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TRANSFORMATIONAL LEADERSHIP AND FOLLOWER
RISK-TAKING: EXAMINING THE EFFECTS OF
PSYCHOLOGICAL SAFETY AND POWER DISTANCE
ORIENTATION

JOSEPHINE KANG POH TIN

SINGAPORE MANAGEMENT UNIVERSITY

2019

Transformational leadership and follower risk-taking:
Examining the effects of psychological safety and power distance
orientation

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Submitted to School of Business in partial fulfilment of the requirements
for the degree of Doctor of Philosophy in Business (General
Management)

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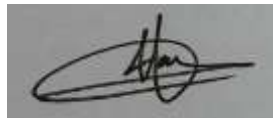
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2019

I hereby declare that this PhD dissertation is my original work
and it has been written by me in its entirety.
I have duly acknowledged all the sources of information
which have been used in this dissertation.

This PhD dissertation has also not been submitted for any degree
in any university previously.



Josephine Kang Poh Tin

30 November 2019

Abstract

Risk-taking is a necessary part of business, yet little is known about how leaders might impact follower risk-taking. A theoretical model is developed in which transformational leaders are hypothesised to indirectly affect follower risk-taking through follower psychological safety. Additionally, this partially mediated effect is theorised to be moderated by follower power distance orientation. Data were collected over two time periods from followers (N = 331) to test the hypothesised model. Results provided limited support for the hypothesised model. Specifically, results indicated that transformational leadership positively affected psychological safety, but psychological safety did not predict follower risk-taking. Power distance orientation did not moderate either stage of the hypothesised partially mediated model although power distance orientation did directly and negatively predict follower risk-taking. Contrary to expectations, transformational leadership was negatively related to follower risk-taking.

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Introduction

Businesses operate in a world fraught with economic volatility and uncertainty. A recent survey reported that two-thirds of CEOs (66%) see more threats facing their businesses than they did three years ago (Gray, 2016). Some argue that the world is experiencing its 'fourth industrial revolution' characterized by a fusion of advanced technologies that is blurring the lines between the physical, digital, and biological spheres (World Economic Forum, 2016). As a result, businesses need to continuously experiment, take risks, and reinvent themselves to cope with these challenges (Dickson, 1992; Kraatz, 1998; Kundra, 2016; Tan, 2001; Wiederkehr, 2015). Whilst individuals, organisations, and societies differ on their appetites for risk, risk is deemed necessary for business sustainability and should be actively pursued by organisations because of its potentially high returns (Wiseman & Gomez-Mejia, 1998).

Research has shown that leadership can have a significant influence on risk-taking behaviour (Byrnes, Miller & Schafer, 2012; Chen & Lee, 2007; Wehman, Goldstein and Williams, 2013; Yukl, 2010). However, risk-taking by individual decision-makers is extremely complex and fraught with uncertainty (Baird & Thomas, 1985). The challenge to keep ahead of competitors is likely exacerbated in South East Asia where risk-taking is not a cultural norm and where leaders may be less likely to make or support risky decisions in their organisations (Hartog, House, Hanges, Ruiz-Quintanilla, & Dorfman, 1999). Many have argued that leadership aversion to risk-taking is potentially the biggest challenge to Singapore's economic future (Mahbubani, 2015; Ray, 1994). As such, understanding the effects that leaders may have on follower risk-taking is important because such risk-taking may affect individual,

organisational, and national effectiveness. One leadership style that may encourage follower risk-taking is transformational leadership.

Transformational leadership is defined as the ability to inspire followers to perform beyond previous limits by transforming their attitudes, behaviours, and capabilities (Bass, 1985). Transformational leadership is considered central to the process of change (Bass & Riggio, 2006) and the ideal type of leadership that can transform the existing state of affairs in any given organisation to improve it and make it more innovative (Bass, 1985). It is a leadership style well-suited to lead businesses in today's challenging business environment as change and transformation at the organisational level involves risk-taking, and transformational leaders are risk-takers (House, Hanges, Javidan, Dorfman, & Gupta, 2004).

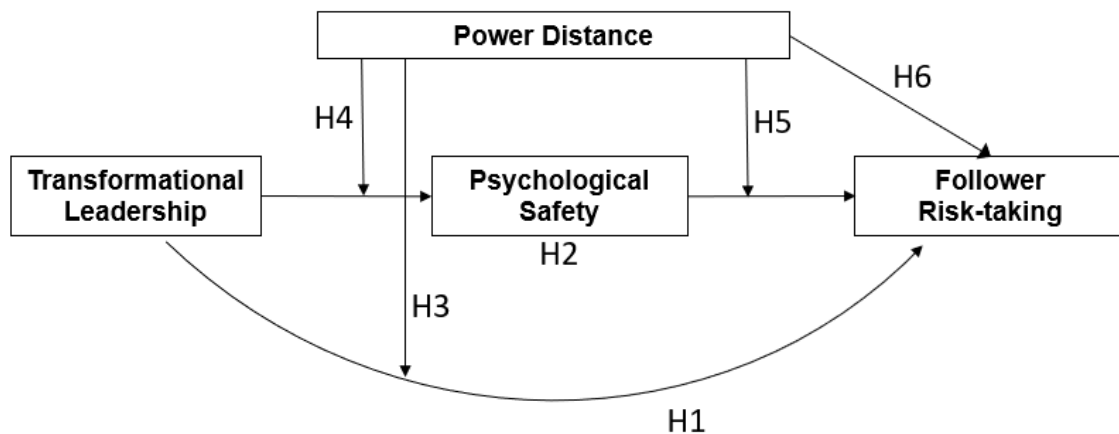
Transformational leaders stimulate and inspire followers to achieve extraordinary outcomes and, in the process, develop follower leadership capacities (Burns, 1978). Transformational leaders fulfil the first responsibility of leaders which is to define reality (Dupree, 1989). They do so by reinforcing the "meaning" (Kouzes & Posner, 1993, p.206) of employee tasks, elevating them from the mundane to a focus on the value created and explaining how employees contribute to addressing challenges facing the organisation. They also create effective plans for organisational success (Caldwell, Bischoff, & Karri, 2002; DuPree, 1989) and align followers and organisational challenges, visions, and goals (Bass & Avolio, 1990; Flynn & Staw, 2004). Transformational leaders help followers reframe challenges to view them as opportunities (Slattery & Ganster, 2002; Smircich & Morgan, 1982), provide autonomy (March & Shapira, 1987), stimulate followers intellectually to question assumptions

(Zhang, Tsui, & Wang, 2011), identify new ideas and experiment with new approaches (Mumford, Scott, Gaddis, & Strange, 2002), and increase followers' willingness to try new approaches (Hirst, van Dick, & van Knippenberg, 2009). Reframing challenges, questioning assumptions, experimenting with new approaches, and attempting new things likely affect follower risk-taking behaviours as these likely influence followers' interpretations and assessments of risk (Hirst, van Dick, & van Knippenberg, 2009).

One mechanism through which transformational leaders may affect follower risk-taking is through increasing follower psychological safety (Carmeli, Sheaffer, Binyamin, Reiter-Palmon & Shimoni, 2014). Psychological safety is the belief that one is able to express oneself without the fear of negative consequences to one's self-image, status or career (Kahn, 1990). Transformational leaders remove constraints that discourage followers from expressing their concerns and ideas (Edmondson, 1999) and increase followers' trust that the leader would not unfairly punish them when risk-taking leads to unfavourable outcomes (Dasborough & Ashkanasy, 2002; Weleiter, 1997). Psychological safety reduces the interpersonal risk of trying new things (Schein & Bennis, 1965) and enables organisational learning, experimentation, increased adaptability, and risk-taking (Dyck, Frese, Baer, & Sonnentag, 2005). As such, transformational leaders theoretically are expected to affect follower risk-taking both directly and indirectly via psychological safety. However, followers likely react differently to transformational leaders and their beliefs regarding how safely they feel psychologically. One follower value orientation likely to affect these relations is power distance orientation.

Power distance orientation refers to the extent to which an individual accepts the unequal distribution of power in institutions and organisations (Kirkman, Chen, Farh, Chen, & Lowe, 2009). Individuals higher on power distance orientation view superiors as largely unquestionable authorities whose directives and decisions should be unequivocally accepted (Gelfand, Frese, & Salmon, 2011). Further, individuals higher on power distance orientation avoid voicing concerns and contradicting or challenging supervisor’s opinions or instructions (Helmreich, Wilhelm, Klinect, & Merritt, 2001). In contrast, individuals lower on power distance orientation are more comfortable expressing their opinions and beliefs, and are willing to stand up for what they perceive to be the right decision regardless of levels of hierarchy (House, Hanges, Javidan, Dorfman, & Gupta, 2004).

Figure 1.
A Theoretical Framework for Transformational Leadership
And Follower Risk-taking



Power distance orientation is hypothesised to moderate the main effect of transformational leadership and follower risk-taking (see Figure 1). This is hypothesised because cultural value orientations shape beliefs about behaviours,

styles, skills and personality traits that characterise effective leadership (House et al., 2004; Kirkman, Chen, Farh, Chen, & Lowe, 2009; Spreitzer, Perttula & Xin, 2005). This implies that the effectiveness of transformational leadership may be dependent on value orientations. Kirkman et al. (2009) found that individual power distance orientation played an important role in how followers reacted to transformational leaders. Individuals higher on power distance orientation preferred to maintain a greater social distance between themselves and their leaders and were less appreciative of empowered, participative styles of management, thus the effect of transformational leadership is less effective on individuals with higher power distance orientation. Conversely, individuals with lower power distance orientations preferred a more empowered, participative style of management and the effect of transformational leadership on their performance was stronger (Kirkman, Chen, Farh, Chen, & Lowe, 2009). It is expected that whilst there is a positive effect between transformational leadership and follower risk-taking, the effect strength is moderated by power distance orientation and likely to be weaker for followers higher than lower on power distance orientation.

