highlighting the need to investigate the match between leader and follower traits when exploring follower effects.

Previous research explored different forms of fit, such as person-organization fit (PO fit) and person-job fit (PJ fit) in relation to work outcomes (e.g., Gabriel et al., 2014). However, the fit was mostly measured by perceptual forms by asking employee perceptions of fit rather than using objective measures. This research aimed to measure objective fit by asking participants to rate personalities rather than asking their perceptions of personality fit with leader/follower, thus I was able to obtain ratings from different sources. Objective fit is equally important as subjective fit, as it tends to depict a naturally occurring environment that is independent of people's perceptions (Kristof-Brown et al., 2005).

Evidence in paper 3 mostly supported the level of congruence in terms of LFC on personalities. However, congruence effects were mostly unidentified. For example, findings reported in paper 3 indicate that leader and follower personality have significant effects on outcomes, irrespective of the discrepancies. Having a high level of relational self was associated with higher follower-reported LMG for both leader's and follower's personality,

but the degree of their mismatch on the personality did not explain any additional variance in the outcome. Also, although the results in this thesis suggested the congruence effect to be insignificant, there are studies that found significant effects, for example, Öztürk & Emirza (2021) found a significant role of LFC on political skills on follower job satisfaction. I postulate that this inconsistency could be a result of sample differences. This thesis was based on samples collected from the healthcare industry where the nature of the job is strictly driven by rules, whereas it could be that in specific industries where work is less routinized and governed by set best-practices, it matters more whether there is good fit between leader and follower traits.

5.3. PRACTICAL IMPLICATIONS

This doctoral research aims to bring theoretical contributions but also hopes to yield valuable insights for practitioners and organizations, and to shed light upon organizational and managerial practice.

First, as this doctoral thesis demonstrated, personality matters to employee outcomes. It not only influences employees' motivation and ability to construct workplace relationships but also contributes to the emotional well-being of employees. The primary focus of this thesis, attachment theory, highlights the importance of maintaining workplace relationships from a developmental perspective. As paper 1 and paper 2 demonstrated theoretically and empirically, individuals' attachment systems could influence their perceptions towards relationships in the workplace. Dysfunctional attachment systems such as attachment avoidance could potentially hinder the development of healthy workplace relationships, leading to negative outcomes. Managers and employees alike should be aware of their own personalities such as their attachment orientations. Self-awareness could be helpful for them to pay attention to how they regulate their cognition, emotion, and behaviour. Organizations could design attachment-informed training and intervention

schemes. Also, this research highlights employee individual differences, organizations should acknowledge and embrace different types of personality traits rather than merely recruiting homogenous groups with similar characteristics.

Second, this research underlines the importance of workplace relationships, especially leader and follower relationships. It exerts impact on employee wellbeing, specifically, their feelings of loneliness. Interventions could be provided by organizations to those who experience difficulties in constructing workplace relationships, and leaders should be aware of employee personalities, which could enable them to better understand employee perspectives.

Furthermore, during the pre-entry process, potential employees' personalities should not be the only factor to consider. As the findings suggest, LFC on personalities is equally influential to work outcomes. For potential employees to fit in, it is important for both parties to have a preliminary understanding of each other. A suboptimal match could have negative impact on work dynamic. For example, if a follower is anxiously attached and the potential leader is avoidantly attached, it will be difficult for the leader-follower dyad to maintain a good relationship. Thus, managers or organizations should consider the match between the candidates and their future leaders. During pre-entry stage, organizations could consider using scenario-based questions to assess whether a potential candidate could fit in well with the team.

Under the post-entry condition, managers should pay attention to employee well-being by initiating positive interactions and maintaining a functional relationship with employees. This could involve both workplace interactions and activities outside the workplace, which could potentially reduce employee loneliness. Employees hold expectations of their leaders to be a secure base and safe haven (Bowlby, 1988). Organisations should provide training in relationship development and opportunities for

relationship development in a way that encourages people to become securely attached with their managers and feel like they are being consistently and actively valued and looked after by their employer. Thus, managers could be trained on skills related to social sensitivity and responsiveness, such as the skills to detect loneliness, effectively notice and be attentive to employee needs, and to improve effective communication skills. Organizations could design their leader development programme or incorporating these skills training into their existing programmes (Riggo & Lee, 2007), and promote psychological safety for people to be open in discussing their relational expectations and preferences in the workplace. That way managers and their staff can have a clearer view of the relational needs of the people around them and how they can help satisfy those needs.