Power distance orientation also is hypothesised to moderate the first stage of the proposed model such that the relation between transformational leadership and employee psychological safety is expected to be positive and stronger for followers lower than followers higher on power distance orientation. Similar to the explanation for the hypothesised main effect, the behaviours of transformational leaders such as participative decision-making, engagement and open communication are less effective for individuals with higher power distance orientation than individuals with lower power distance orientation (Helmreich, Wilhelm, Klinec & Merritt, 2001; Rau,

Liu, Juzek & Nowacki, 2013). Thus, it is expected that the effect of transformational leadership on psychological safety is stronger for lower power distance orientation than higher power distance orientation.

The relation between psychological safety and follower risk-taking is expected to be positive and stronger for followers lower on power distance orientation. This effect is hypothesised because risk-taking implies trying something new and not conforming to the status quo. Risk-taking may not pose any issues for lower power distance oriented individuals as they enjoy the freedom to do things their own way (House et al., 2004). However, risk-taking may present some discomfort for higher power distance orientation oriented individuals as they are likely to have an 'other orientation' approach to decision making (Meglino, Korsgaard, Zedeck, Sheldon, & Klein, 2004). That is, higher power distance oriented individuals are likely to defer to the external context (social norms) in the process of their decision making. As such, it is expected that the relation is likely to be stronger for individuals with lower power distance orientations than individuals with higher power distance orientations. Lastly, power distance orientation is hypothesised to be negatively correlated to risk-taking. Followers in individualistic countries tend to be more autonomous and independent than subordinates in collectivist cultures (Morris Davis & Allen, 1994). Thus, followers will be more willing to violate group norms and will be more likely to involve themselves in situations that other followers perceive as being extremely risky (Morris, Avila & Allen, 1993). Followers in individualistic cultures also have a tendency to place a higher value on individual accomplishments than collectivist subordinates (Hofstede, 1980). This leads to higher levels of risk taking, in hopes of a larger strategic payoff, which subordinates may view as deriving from their own effort and leadership (Morris,

Avila, & Alien, 1993). As such, it is expected that the relation between power distance orientation and risk-taking is negative.

In addition to testing the hypothesised model, this study seeks to explore the impact of risk-taking on individuals. Three variables are explored to help us better understand the value of individual risk-taking in organisations. The variables are job performance (as assessed by the supervisor), self-efficacy and employee engagement. Job performance enables an understanding of whether risk-taking behaviours lead to tangible results that are recognised by supervisors in their evaluation of subordinate performance. Self-efficacy and risk-taking is explored because individuals with high self-efficacy deal more effectively with difficulties and persist in the face of failure (Gist & Mitchell, 1992), thus they are more likely to attain valued outcomes and derive satisfaction from their work. Measuring employee engagement enables an understanding of whether taking risks affects an “individual’s involvement and satisfaction with as well as enthusiasm for work” (Harter, Schmidt, & Hayes, 2002, p. 417).

The proposed study seeks to make the following important contributions. First, this study contributes to the theory and research on transformational leadership by exploring whether transformational leadership relates to follower risk-taking. Further, a mechanism (psychological safety) and boundary condition (power distance orientation) of this relation are explored and will add to our understanding of how and when transformational leaders may affect follower risk-taking. Sitkin and Weingart (1995) called for more research on the role played by organisational leaders in

supporting risk-taking. Bass (1998) and Yukl (1999) also acknowledged the lack of research about the impact of moderator variables on the effects of transformational leadership (Pieterse, Knippenberg, Schippers & Stam, 2010). Further, while there are numerous studies of variables affecting risk-taking (Baird & Thomas, 1985), there is very little research in the context of employee risk-taking in organisations (Wu, Su & Lee, 2008). There is also little research on the role of power distance orientation and its relation with risk-taking (Kreiser, Marino, Dickson & Weaver, 2010). Kreiser, Marino, Dickson and Weaver (2010) stated that although previous research studied culture (power distance orientation is one dimension of culture) and its relations to innovation, there are few research studies examining the role of culture and its impact on individual risk-taking.

Second, this study contributes to the limited research on transformational leadership in South East Asia (Cheo, 2013; Wong & Wong, 2004) and how cultural values may affect risk-taking (Ray, 1994). Third, this proposed research extends our understanding of the leadership competencies, mechanisms, and potential boundary conditions that have a greater impact on follower risk-taking and this may enable practitioners to develop targeted organisational interventions that could impact individual risk taking (Wang, Oh, Courtright & Colbert, 2011).

Below the existing literatures are reviewed, integrated, and expanded to theoretically develop the proposed hypothesised model.

Literature Review

Risk-taking

Organisational outcomes of risk-taking. Risk is a characteristic of decisions where there is uncertainty regarding positive or negative outcomes (March & Shapira, 1992; Sitkin & Pablo, 1992). Risk-taking can be defined as making a behavioural decision where there is uncertainty regarding the valence and magnitude of outcomes resulting from such decisions (Breakwell, 2014). Past research has identified many variables affecting risk-taking and these were summarized by Baird and Thomas (1985) as: environmental (e.g., government regulation); industry (e.g., competition); organisational (e.g., organisation values, structure, incentives); decision make (e.g., self-confidence, biases, heuristics); and strategic problem factors (e.g., outcomes, controllability). Risk is regarded as an important aspect of business success and business leaders consider the management of risk as an essential component of their leadership roles (March & Shapira, 1987). Companies generating new products typically take risks even as the demand for the new product cannot be certain (Neves & Eisenberger, 2013). Risk-taking leads to improved company performance (Collins, 1994; 2001; Peters & Waterman, 1982). In addition, risk is viewed as a necessity for business innovation (Dickson, 1992; Kraatz, 1998; Kundra, 2016; Tan, 2001; Tjosvold & Yu, 2007; Wiseman & Gomez-Mejia, 1998) and positive relations has been observed between risk-taking and innovation (Naldi, Nordqvist, Sjoberg, & Wiklund, 2007). Wiederkehr (2015; p.1) concludes that “for anyone who wants to be successful in business, there is no avoiding risk”.

The outcomes of risky decisions are not certain (e.g., the outcome can be positive or negative). When the outcomes are positive, risk-takers are likely to be well rewarded for their efforts (Ling, Simsek, Lubatkin & Veiga, 2008). Further even when the outcomes are negative, in spite of the losses, some benefits may be realised, for example, in the form of employee and organisation learning. Daly (2015) describes risk-taking as essential for building new employee competencies such as creativity, ability to deal with ambiguity and resilience. These competencies enable employees to learn and develop critical thought processes and can lead to innovation. At the organisational level, companies can learn from failures, for example, if they fail fast and fail often, these lessons provide an opportunity for organisations to learn from their mistakes. Thus, a culture of organisational learning develops over time which enables sustainable organisation performance (Daly, 2015). Too much or too little risk can be dangerous for organisations in the long term (Wicks, Berman & Jones, 1999) and the degree of optimal risk varies across organisations and situations, making risk-taking a “conditional good” (Molina-Morales, Martínez-Fernández, & Torlò, 2011).

Individual outcomes of risk-taking. There are few studies on the outcomes on or impact of risk-taking for an individual. When the outcome of a risky decision is positive, employees are rewarded with monetary and non-monetary rewards (Rablen, 2010). However, risk does not always lead to positive outcomes for the individuals making a risky decision. De Jong, Parker, Wennekers, and Wu (2015) found in their study of individual entrepreneurial behaviour at work that risk-taking was associated with potential loss of assets, material losses which may or may not be fully passed on to the organisation. In addition, entrepreneurial workers potentially face reputation damage, resistance from peers, and loss of jobs when they take risks at work (De

Jong, Parker, Wennekers, & Wu, 2015). Further, Parker and Collins (2010) note that employees who often take deliberate risks in their work environment do so by challenging the status quo and sometimes even act without the permission of higher management, which may lead to internal conflict with management and co-workers, and less satisfactory co-worker relations (Janssen, 2003). In spite of these potential consequences, risk-taking and entrepreneurial behaviour in employees are regarded as important for organisational innovation and performance (De Jong, Parker, Wennekers, & Wu, 2015).

Individual differences towards risk. Early research focused on the antecedents to individual risk-taking with the belief that the individual's risk preference and willingness to engage in risky behaviour were constant across all contexts (Lopes, 1987). Research on antecedents to individual risk-taking include: gender (Bromiley & Curley, 1992; Byrnes, Miller & Schafer, 1999); age (Sitkin & Pablo, 1992); self-confidence and competence (Klein & Kunda, 1994; Krueger & Dickson, 1994; Mano, 1994); magnitude of potential outcome (March & Shapiro, 1987); framing effects (Slovic, 1972; Highhouse & Yuce, 1996); loss aversion (Kahneman & Tversky, 1979); risk propensity (Sitkin & Weingart, 1995); and risk perception (March & Shapiro, 1987). This research has shown that gender affects risk-taking, such that men were more likely to be risk-takers as compared to women. Work experience was also shown to affect risk-taking in that the longer the years of work experience, the more risk-taking the individual. Age also correlated with risk-taking, with older individuals taking more risks than younger individuals.

Risk perception. Followers are likely to engage in risk-taking behaviour if they perceive risk-taking as an opportunity for a desired outcome (Highhouse & Yuce, 1996). Risk perception is the decision maker's assessment of the risks inherent in a situation (MacCrimmon & Wehrung, 1985; Willebrands, Lammers & Hartog, 2016). Sitkin and Wiengart (1995) found that "risk perception is a crucial influence on individual risk-taking behaviour" (Sitkin & Weingart, 1995; p. 1589) such that supervisors who wish to either increase or decrease risk-taking behaviours by subordinates, can effectively target their efforts towards problem framing and risk perception. The findings that risk perception relates to risk-taking by Sitkin and Wiengart (1995) were replicated in studies by Pablo, Sitkin and Jemison (1996); Highhouse and Yuce (1996); and Van de Ven and Polley (1992); and Sitkin and Pablo (1992). This research shows that risk perception was significantly related to risk-taking such that positive risk perception relates to risk-taking.

Contextual factors and risk. Whilst different individuals have different inherent dispositions towards risk (Hofstede, 1980), they often do not behave consistently across all decision making scenarios. The context of the decision problem often is a significant influence on individual risk-taking behaviour. For example, several studies have established the importance of contextual factors relating to risk-taking behaviours: e.g., characteristics of risk such as risk in sports, risks in health (Fischhoff, Slovic, Lichtenstein, Read & Combs, 1978; Fox-glass & Weber, 2016); tendency to be risk-seeking with newly acquired resources (Thaler & Johnson, 1990); familiarity with decision problem (Slovic, 1987); past success on similar decision problems (Osborn & Jackson, 1988); distributed responsibility of team decision-making (Wallach, Kogan & Berm, 1964); availability of slack resources (March &

Shapira, 1992); access to information (Gifford, 2003); and organisational factors like job design (De Jong, Parker, Wennekers, & Wu, 2015).

Leadership and Risk-taking

A leader can play a significant role in influencing followers' risk-taking behaviour, for example, an individual's risk-taking behaviour can be effectively influenced by the leader's efforts in framing of the problem, influencing risk perception, and creating a psychologically safe work environment that encourages risky behaviour (Sitkin & Pablo, 1992). However, not much is known of employee risk-taking behaviours in organisations and more research is needed to better understand the importance of leadership on followers' risk-taking behaviour (Piccolo, 2005). One leadership style that may influence follower risk-taking is transformational leadership. Transformational leaders inspire followers to perform beyond previous limits by transforming their attitudes and behaviours (Bass, 1985). Transformational leaders transform people (e.g., making them leaders in their own right) and their behaviours (e.g., stepping outside one's comfort zone). Thus, as discussed in greater detail below, transformational leaders likely inspire followers to take risks.

Transformational leadership. Transformational leadership theory is a broad approach to leadership that suggests that leaders, through their charisma, care, vision, and intellect can have profound effects on the attitudes, behaviours, perceptions, and capabilities of followers (Bass, 1985). Theoretically, transformational leaders appeal to follower's aspirations through an engaging vision and by developing new ways of thinking and solving problems resulting in increased follower commitment (Yukl, 1999).

This leadership style inspires followers to perform beyond previous limits (Bass, 1985) and is well-suited for organisations embarking on a change or transformational journey. Transformational leaders transform their followers (Bass, 1985). The inspirational and developmental aspects associated with transformational leaders culminate in fundamental changes in followers such that these followers are better prepared to lead themselves (Bono & Judge, 2003).

A comprehensive body of research on transformational leadership theory supports its positive effects on employee performance and organisational outcomes. In their review of the transformational leadership literature, Van Knippenberg and Sitkin (2013) note that transformational leadership research has identified a variety of mediators (e.g., identification, efficacy, self-congruence, empowerment, positive affect, job characteristics, justice, trust, admiration, climate) linking transformational leadership with favourable individual and organisational outcomes (e.g., performance, job satisfaction, commitment, innovation, absenteeism, trust in leader, leader admiration, organisation citizenship behaviours). Similarly, Wang, Oh, Courtright and Colbert (2011) conducted an extensive meta-analysis based on 25 years of research on transformational leadership and performance and concluded that transformational leadership exhibits a positive relationship with performance including task (e.g., work behaviours like working extra hours), contextual (e.g., voluntarily motivated work behaviours like organisation citizenship behaviours) and creative performance (e.g., idea generation). Moreover, transformational leadership had positive effects on individual performance across organisation types, leader levels, and geographies (Wang, Oh, Courtright & Colbert, 2011), leading the authors to conclude that, consistent with Bass (1985), transformational leaders motivate their followers to

perform beyond expectations. Studies also have found a positive relation between transformational leadership and group and organisational performance (DeGroot, Kiker & Cross, 2000; Fuller, Patterson, Hester & Stringer, 1996; Lowe, Kroeck, & Sivasubramaniam, 1996; Wang, Oh, Courtright & Colbert, 2011; Wilderom, van den Berg & Wiersma, 2012). Judge and Piccolo (2004) reviewed a larger number of studies on transformational leadership and group/ organisational performance and found that the effectiveness of transformational leadership was generalizable across many situations, such as different organisational contexts, e.g., public sector and educational sector (Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996); and different success criteria, e.g., group performance (Dvir, Eden, Avolio, & Shamir, 2002; Lowe, Kroeck, & Sivasubramaniam, 1996; Pillai & Williams, 2004), project success in R&D departments (Keller, 1992), and innovation (Howell & Higgins, 1990; Shin & Zhou, 2003).

Transformational leadership and risk-taking. When Burns (1978) first conceptualised transformational leadership, he described transformational leadership in the context of great social and political change. Transformational leaders are capable of transforming how their followers think and act and make significant changes in how they lived and worked (Bass, 1985). Transformational leaders can be effective when organisations are going through great changes, often as the transformational leaders can motivate their followers to accept, manage and navigate through risky and uncertain situations (Burns, 1978; Piccolo, 2005). Transformational leadership theory asserts that followers of effective leaders are willing to take risks (Bass, 1985), although this assertion has not been studied, and there are no published studies on leadership and risk-taking specifically (One PhD Dissertation by Piccolo, 2005,

unpublished). Moriano, Molero, Topa, and Mangin (2014) found that managers who possessed higher levels of transformational leadership traits related with higher levels of intrapreneurial activities from employees (risk-taking is one component of intrapreneurship); this effect also was found in research by Covin and Slevin (1989), and Razavi and Ab Aziz (2017). Given this, below the related research on transformational leadership and risk-taking is discussed and used as a basis for developing the hypothesised model.

Past research on topics related but distinct from risk-taking. There are several studies exploring transformational leadership and variables related to risk-taking, such as innovation and creativity. Although innovation and creativity often entail risk-taking, they differ in several ways (Pieterse et al., 2010). Creativity involves the generation of new ideas, innovation refers to the implementation of creative ideas, and whilst the exploration of new ideas and their implementation involve potentially substantial risk because of the likelihood of failure (Klein & Sorra, 1996), high risk-taking by employees does not always lead to creative ideas or innovation (Neve & Eisenberger, 2013). Employee risk-taking could take the form of accepting a new job assignment or voicing an unpopular opinion to management (Neve & Eisenberger, 2013). Additionally, organisational decision making may involve risk without leading to innovation (Bledow, Frese, Anderson, Erez & Farr, 2009). Nonetheless, theoretically the same characteristics of transformational leadership that influence innovation and creativity are argued to influence follower risk-taking.

Theorised effects of transformational leadership on risk-taking. Transformational leaders tend to be effective in situations of stress, uncertainty or organisational change

(Piccolo, 2005, p.69-70). Successfully navigating the organisation through these changes require a different way of thinking and acting and this necessitates risk-taking in the hope of a higher or faster payoff (Ling, Simsek, Lubatkin & Veiga, 2008). Levinson (1965) proposes that the framing effects of transformational leaders' inspiring and motivational speeches may have an impact on follower risk-taking behaviours, e.g., affective and emotional processes interact with reason-based analysis to produce a favourable risk perception (Damasio, 1994; Evans, 1984; Slovic, 1996). Thus, followers are likely to use the information in the form (visionary, inspiring, and positive) it is presented by transformational leaders in their assessment and perception of risky situations (Slovic, 1972). Transformational leaders are risk-takers (House, Hanges, Javidan, Dorfman, & Gupta, 2004) and followers may be influenced by their leaders' behaviour or simply use their leaders' attitude towards risk as a guideline for their own attitudes and behaviours (Hofstede, 1993; Neve & Eisenberger, 2014). The clarity of outcome envisioned by the transformational leader will also likely increase follower risk-taking, as followers strive to increase the likelihood of achieving desired outcomes. Given this theoretical rationale, the following is hypothesised:

Hypothesis 1: Transformational leadership is positively related to follower risk-taking.