Organizations could also benefit from conducting intervention schemes. According to the research by Bakermans-Kranenburg & van IJzendoorn (2009), in a 10,000 American adult sample, more than 40% of people demonstrated either attachment avoidance, attachment anxiety, or were even severely traumatised by close relationships, suggesting the prevalence of attachment insecurities. Presumably, attachment insecurities are not rare in the workplace either. As suggested by previous research in clinical psychology, psychotherapy could contribute to individuals' attachment style modification (Levy et al., 2011). Organizations could even offer psychotherapeutic services to employees and those who are disturbed by attachment insecurities could benefit from such services.

5.4. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Specific limitations have been discussed in respective chapters, here I highlight and discuss the limitations across three papers that could be addressed in future research.

First, the two empirical papers in this thesis were survey research, and self-report measures were used for most constructs. As reviewed by Hiller, DeChurch, Murase, and Doty

(2011), this is common practice for trait measurements in leadership research. However, in a study of personality traits and leadership by Colbert, Judge, Choi, and Wang (2012), evidence was obtained that compared with self-ratings, more variance could be explained by combining observer and self-ratings. Self-reports could bring potential common-method bias and be susceptible to self-deception bias (Tuncdogan et al., 2017; Colbert et al., 2012). Though this research made an effort to alleviate these biases by separating predictors from mediators and outcomes and using cross-lagged data, the possibility of such biases cannot be completely ruled out.

The second limitation is related to causality. Two empirical papers in this thesis were both field studies. Unlike lab experiments, definitive causal conclusions are not able to draw from the research. Also, this research did not tap into the field of bi-directional relationships, and it is plausible to assume the reverse direction of relationships examined in Paper Two. More specifically, evidence was obtained for the relationship between LMG and loneliness, suggesting a low-quality workplace relationship could lead to a feeling of loneliness. However, it is also plausible to assume that a feeling of loneliness impedes an individual's ability to build and maintain a high-quality relationship with one's leader (Chen, Wen, Peng, & Liu, 2016). Thus future research is encouraged to investigate the reverse direction of this relationship.

The third limitation is regarding levels of research. The focus of this thesis is on the individual and dyadic levels. On the individual level, follower personality traits were examined in relation to workplace relationships and follower loneliness. On the dyadic level, leader-follower congruence, i.e. follower-leader personality interactions, were examined in relation to their respective outcomes. This was examined using a dependent dyad approach for LFC, which is the situation of a leader with multiple followers (see review by Kim et al., 2020). However, a broader level of investigations was not the focus of this research, such as

dynamics at the group and organizational levels. Future research could look at how leader and follower personalities affect group processes and organizational outcomes such as team performance and financial performance of an organization (Tuncdogan et al., 2017).

5.5. AVENUES FOR FUTURE RESEARCH

Apart from the limitations addressed in previous sections which pointed out potential areas worth further research, this thesis also aims to encourage future research to build upon its findings and advance the literature in leadership in several ways:

5.5.1. FURTHER EXPLORATION ON THE ROLE OF PERSONALITY

All personality constructs were primarily used as antecedents in this thesis, and their direct outcomes were examined, for example, follower attachment styles in relation to LMG. In paper 3, I extended the research on individual-level personality and examined LFC in personalities where leader personality was essentially used as a contextual factor. There has been some evidence of using personality as moderators in organizational research. For example, Ilies and Judge (2002) examined personalities as moderators of the relationship between employee mood and job satisfaction. However, the moderating role of attachment styles is rarely examined (see review by Yip et al., 2018). For example, it would be worth exploring how followers' attachment insecurities affect the degree of association between leader behaviours or leadership styles and work outcomes. Future research is also encouraged to explore the moderating effects of LFC in personalities on the relationship between perceptual, emotional, or behavioural antecedents and work outcomes.

5.5.2. REGULATORY MECHANISMS AND TRAIT ACTIVATION

Though I proposed a theoretical model that depicts how attachment systems work as regulatory devices and used trait activation theory to specify the situations that might activate attachment styles, I have not empirically tested these theoretical assumptions. The aim was to construct a holistic model for the use of attachment theory in leadership and organisational research. Future research could explore empirically those factors.