Transformational Leadership, Psychological Safety, and Risk-taking

Many factors contribute to risk-taking behaviours in organisations including the problem (e.g., new or familiar), the organisation (e.g., leadership, team and culture),

the industry (e.g., Consumer Products), and the environment (Baird & Thomas, 1985; MacCrimmon & Wehrung, 1986; March & Shapira, 1987; Wallach, Kogan, & Bem, 1964). The importance of the leader's ability to influence the individual's understanding of these contextual factors and how they may subsequently shape risk assessment and perception, likely influence the follower's risk-taking behaviour. One mechanism through which transformational leaders may affect risk-taking is psychological safety. Psychological safety refers to the belief that an individual can express his or her self without fear of negative consequences to self-image, status, or career (Kahn, 1990). Raes, Decuyper, Lismont, Van den Bossche, Kyndt, Demeyere, and Dochy (2013) found that transformational leaders create a climate of psychological safety for their followers. Risky decisions imply some degree of ambiguity and ambiguous situations are stressful (MacCrimmon & Wehrung, 1984), and may be perceived as a threat to the psychological well-being of the follower (Ashford, 1988). Transformational leaders can reduce this stress because they make 'sense' and create 'meaning' through a coherent and compelling vision (Kouzes & Posner, 1993). This can reduce ambiguity, stress, and anxiety, and likely translate into followers being more willing to take risks. Psychological safety lowers perceived risk and encourages risk-taking behaviour (Edmondson, 1999; Kahn, 1990; Leung, Deng, Wang, & Zhou, 2015). Environments in which individuals feel psychologically safe allow individuals to learn from failures (Baumard & Starbuck, 2005; Cannon & Edmondson, 2005; Carmeli, 2007; Carmeli & Gittell, 2009; Edmondson, 2004; Keith & Frese, 2005). The ability to learn from failures is critical to organisational adaptation and innovation (Starkey, 1998), as failure are more important to learning and eventual organisational success (Nonaka & Takeuchi, 1995; Sitkin, 1992). Additionally, an environment where individuals feel psychologically safe facilitates open sharing about

capability gaps (Carmeli, 2007), improves error management (Frese, 2004), increases willingness of individuals to disclose errors (Zhao & Olivera, 2006), increases follower creative thinking and risk-taking (Palanski & Vogelgesang, 2011), and enables greater trust and employee risk-taking (Neve & Eisenberger, 2013). “An atmosphere of trust and safety is vital to encourage individuals to question conventional wisdom and engage in dramatic breakthroughs” to push past the fear created by knowing-doing gaps and negative consequences of failure (Neve & Eisenberger, 2013; p.189). Studies conducted on affective heuristics (Slovic, Finucane, Peters & MacGregor, 2007) and on risk-as-feelings (Loewenstein, Weber, Hsee & Weich, 2001) postulate that emotional influences such as worry, fear, dread, anxiety negatively relate to risk-taking.

The above reviewed research theoretically suggests that transformational leaders act in a way to reduce such negative affect and emotions (Levinson, 1965), thus increasing the feeling of psychological safety, which in turn enables follower risk-taking behaviours. Transformational leaders are more likely to display ‘role model’ leader behaviours that demonstrate consistency in behaviour and integrity, and these behaviours increase follower psychological safety, as well as create a climate of psychological safety by providing idealized influence, intellectual stimulation, inspirational motivation and individualized consideration for its followers (Bass, 1985; Burns, 1978; Kumako & Asumeng, 2013). Kumako and Asumeng (2013) found that followers working under transformational leaders felt supported and safe to interact more frequently, share tasks, have shared norms, be involved in decision making, and to be connected to the leader’s outside network (Kumako & Asumeng, 2013). Thus,

psychological safety may be one mechanism through which transformational leadership relates to follower risk-taking.

Hypothesis 2: The relationship between transformational leadership and follower risk-taking is partially mediated by psychological safety.

Power Distance Orientation

Power distance orientation refers to the extent to which an individual accepts the unequal distribution of power in relationships, institutions, and organisations (Kirkman et al., 2009). Note that power distance is a country-level construct whereas power distance orientation is an individual-level construct. As discussed below, power distance orientation is hypothesised to moderate the direct effect of transformational leadership to follower risk-taking, both stages of the hypothesised partially mediated model, and to have a direct effect on follower risk-taking (see Figure 1).

Transformational leadership, power distance orientation and risk-taking.

Given that power is inherent in organisations, power distance orientation likely plays a role in determining how followers react to transformational leaders (Kirkman Chen, Farh, Chen, & Lowe, 2009), with the most favorable outcomes resulting when leadership styles match the preferences of the follower's power distance orientation (Daniels & Greguras, 2014). Individuals higher on power distance orientation expect their leaders to communicate strong direction with little explanation or clarification (Kirkman, Lowe & Gibson, 2006). Such followers expect solutions to come from

leaders, not followers (Javidan, Dorfman, Luque & House, 2006) and more likely to mimic the transformational leadership behaviors of one's supervisor (Yang, Zhang, & Tsui, 2010). Thus followers higher on power distance orientation are likely to respond more favourably to transformational leaders and risk-taking when leaders provide a decision or direction rather than evoke participatory approaches to problem solving (Gelfand, Frese & Salmon, 2011). Yang, Zhang, and Tsui (2010) found that followers higher on power distance orientation may simply mimic the leader's risk-taking behaviour or most likely response to a decision.

Individuals lower on power distance orientation value participatory approaches to management (Hofstede, 2001), feel stifled by excessive supervision, prefer autonomy in work processes (Dickson, Den Hartog, & Mitchelson, 2003) and more independence in decision making (Hofstede, 1984). In addition, followers lower on power distance orientation are more willing to stand up for what they perceive to be the right decision regardless of levels of hierarchy (House, Hanges, Javidan, Dorfman & Gupta, 2004). When they are empowered by transformational leaders, theoretically I argue that followers lower on power distance orientation are more likely to take risks. Thus, taken together, power distance orientation is hypothesised to moderate the relationship between transformational leadership and risk-taking such that both lower and higher power distance orientation positively predicts risk taking behaviour, but that lower power distance orientation would have a stronger effect on the relations, than higher power distance.

Hypothesis 3: Power distance orientation moderates the relationship between transformational leadership and follower risk-taking such that the relation is positive for both lower and higher power distance orientation, and stronger for those lower on power distance orientation.

Transformational leadership, power distance orientation and psychological safety. In the earlier paragraphs, I theorised about the relations between transformational leadership and psychological safety. Power distance orientation is hypothesised to moderate the relationship between transformational leadership and psychological safety in the following ways. Followers higher on power distance orientations are likely to avoid voicing concerns which may contradict or challenge their leader's opinions (Helmreich, Wilhelm, Klinect & Merritt, 2001; Hofstede, 1991). Further, those higher on power distance are likely to feel less comfortable to seek help or feedback and to suggest provocative ideas (Chen, Liao & Wen, 2013). Thus it is likely that higher power distance would weaken the influence the relations between transformational leadership and psychological safety.

Followers lower on power distance orientation appreciate more collaboration, sharing of information within the team (Hofstede, Hofstede & Minkov, 2010), and this can build high-quality interpersonal relationships with co-workers (Carmeli and Gittell 2009), which may positively influence the relations between transformational leadership and psychological safety. Power distance orientation is hypothesised to moderate the relationship between transformational leadership and psychological

safety, such that lower power distance orientation may have a positive and stronger effect on the relations, than higher power distance.

Hypothesis 4: Power distance orientation moderates the relationship between transformational leadership and psychological safety such that the relation is positive and stronger for those lower on power distance orientation.

Psychological safety, power distance orientation, and risk-taking. Power distance orientation is hypothesised to moderate the relationship between psychological safety and risk-taking. In general, the more psychologically safe an employee feels the more likely they are to take risks (Edmondson, 1999). However, risk-taking for individuals higher on power distance orientation can be an uncomfortable exercise, as engaging in such activities carries a risk for the individual of being seen as ignorant, incompetent, or perhaps just disruptive (Edmondson, 2003). In addition, followers higher on power distance orientation are motivated to act with 'other orientation' (Meglino, Korsgaard, Zedeck, Sheldon, & Klein, 2004; p.946), where more weight is placed on the external environment in their decisions and behaviours, e.g. they look to the external context (e.g., social norm, work norms) to guide their behaviours. These individuals are predicted to be conformists and less comfortable with taking risks, as risk-taking carries with it "the possibility that the new idea may threaten the existing power and resource distribution within the firm" (Venkataraman, MacMillan, & McGrath, 1992, p.502). In other words, risk-taking may lead to changes that cause some organisation members to gain at the expense of others, and this may upset team and organization cohesion (Venkataraman, MacMillan, & McGrath, 1992).

As a result, high power distance orientation may weaken the relation between psychological safety and risk-taking behaviours.

Followers lower on power distance orientation are comfortable with independence and enjoy the freedom to make one's own decision, and do things one's own way (House et al., 2004). For individuals lower on power distance, it is likely that they conform less to social norms and are more independent in decision-making, e.g., if they believed the risky decision was the right choice, they are likely to make that decision regardless of the sentiments, culture, norms around them (House, Hanges, Javidan, Dorfman & Gupta, 2004). Thus, lower power distance orientation is predicted to strengthen the relations between psychological safety and risk-taking behaviours. Power distance orientation moderates the relationship between psychological safety and risk-taking in such a way that relation between psychological safety and power distance orientation is weakened for those higher on power distance orientation and strengthened for followers lower on power distance orientation.

Hypothesis 5: Power distance orientation moderates the relationship between psychological safety and follower risk-taking, such that the relation is strengthened for those lower on power distance orientation.