In the most recent review on attachment theory and LMX (Fein et al., 2019), it is suggested that the inconsistency of research findings regarding the relationship between attachment insecurities and LMX could be a result of lacking explorations on moderating or mediating processes. Similarly, the attachment-based model proposed in paper 1 incorporated the mechanisms, and the activation of attachment styles. Specifically, future research could empirically test the mediating mechanisms and potential moderators that contribute to the activation of attachment systems to understand how attachment systems work through regulatory individuals' cognitions, emotions, relationships and behaviours. For example, longitudinal research could be conducted to test the mediating mechanisms and also the activation processes. In terms of the moderating process, on the task level, it would be interesting to examine how the nature of tasks moderates the relationship between attachment styles and work outcomes through lab experiments.

Also, in light of our limitations of not being able to make definitive causative inferences, future research could conduct lab or field experiments to see what factors contribute to the priming of attachment styles.

5.5.3. PERSONALITY CHANGE

In this research, I consider individual personality traits as a stable factor that persists through time. This is common practice in organizational research, and it is unlikely that personalities would change within a short period of time. However, personality research in

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general psychology has obtained some evidence suggesting the possibility for personality modifications over long periods of time (e.g., Fraley, 2019). For example, for attachment styles, it is suggested that long-time exposure to stressful conditions or environments, or experiencing trauma in life could be a cause of individuals' modification towards attachment insecurities (Simpson, Rholes, Campbell, & Wilson, 2003; Arriaga et al., 2018). Another example would be when individuals receive effective psychotherapy, or experience high-quality relationships, their attachment securities could be enhanced (Carnelley & Rowe, 2007). Even though researchers have yet reached a consensus regarding personality change, further research is encouraged to used longitudinal samples or archival data to test whether there are changes to individual personality traits and how do the changes affect work outcomes over time. For example, further research could collect employee data from the pre-entry period, and track longitudinally employee personalities in relation to outcomes from pre-entry to post-entry.

5.5.4. LEVELS OF RESEARCH

This doctoral research focused on the individual and dyadic levels. Paper 2 examined follower-level antecedents in relation to work outcomes, and paper 3 focused on the dyadic level, examined LFC on personality in relation to outcomes. Future research should extend the levels of research and look at team processes and outcomes (Tuncdogan et al., 2017). Extant research demonstrates that leader traits (extraversion, agreeableness, and conscientiousness) positively influence team performance (Hu & Judge, 2017). However, for attachment styles, there are no sufficient investigations. Thus, it is worth investigating how leader traits influence team-level work outcomes such as team performance.

Future research could also look at team personality in relation to work outcomes. Some research detected linear effects; for example, attachment style heterogeneity in teams was shown to positively influence team functioning (Lavy et al., 2015). There are also curve-

linear relationships detected; for example, a curvilinear relationship was found between team-level proactive personality and team performance (Zhang, Li & Gong, 2021). Thus, future research could gain a deeper understanding of team dynamics by investigating further whether there are curvilinear relationships exist between team personality and team outcomes.

5.5.5. ROLE OF RELATIONSHIPS

This research found that relationships developed in the workplace exert an impact on follower loneliness. Future research could look at how relationships leaders and followers build outside of work influence loneliness. For example, it is worth examining how leader and follower's relationships with significant others (e.g. their spouse, family, or friends) influence their level of loneliness in the workplace (Wright & Silard, 2020). The interdependence of work and family is acknowledged by extant literature (Clark, 2000), so there could be a possible spillover effect of employee general relationships and workplace loneliness. It is reasonable to speculate that when employees have sufficient high-quality relationships with family, romantic partners, and friends, they would feel less lonely even though they do not have sufficient workplace relationships.

5.6. CONCLUSIONS

The starting point of my doctoral research is the study of attachment theory in leadership and organizational research. I start off by offering a theoretical integration of the attachment literature by drawing on past reviews and extant theorising in the domains of cognitions, relationships, emotions and behaviours. This enabled me to propose a theoretical framework incorporating the mediating mechanisms of attachment and work outcomes relationship and pointing out factors in workplace that could activate the attachment systems.

The first paper was followed by an empirical investigation looking at how follower attachment styles exert an impact on follower loneliness, and how followers' relationships with their leaders mediate this relationship, highlighting the significance of workplace relationships. Finally, to extend personality research in leadership, I tapped into person-supervisor fit literature to explore leader-follower congruence on a list of personality variables and respective outcomes. By including relationship-based and task-based personalities in relation to affect-based and performance-based work outcomes, the paper supported the significance of level of congruence in leader-follower personality research.