Power distance orientation and risk-taking. Power distance orientation is also investigated as an independent variable relating to follower risk-taking. Followers

higher on power distance orientation have a preference for greater conformity to societal norms (Hofstede, 1984), greater predictability, and greater controllability of human behaviour (Doney, Cannon & Mullen, 1998; Hofstede, 1997). It is expected that followers higher on power distance orientation are less likely to take risks at work. Followers lower on power distance orientation, on the other hand, are less likely to follow norms and more likely to be independent and exercise their own will (Hofstede, 1984). Thus, it is expected that followers lower on power distance orientation may be more willing to take risks at work. This hypothesis is consistent with other research that show followers with lower power distance orientation engage in risky behaviours aimed at improving their performance (Shane, 1993), whereas followers with higher power distance orientation may be more likely to make decisions that maintain or fortify their current performance (Kreiser, Marino, Dickson & Weaver, 2010). Taken together, it is hypothesised that power distance orientation has a negative effect on follower risk-taking, such that low power distance orientation effects more follower risk-taking behaviours, and high power distance orientation effects less follower risk-taking behaviours.

Hypothesis 6: Power distance orientation negatively relates to follower risk-taking.

Method

Below I describe the methodology, measures and two samples that were subsequently combined to test the hypothesised model.

Sample 1

Participants. Subordinates (N = 92) were 57% male and had an average of 13.05 years of working experience (SD = 7.87). Forty-three point one percent of the subordinates were between 35 – 44 years of age, with 27.5% between 25 - 34 years of age; 15.7% between 45 – 54 years of age; 7.8% between 15 - 24 years of age; and 5.9% between 55 – 64 years of age. On average, the subordinates had known their supervisors for 2.69 years (SD = 1.16) and worked with them for 2.18 years (SD = 1.05). Forty-three point fourteen percent indicated that they interacted with their supervisors on a daily basis, 33.33% interacted with their supervisors on a weekly basis, with the remainder indicating that they interacted with their supervisors on a bi-monthly (11.76%), monthly (7.84%), or other interaction frequency (3.92%). The subordinates came from a variety of industries (25% professional services, 24% government and government-linked, 14% technology, 10% education, 8.0% non-profit, 4.0% logistics, 4.0% media, 4.0% other services, 2.0% energy and utilities, 2.0% marketing and sales, 2.0% bank and finance, and 2.0% others). Thirty-nine supervisor-subordinate dyads were matched (refer to Table 1). Supervisors (N = 35) were senior-level executives (55% C-suite level, 31% one level below C-suite, 14% two levels below C-suite) and worked in a variety of industries (31% professional services, 17% government and government-linked, 9% education, 9% services, 6% bank and finance, 6% non-profit, 4% others, 3% energy and utilities, 3% media, and 3% technology). The supervisors were 47% male.

Table 1.
Supervisor to Subordinate Matched Dyads

	Total Dyads
1 Supervisor to 1 Subordinate	5
1 Supervisor to 2 Subordinates	2
1 Supervisor to 3 Subordinates*	15
1 Supervisor to 4 Subordinates	4
1 Supervisor to 6 Subordinates	6
1 Supervisor to 7 Subordinates	7
Total	39

Subordinate Measures

At time 1, the measures collected were transformational leadership, psychological safety, power distance and transactional leadership. At time 2, the measures collected were psychological safety, risk-taking behaviour, employee engagement, self-efficacy and organisation and respondent demographics. All study variables are listed at Appendix A.

Transformational Leadership. Transformational leadership was assessed using the MLQ Form 5X (Bass & Avolio, 2004) which measure: idealised attributes, idealised behaviours, inspirational motivation, intellectual stimulation, and individual consideration ($\alpha = 0.93$). Although these dimensions are conceptually distinct, factor analyses often indicate that the dimensions are highly correlated and form a higher-order overall factor (Marsh & Hocevar, 1985). Given this, researchers often combine

these items into an overall scale (Marsh & Hocevar, 1985). As such, in the current study the five scales were combined to form an overall transformational leadership scale. Transactional leadership ($\alpha = 0.68$) was also indicated by combining the MLQ scales of contingent reward and management by exception (active) consistent with existing research (Marsh & Hocevar, 1985). MLQ recommended rating scales were used, 1 (Not at all) to 5 (Frequently, if not always).

Psychological Safety. Psychological safety was measured with seven items developed by Edmondson (1999) to assess team psychological safety ($\alpha = 0.70$). Slight adjustments to the items were made so that the items assessed individual perceptions of psychological safety. For example, the item “Members of this team are able to bring up problems and tough issues” was amended to “I am able to bring up problems and tough issues at work”.

Power Distance. Dorfman and Howell's (1988) six item measure was used to assess the individual's power distance orientation ($\alpha = 0.72$).

Risk-taking Behaviour. The risk-taking measure was adapted from Dohmen, Falk, Huffman, Sunde, Schupp and Wagner's (2011) general risk question from the SOEP German household census survey measuring risk attitude. The original item “Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?” was modified and separated into two items “At work, I am generally a person who takes risks” and “At work, I am generally a person who avoids taking risks.” ($\alpha = 0.95$).

Risk Perception. I measured risk perception and used it as a control variable for several analyses ($\alpha = 0.77$). I modified Highhouse and Yuce's (1996) risk perception measure used in their scenario-based research. In their research, participants were provided with a 10-item perception measure designed to assess decision-making perceptions of choice alternatives as opportunities versus threats. As scenarios were not used in this research, not all of the 10 items were selected and those that were selected were modified to better suit the current research purpose. Further, risk perception was used as a control variable and not an explanatory variable, I used an abbreviated scale for survey length. Items selected were amended to read as full sentences. For example, "negative" was amended to be "I feel negative about the potential decision outcome".

Employee Engagement. I used Idris, Dollard, and Tuckey's (2015) 3-item shortened version of the Utrecht Work Engagement Scale (UWES) to measure work engagement. Items in their research were rated on a 7-point Likert-like scale: 0 (never) to 6 (always). In this research, participants responded on a 5 point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). All three items were used ($\alpha = 0.76$).

Self-Efficacy. Hecht and Allen's (2005) self-efficacy measure was used in this research. A 5 point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree), instead of the 7 point Likert-type scale used by Hecht and Allen (2005) was used. All six items were used ($\alpha = 0.78$).

Supervisor Measures

The measures for supervisors were collected at a single time period (at time 1).

Transformational Leadership. Supervisors were asked to self-assess their transformational leadership ($\alpha = 0.82$) behaviours using the MLQ Form 5X (Bass & Avolio, 2004).

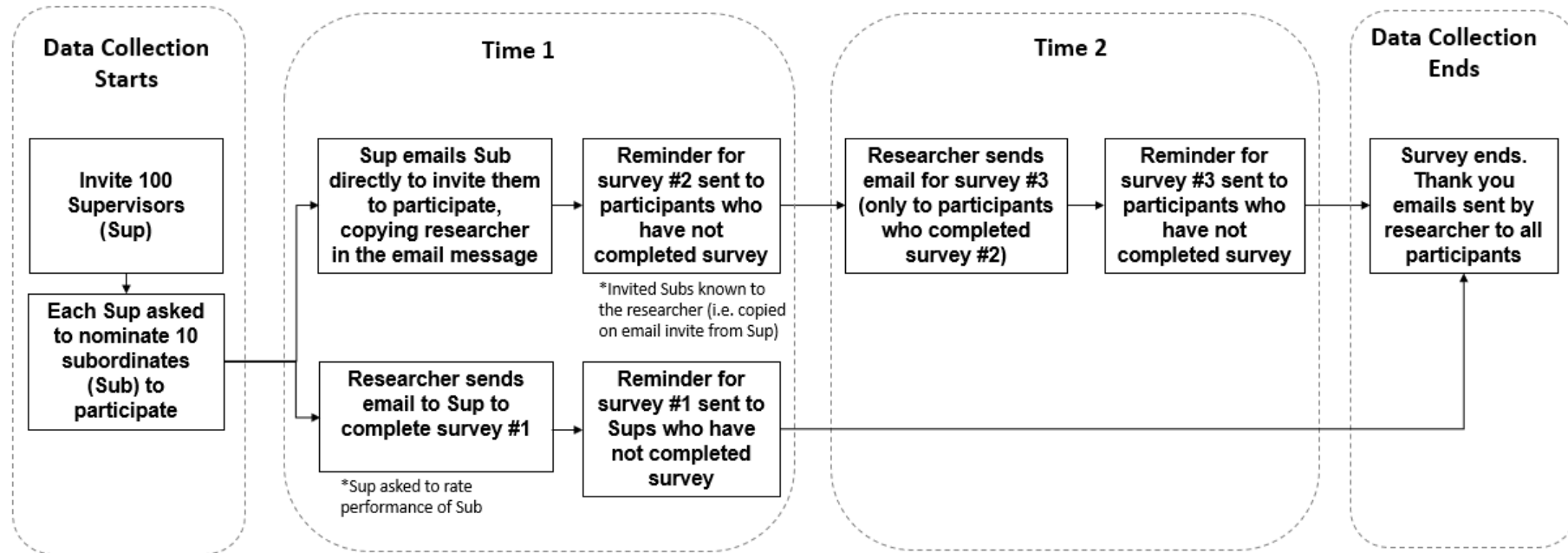
Job Performance. Supervisors provided an assessment of their subordinates' job performance with following options: above peer group (5), consistent with peer group (3), and below peer group (1).

Procedure

One hundred supervisors from a variety of industries were invited to participate in this research. Supervisors were identified through the researcher's professional and academic network (professional industry networks, Singapore Management University alumni, Singapore Management University postgraduate and undergraduate student recommendations, and open invitations posted on LinkedIn and other social media channels (e.g. Facebook), which were subsequently re-posted by participants on their social media accounts). Supervisors were asked to select and invite 10 of their direct reports (subordinates) to participate in this research. If supervisors agreed to participate in the research, supervisors were instructed to copy the researcher in the email correspondence to subordinates so that the researcher could follow up directly with the subordinates subsequently. The email invitation to

employees was drafted by the researcher and a copy is included at Appendix B. The drafted email included a brief description of the research project (objective, value of the research findings, timelines, etc.), contact information for further questions, as well as a link to the survey (refer to Appendix 2.). At time 1, supervisors were asked to complete one survey and subordinates were asked to complete the first subordinate survey, each separated by one week. For the participants (where the supervisor copied the researcher on the subordinate email invitation) who did not complete the relevant surveys, reminder emails were sent (six days after the first email was sent out by supervisors). At time 2, only participants who completed the first survey were invited to complete the subordinate second survey (refer to Figure 2).

Figure 2.
Sample 1 Data Collection Approach



Notes:

Sup denotes supervisor.

Sub denotes subordinate.

At time 1, survey #1 was emailed out for supervisors to provide information.

At time 1, survey #2 was emailed out for subordinates to provide information.

At time 2, survey #3 was emailed out for subordinates to provide information.

Of the 100 supervisors invited, 35 supervisors agreed to participate in this research, therefore Sample 1 had a supervisor response rate of 35%. These supervisors each selected and invited between 1 and 10 subordinates to participate in the research. I was not able to accurately track the number of invites each of the 35 supervisors issued to their subordinates as not all supervisors copied me on their email invitations. Of the subordinates invited to participate in the research, 51 subordinates from time 1 and time 2 responses could be matched and analysed. At time 1, 92 responded to survey, at time 2, 57 completed the survey, but only 51 responses could be matched across both surveys. Ninety-two responses were used in the correlation matrix for transformational leadership, psychological safety and power distance; refer to Table 2. Of the 51 completed data sets, 37 subordinates could be matched to performance data provided by their supervisors.

Sample 2

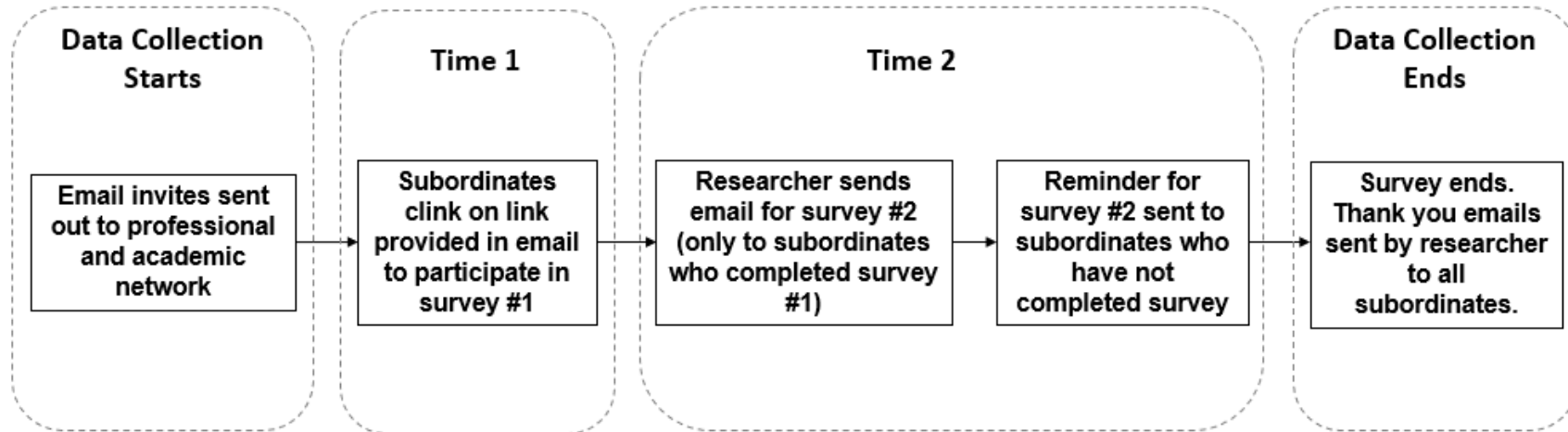
Participants. The subordinates were 43% male and had an average of 16.8 years of working experience (SD = 8.59). Fifty point seven percent of the subordinates were between 35 – 44 years of age, with 21.3% between 45 – 54 years of age; 18.4% between 25 - 34 years of age; 6.6% between 55 – 64 years of age; and 2.9% between 15 - 24 years of age. On average, the subordinates had known their supervisors for 2.69 years (SD = 1.32) and worked with them for 2.34 years (SD = 1.19). Forty-eight point six seven percent indicated that they interacted with their supervisors on a daily basis, 28.67% interacted with their supervisors on a weekly basis, with the remainder indicating that they interacted with their supervisors on a monthly (12%), bi-monthly (9.33%), or other interaction frequency (1.33%). The subordinates came from a variety of industries (16% professional services, 13% government and government-linked agencies, 11% education, and 10% technology, 7.0% fast moving consumer goods, 7.0% other services, 6.0% marketing and sales, 6.0% others, 5.0% bank and finance, 5.0% manufacturing, 4.0% health care, 4.0% non-profit, 2.0% agriculture, 1.0% insurance, 1.0% transportation, 1.0% logistics, 1.0% media, and 1.0% telecommunications).

Measures. Identical to Sample 1, the key measures collected at time 1 were transformational leadership, psychological safety, power distance and transactional leadership. At time 2, the key measures collected were psychological safety, risk-taking behaviour, employee engagement, self-efficacy and organisation and respondent profile data. The same measures noted above for Sample 1 were used for Sample 2: transformational leadership ($\alpha = 0.94$), transactional leadership ($\alpha = 0.64$), psychological safety ($\alpha = 0.80$), power distance ($\alpha = 0.67$), risk-taking behaviour

($\alpha = 0.89$) and risk-taking perception ($\alpha = 0.71$). Note that self-efficacy and employee engagement were not measured with Sample 2. All study variables are listed at Appendix A.

Procedure. In Sample 2, subordinates were solicited to participate in this research through the researcher's professional and academic network (professional industry networks, Singapore Management University alumni, Singapore Management University postgraduate and undergraduate student recommendations, and open invitations posted on LinkedIn and other social media channels (e.g., Facebook), which were subsequently re-posted by participants on their social media accounts). The introductory email to the research explained the context of the research and appealed to the respondents to contribute to the study of leadership in an Asian context. No course credits or monetary incentives were provided. After the first invitation to participate in the research, data were collected over three time periods using online surveys (with the last survey only measuring demographic data). See Appendix B for a copy of the research invitation and Appendix C for a copy of the research survey. Each online survey was separated by a minimum of one week. Only participants who completed the first survey were invited to complete the second survey. For the participants who did not complete the surveys in a timely manner, reminder emails were sent (refer to Figure 3.).

Figure 3.
Sample 2 Data Collection Approach



Notes:

At time 1, survey #1 was emailed out for subordinates to provide information.

At time 2, survey #2 was emailed out for subordinates to provide information.

Of the 300 subordinates invited to participate in the research, 150 data sets could be matched and analysed in Sample 2, giving Sample 2 a response rate of 50%. At time 1, 243 responded to survey, at time 2, 156 completed the survey, but only 150 responses could be matched across both surveys. Two hundred and forty-three responses were used in the correlation matrix for transformational leadership, psychological safety and power distance; refer to Table 2.

Table 2.
Summary of Completed Datasets

	Sample 1			Sample 2			Combined Sample	
	Supervisor Survey #1	Subordinate Survey #1	Subordinate Survey #2	Subordinate Survey #1	Subordinate Survey #2	Subordinate Survey #3	Subordinate Survey #1	Subordinate Survey #2
Participants Invited	100	250	92	300	239	156	550	331
Surveys Completed	35	92	57	239	156	144	331	213
% Response Rate	35%	37%	41%	80%	65%	92%	60%	64%
Datasets Matched Across Survey #1 and Survey #2	NA	51 (20% response rate)		150 (50% response rate)		NA	201	
Datasets Matched Across All 3 Surveys	37 (Matched with Supervisor Performance Assessment of Subordinate)			137 (Matched with Email Addresses)			174	

Combined Datasets from Sample 1 and 2

Participants. Several of the same measures were responded to by Sample 1 and Sample 2 in a similar two time period approach. As such, to utilise a larger sample, the two samples were combined to test the hypothesised model. In this combined sample, the subordinates were 47% male and had an average of 15.77 years of working experience (SD = 8.54). Forty-eight point seven percent of the subordinates were between 35 – 44 years of age, with 20.9% between 25 - 34 years of age; 19.8% between 45 – 54 years of age; 6.4% between 55 – 64 years of age; and 4.3% between 15 - 24 years of age. On average, the subordinates had known their supervisors for 2.69 years (SD = 1.28) and worked with them for 2.3 years (SD = 1.16). Forty-seven point two six percent indicated that they interacted with their supervisors on a daily basis, 29.85% interacted with their supervisors on a weekly basis, with the remainder indicating that they interacted with their supervisors on a monthly (10.95%), bi-monthly (9.95%), or other interaction frequency (1.99%). The subordinates came from a variety of industries (19% professional services, 16% government and government-linked agencies, 11% education, 11% technology, 6.0% other services, 5.0% fast moving consumer goods, 5.0% marketing and sales, 5.0% non-profit, 4.0% bank and finance, 4.0% manufacturing, 3.0% others, 2.0% health care, 2.0% agriculture, 2.0% insurance, 2.0% logistics, 2.0% media, 1.0% construction, 1.0% transportation, 1.0% energy and utilities, and 1.0% telecommunications). The below table provides a summary of the data dimensions collected from the two sample studies.