To conclude, this doctoral research advanced the theorization of attachment research in leadership and organizations, drew attention to under-explored employee outcomes such as loneliness, and contributed to PS fit research, in the hope of encouraging and opening up avenues for further research in these areas and drawing managerial attention to the importance of employee and manager personality, relationships and emotional wellbeing.

CHAPTER 6. REFERENCES

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CHAPTER 7. APPENDICES

APPENDIX A. INFORMATION SHEET AND CONSENT FORM

Dear Sir/ Madam,

I am a PhD student from the University of Sheffield currently conducting a research project on how individuals' personality traits influence workplace relationships with colleagues, job satisfaction and leader effectiveness, as well as how these change over time. I would like to invite you to take part in a survey as part of this research. **Please be assured that your participation in this research is completely voluntary. It is up to you to decide whether or not to take part, and you have the right to withdraw at any time.**

If you agree to participate, this will entail:

1. Completing three questionnaires in total, with one questionnaire per month from April to June. Each should take no more than 20 minutes to complete. You have the right to skip any section or withdraw if you feel uncomfortable in completing the questionnaires.
2. Allow the use of the data collected from your questionnaire for further analysis and publication of results in academic and practitioner journals.

Data will be kept strictly confidential under the guidelines of Data Protection Act and the University of Sheffield. **No single individual will be identified.** You will only be asked to generate a code which can only be identified by you (the initials of your mother and the fourth, sixth, and last digit of your mobile number). This is because the researcher aims to keep all the responses anonymous while still needing to match your responses over the three questionnaires (making sure the three sets of responses are from the same person). After the three questionnaires are collected, all data will be sanitised by allocating a unique code to remove the code you have chosen. Only the researcher will have access to data with your self-generated identification code.

The findings from the research will be reported using anonymized and summarized data in my academic thesis and publications. Should you withdraw your informed consent to participate in this study, please send an email to qren1@sheffield.ac.uk and your data will be deleted from the database immediately.

If you require any further information, or would like to ask any questions or raise any concerns, please contact the researcher Ren Queyu (qren1@sheffield.ac.uk), or her supervisors, Dr. Anna Topakas (a.topakas@sheffield.ac.uk), Dr. Malcolm Patterson (m.patterson@sheffield.ac.uk). Thank you in advance for considering taking part in the research.

Kind Regards,
Ren Queyu

If you have read and understand the information sheet and agree to participate, please tick the box below:

By completing the questionnaire, I have consented to take part in the study and to allow my anonymized responses to be used for academic research.

Attachment style

	Questions
1	I prefer not to show others how I feel deep down.
2	I worry about being rejected or abandoned.
3	I am very comfortable being close to other people.
4	I worry a lot about my relationships.
5	Just when someone starts to get close to me I find myself pulling away.
6	I worry that others won't care about me as much as I care about them.
7	I get comfortable when someone wants to be very close to me.
8	I worry a fair amount about losing others.
9	I don't feel comfortable opening up to others.
10	I often wish that other people's feelings for me were as strong as my feelings for him/her.
11	I want to get close to others, but I keep pulling back.
12	I often want to get very close to others, and this sometimes scares them away.
13	I am nervous when another person gets too close to me.
14	I worry about being alone.
15	I feel comfortable sharing my private thoughts and feelings with others.
16	My desire to be very close sometimes scares people away.
17	I try to avoid getting too close to others.
18	I need a lot of reassurance that others care about me.
19	I find it relatively easy to get close to others.
20	Sometimes I feel that I try to force others to show more feeling, more commitment to our relationship than they otherwise would.
21	I find it difficult to allow myself to depend on others.
22	I do not often worry about being abandoned.
23	I prefer not to be too close to others.
24	If I can't get other people to show interest in me, I get upset or angry.
25	I tell my close relationship partners just about everything.
26	I find that others don't want to get as close as I would like.
27	I usually discuss my problems and concerns with others.
28	When I don't have close others around, I feel somewhat anxious and insecure.
29	I feel comfortable depending on others.
30	I get frustrated when others are not available when I need them.
31	I don't mind asking others for comfort, advice or help.
32	I get frustrated if relationship partners are not available when I need them.
33	It helps to turn to others in times of need.
34	When other people disapprove of me, I feel really bad about myself.
35	I turn to relationship partners for many things, including comfort and reassurance.
36	I resent it when my relationship partners spend time away from me.