Table 3.
Summary of Measures Collected

	Sample 1			Sample 2			Combined Sample
Main Effects	Supervisor Survey #1	Subordinate Survey #1	Subordinate Survey #2	Subordinate Survey #1	Subordinate Survey #2	Subordinate Survey #3	Subordinate Survey #1 & #2
Transformational Leadership	Yes (Self Assessment)	Yes		Yes			Yes
Psychological Safety		Yes	Yes	Yes	Yes		Yes
Power Distance		Yes		Yes		Yes	Yes
Risk-taking Behaviour	Yes (Self Assessment)		Yes		Yes		Yes
Other Variables							
Transactional Leadership	Yes	Yes		Yes			Yes
Risk-taking Attitude	Yes		Yes		Yes		Yes
Risk Perception	Yes		Yes		Yes		Yes
Supervisor's Performance Assessment of Subordinate	Yes						
Employee Engagement			Yes				
Self Efficacy			Yes				
Supervisor - Subordinate Interaction Frequency		Yes		Yes			Yes
Organisation Profile		Yes		Yes			Yes
Respondent Profile			Yes			Yes	Yes

Measures. This dataset is the combination of Sample 1 and Sample 2 responses, using the same measures: transformational leadership ($\alpha = 0.94$), transactional leadership ($\alpha = 0.66$), psychological safety ($\alpha = 0.78$), power distance ($\alpha = 0.69$), risk-taking behaviour ($\alpha = 0.91$) and risk-taking perception ($\alpha = 0.73$). There are no data on self-efficacy, employee engagement and supervisor assessment of subordinate risk-taking behaviour and job performance data as these measures were not collected in Sample 2. All study variables are listed at Appendix A.

Additional Notes. Attention check items were included in the survey and incorrect responses were omitted from the data analysis ($N = 1$).

Results

Overview of Analyses

First, the means, standard deviations, and correlations for Sample 1, Sample 2, the combined data of Sample 1 and Sample 2 (discussed below), and the combined data controlling for sample group are presented. Second, the test of the hypothesised model using Hayes' Process Model 59 is presented (Hayes, 2012). The primary test of the hypothesised model used the combined data controlling for sample group. Additional tests of the hypothesised model (e.g., without controlling for sample group) also are conducted and presented. Third, supplementary analyses assessing the relations between risk taking, self-efficacy, employee engagement, and performance are presented.

Sample 1

Means, standard deviations, and correlations of Sample 1 variables are in Table 4. Transformational leadership and psychological safety are correlated ($r = .40$, $p < .01$). All other correlations are not significant: psychological safety and risk-taking behaviour ($r = .04$, ns), transformational leadership and power distance ($r = -.09$, ns), power distance and psychological safety ($r = -.16$, ns), transformational leadership and risk-taking behaviour ($r = .04$, ns), and power distance and risk-taking behaviour ($r = -.00$, ns). Because subordinates are nested within supervisors, results should be interpreted with caution.

Table 4.
Means, Standard Deviations, and Intercorrelations Among Sample 1 Study Variables
(no controls)

Variables	N	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Transformational Leadership	91	3.81	0.65	(0.93)												
2. Psychological Safety	91	3.76	0.56	0.40**	(0.70)											
3. Power Distance	92	2.02	0.54	- 0.09	- 0.16	(0.72)										
4. Risk-taking Behaviour	51	3.49	0.78	0.04	0.04	0.00	(0.95)									
5. Risk Perception	51	3.57	0.53	0.09	- 0.01	- 0.04	0.10	(0.77)								
6. Transactional Leadership	92	3.49	0.66	0.56**	0.38**	- 0.04	0.06	- 0.03	(0.68)							
7. Gender	51	0.57	0.50	- 0.03	0.09	0.09	0.25	0.08	- 0.09	-						
8. Years of Working Experience	50	13.05	7.87	0.00	- 0.06	- 0.10	0.23	- 0.11	- 0.04	0.04	-					
9. Years Knowing Supervisor	92	2.49	1.16	0.13	0.11	0.08	0.14	- 0.19	0.15	0.07	0.46**	-				
10. Years Worked with Supervisor	92	2.00	1.03	0.15	0.07	0.02	0.01	- 0.27	0.08	- 0.04	0.46**	0.67**	-			
11. Performance Assessment of Subordinate	37	3.65	1.25	- 0.03	0.10	- 0.17	0.08	0.08	- 0.01	0.11	- 0.11	0.14	0.00	-		
12. Self Efficacy	51	3.87	0.50	0.26	- 0.02	- 0.35*	0.28*	- 0.01	- 0.06	0.12	0.18	- 0.08	- 0.18	0.08	(0.78)	
13. Employee Engagement	51	3.85	0.66	0.25	0.02	- 0.25	0.24	0.12	0.07	0.00	0.30*	0.21	0.06	- 0.06	0.42**	(0.76)

Notes: Reliability estimates for the scales are presented on the diagonal.

Sample size ranges from 37 to 92.

Years of working experience is reported in years.

Transformational Leadership, Psychological Safety, Power Distance, Risk-taking Behaviour, Risk Perception, Transactional Leadership, Self-Efficacy, and Employee Engagement were measured using 5-point Likert-type scales.

Supervisor Performance Assessment of Subordinate was measured using 3-point scale: 1 (Below peer group), 3 (Consistent with peer group) and 5 (Above per group).

Gender was coded 1 when the subordinate was male and 0 when female.

*p<.05.

**p<.01.

Sample 2

Means, standard deviations, and correlations of Sample 2 variables are in Table 5. Transformational leadership and psychological safety are correlated ($r = .62, p < .01$). Transformational leadership and risk-taking behaviour are negatively correlated ($r = -.20, p < .05$). Power distance and risk-taking behaviour are negatively correlated ($r = -.30, p < .01$). Risk perception is negatively correlated with power distance ($r = -.29, p < .01$) and correlated with risk-taking behaviour ($r = .41, p < .01$). All other correlations were not significant: psychological safety and risk-taking behaviour ($r = -.14, ns$), transformational leadership and power distance ($r = -.07, ns$), power distance and psychological safety ($r = -.07, ns$).

Table 5.
Means, Standard Deviations, and Intercorrelations Among Sample 2 Study Variables
(no controls)

Variables	N	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Transformational Leadership	239	3.33	0.79	(0.94)									
2. Psychological Safety	234	3.50	0.65	0.62**	(0.80)								
3. Power Distance	232	2.03	0.51	- 0.07	- 0.07	(0.67)							
4. Risk-taking Behaviour	150	3.50	0.79	- 0.20*	- 0.14	- 0.30**	(0.89)						
5. Risk Perception	150	3.62	0.53	- 0.03	0.03	- 0.29**	0.41**	(0.71)					
6. Transactional Leadership	239	3.20	0.60	0.59**	0.61**	- 0.12	- 0.13	0.01	(0.64)				
7. Gender	144	0.43	0.50	0.09	- 0.03	- 0.04	0.13	0.18*	- 0.18*	-			
8. Years of Working Experience	137	16.76	8.59	- 0.08	- 0.09	- 0.09	0.21*	0.03	- 0.22**	0.09	-		
9. Years Knowing Supervisor	239	2.67	1.28	- 0.02	- 0.02	- 0.02	0.11	0.07	- 0.16*	0.23**	0.37**	-	
10. Years Worked with Supervisor	239	2.31	1.16	- 0.06	- 0.01	0.06	- 0.02	- 0.03	- 0.16*	0.14	0.32**	0.79**	-

Notes: Reliability estimates for the scales are presented on the diagonal.

Sample size ranges from 137 to 239.

Years of working experience is reported in years.

Transformational Leadership, Psychological Safety, Power Distance, Risk-taking Behaviour, Risk Perception, Transactional Leadership, Self-Efficacy, and Employee Engagement were measured using 5-point Likert-type scales.

Gender was coded 1 when the subordinate was male and 0 when female.

*p<.05.

**p<.01.

Combined Sample

T-tests. As the survey measures and time intervals across surveys in Sample 1 and Sample 2 are identical, data were combined to test the hypothesised model. Potential differences between the two samples of the study variables and several demographic variables were analysed, see Table 6. Significant differences in the means was observed for transformational leadership ($t(328) = 5.10, p < .01$), psychological safety ($t(323) = 3.34, p < .01$), and transactional leadership ($t(329) = 3.86, p < .01$). One potential explanation for these mean differences is that of the selection process. In Sample 1, subordinates were selected and invited by their supervisors to take part in the research, so it is possible the supervisor selection bias led to the higher mean scores for transformational leadership and psychological safety as supervisors may have chosen subordinates with whom they had favourable relations. In Sample 2, subordinates were not selected by supervisors and were directly invited to participate in this research.