Relational Self-Construal

	Questions
1	My close relationships are an important reflection of who I am.
2	When I feel very close to someone, it often feels to me like that person is an important part of who I am.
3	I usually feel a strong sense of pride when someone close to me has an important accomplishment.
4	I think one of the most important parts of who I am can be captured by looking at my close friends and understanding who they are.
5	When I think of myself, I often think of my close friends or family also.
6	If a person hurts someone close to me, I feel personally hurt as well.
7	In general, my close relationships are an important part of my self-image.
8	Overall, my close relationships have very little to do with how I feel about myself.
9	My close relationships are unimportant to my sense of what kind of person I am.
10	My sense of pride comes from knowing who I have as close friends.
11	When I establish a close friendship with someone, I usually develop a strong sense of identification with that person.

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1.	I feel I know where I stand with my team leader…I know how satisfied my team leader is with me.
2.	I feel that my team leader understands my problems and needs.
3.	My team leader recognizes my potential.
4.	Regardless of how much formal authority he/she has built in his/her position, my team leader would use his/her power to help to solve problems in my work.
5.	Regardless of how much formal authority my team leader has, he/she would "bail me out," at his/her expense.
6.	I have enough confidence in my team leader that I would defend and justify his/her decision if he/she were not present to do so.
7.	I would characterize my working relationship with my team leader as very good.

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1. During holidays or after office hours, I would call my supervisor or visit him/her.
2. My supervisor invites me to his/her home for lunch or dinner.
3. On special occasions such as my supervisor's birthday, I would definitely visit my supervisor and send him/her gifts.
4. I always actively share with my supervisor about my thoughts, problems, needs and feelings.
5. I care about and have a good understanding of my supervisor's family and work conditions.

6. When there are conflicting opinions, I will definitely stand on my supervisor's side.

Political skill

1. I spend a lot of time and effort at work networking with others.
2. At work, I know a lot of important people and am well connected.
3. I am good at using my connections and networks to make things happen at work.
4. I have developed a large network of colleagues and associates at work who I can call on for support when I really need to get things done.
5. I spend a lot of time at work developing connections with others.
6. I am good at building relationships with influential people at work.
7. It is important that people believe I am sincere in what I say and do.
8. When communicating with others, I try to be genuine in what I say and do.
9. I try to show a genuine interest in other people.
10. I always seem to instinctively know the right thing to say or do to influence others.
11. I have good intuition or savvy about how to present myself to others.
12. I am particularly good at sensing the motivations and hidden agendas of others.
13. I pay close attention to people's facial expressions.
14. I understand people very well.
15. It is easy for me to develop good rapport with most people.
16. I am able to make most people feel comfortable and at ease around me.
17. I am able to communicate easily and effectively with others.
18. I am good at getting people to like me.

Regulatory focus

Questions
1. In general, I am focused on preventing negative evets in my life.
2. I am anxious that I will fall short of my responsibilities and obligations.
3. I frequently imagine how I will achieve my hopes and aspirations.
4. I often think about the person I am afraid I might become in the future.
5. I often think about the person I would ideally like to be in the future.
6. I typically focus on the success I hope to achieve in the future.
7. I often worry that I will fail to accomplish my academic goals.
8. I often think about how I will achieve academic success.
9. I often imagine myself experiencing bad things that I fear might happen to me.
10. I frequently think about how I can prevent failures in my life.
11. I am more oriented toward preventing losses than I am toward achieving gains.
12. My major goal in school right now is to achieve my academic ambitions.
13. My major goal in school right now is to avoid becoming an academic failure.
14. I see myself as someone who is primarily striving to reach my "ideal self"—to fulfill my hopes, wishes,and aspirations.
15. I see myself as someone who is primarily striving to become the self I "ought" to be—fulfill my duties,responsibilities, and obligations.
16. In general, I am focused on achieving positive outcomes in my life.
17. I often imagine myself experiencing good things that I hope will happen to me.
18. Overall, I am more oriented toward achieving success than preventing failure.

Loneliness

Questions
I lack companionship
there is no one I can turn to
I am an outgoing person
I feel left out
I feel isolated from others
I can find companionship when I want it
I am unhappy being so withdrawn
people are around me but not with me

Leader effectiveness

	Questions
1	Overall, to what extent is the manager performing his/her job the way you would like it to be performed?
2	To what extent has he/she met your own expectations in his/her managerial roles and responsibilities?
3	If you had your way, to what extent would you change the manner in which he/she is doing the job?

Job satisfaction

	Questions
1	All in all I am satisfied with my job.
2	In general, I don't like my job.
3	In general, I like working here.