Demographic differences between Sample 1 and Sample 2 include: gender (57% male : 43% male), average years of working experience (13.05 years : 16.76 years), and years worked with supervisor (2.00 years : 2.31 years). To account for these and potentially other differences between the two samples, when testing the hypothesised model sample group (either 1 or 2) was used as a control variable. The correlations, means, and standard deviations for the combined sample without and with sample group as a control variable are detailed in Table 7 and Table 8, respectively.

Table 6.
T-tests Comparing Sample 1 and Sample 2

Variables	Sample 1	Sample 2	t-Tests
1. Transformational Leadership	3.81	3.33	1. Transformational Leadership t (328)= 5.10, p=0.00
2. Psychological Safety	3.76	3.50	2. Psychological Safety t (323)= 3.34, p=0.00
3. Power Distance	2.02	2.03	3. Power Distance t (322)= -0.11, p=0.91
4. Risk-taking Behaviour	3.49	3.50	4. Risk-taking Behaviour t (199)= -0.05, p=0.96
5. Risk Perception	3.57	3.62	5. Risk Perception t (199)= -0.49, p=0.63
6. Transactional Leadership	3.49	3.20	6. Transactional Leadership t (329)= 3.86, p=0.00
7. Gender	0.57	0.43	7. Gender t (193)= 1.70, p=0.09
8. Years of Working Experience	13.05	16.76	8. Years of Working Experience t (185)= -2.67, p=0.01
9. Years Knowing Supervisor	2.49	2.67	9. Years Knowing Supervisor t (329)= -1.15, p=0.25
10. Years Worked with Supervisor	2.00	2.31	10. Years Worked with Supervisor t (329)= -2.27, p=0.02

Correlations without controls. Means, standard deviations, and correlations of the combined sample variables without controlling for sample group are in Table 7 below. Transformational leadership and psychological safety are positively correlated ($r = .59$, $p < .01$). Transformational leadership and risk-taking behaviour are negatively correlated ($r = -.15$, $p < .05$). Power distance and risk-taking behaviour are negatively correlated ($r = -.22$, $p < .01$). Risk perception is negatively correlated with power distance ($r = -.22$, $p < .01$) and correlated with risk-taking behaviour ($r = .33$, $p < .01$). All other correlations were not significant: psychological safety and risk-taking behaviour ($r = -.10$, ns), transformational leadership and power distance ($r = -.07$, ns), power distance and psychological safety ($r = -.09$, ns).

Table 7
Means, Standard Deviations, and Intercorrelations Among Combined Sample Variables
(no controls)

Variables	N	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Transformational Leadership	330	3.46	0.79	(0.94)									
2. Psychological Safety	325	3.57	0.64	0.59**	(0.78)								
3. Power Distance	324	2.03	0.52	- 0.07	- 0.09	(0.69)							
4. Risk-taking Behaviour	201	3.50	0.78	- 0.15*	- 0.10	- 0.22**	(0.91)						
5. Risk Perception	201	3.60	0.53	- 0.02	0.02	- 0.22**	0.33**	(0.73)					
6. Transactional Leadership	331	3.28	0.63	0.60**	0.56**	- 0.10	- 0.08	0.00	(0.66)				
7. Gender	195	0.47	0.50	0.09	0.02	0.00	0.16*	0.15*	- 0.13	-			
8. Years of Working Experience	187	15.77	8.54	- 0.11	- 0.11	- 0.09	0.21**	0.00	- 0.21**	0.05	-		
9. Years Knowing Supervisor	331	2.62	1.25	0.00	0.00	0.01	0.12	0.01	- 0.08	0.19**	0.38**	-	
10. Years Worked with Supervisor	331	2.23	1.13	- 0.05	- 0.01	0.05	- 0.01	- 0.08	- 0.12*	0.09	0.35**	0.76**	-

Notes: Reliability estimates for the scales are presented on the diagonal.

Sample size ranges from 187 to 331.

Years of working experience is reported in years.

Transformational Leadership, Psychological Safety, Power Distance, Risk-taking Behaviour, Risk Perception, Transactional Leadership, Self-Efficacy, and Employee Engagement were measured using 5-point Likert-type scales.

Gender was coded 1 when the subordinate was male and 0 when female.

*p<.05.

**p<.01.

Correlations with controls. Means, standard deviations, and correlations of the combined sample variables controlling for sample group are in Table 8. The mean and standard deviation for transformational leadership (Moriano, Molero, Topa & Mangin, 2014), psychological safety (Walumbwa & Schaubroeck, 2009), and power distance (Duan, Bao, Huang & Brinsfield, 2018) are similar with other research using those measures. For example, for transformational leadership, Moriano, Molero, Topa and Mangin (2014) obtained an observed mean of 3.42 and standard deviation of .66. For psychological safety, Walumbwa and Schaubroeck (2009) obtained an observed mean of 3.57 and standard deviation of .37. For power distance, Duan, Bao, Huang and Brinsfield (2018) obtained an observed mean of 2.57 and standard deviation of .72. For the combined data with controls, transformational leadership and psychological safety are correlated ($r = .57, p < .01$), consistent with other leadership research demonstrating similar effects (Carmeli, Sheaffer, Binyamin, Reiter-Palmon, & Shimoni, 2014; $r = .22, p < .01$). Transformational leadership and risk-taking behaviour are negatively correlated ($r = -.15, p < .05$). Power distance and risk-taking behaviour are negatively correlated ($r = -.22, p < .01$) consistent with other research demonstrating similar effects (e.g., Kreiser, Marino, Dickson, & Weaver, 2010; $r = -.19, p < .01$). All other correlations were not significant: psychological safety and risk-taking behaviour ($r = -.10, ns$), transformational leadership and power distance ($r = -.07, ns$), power distance and psychological safety ($r = -.09, ns$).

Table 8.
Means, Standard Deviations, and Intercorrelations Among Combined Sample Variables
(controlled for sample group)

Variables	N	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Transformational Leadership	330	3.46	0.79	(0.94)									
2. Psychological Safety	325	3.57	0.64	0.57**	(0.78)								
3. Power Distance	324	2.03	0.52	- 0.07	- 0.09	(0.69)							
4. Risk-taking Behaviour	201	3.50	0.78	- 0.15*	- 0.10	- 0.22**	(0.91)						
5. Risk Perception	201	3.60	0.53	- 0.01	0.02	- 0.22**	0.33**	(0.73)					
6. Transactional Leadership	331	3.28	0.63	0.58**	0.54**	- 0.10	- 0.08	0.00	(0.66)				
7. Gender	195	0.47	0.50	0.06	0.00	0.00	0.16*	0.15*	- 0.17*	-			
8. Years of Working Experience	187	15.77	8.54	- 0.07	- 0.08	- 0.09	0.21**	0.00	- 0.17*	0.08	-		
9. Years Knowing Supervisor	331	2.62	1.25	0.02	0.01	0.01	0.12	0.01	- 0.07	0.20**	0.38**	-	
10. Years Worked with Supervisor	331	2.23	1.13	- 0.02	0.01	0.05	- 0.02	- 0.09	- 0.09	0.11	0.34**	0.76**	-

Notes: Reliability estimates for the scales are presented on the diagonal.

Sample size ranges from 187 to 331.

Years of working experience is reported in years.

Transformational Leadership, Psychological Safety, Power Distance, Risk-taking Behaviour, Risk Perception, Transactional Leadership, Self-Efficacy, and Employee Engagement were measured using 5-point Likert-type scales.

Gender was coded 1 when the subordinate was male and 0 when female.

*p<.05.

**p<.01.

Supplementary Analysis

With Sample 1, I also sought to understand the potential benefits of risk-taking to the individual risk taker. Is risk-taking good? Three criteria were selected to enable a better understanding of the potential benefits of risk-taking. The variables are job performance, employee engagement, and self-efficacy. Results show that self-efficacy and risk-taking behaviour are correlated ($r = .28, p < .05$), job performance and risk-taking behaviour did not correlate ($r = .08, ns$), and employee engagement did not correlate with risk-taking behaviour ($r = .24, ns$).

Regression Analysis

The hypothesised model was tested using Process model 59 developed by Hayes (2013). Results of these analyses are reported in Figure 4, Table 9 and Table 10.

Figure 4.
Regression coefficients of the Hypothesised Model
(controlled for sample group)

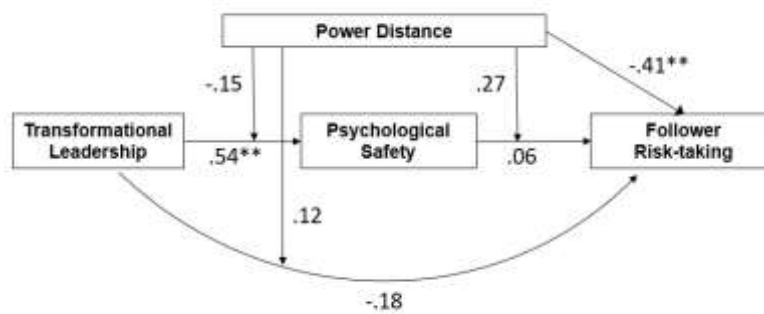


Table 9.
Regression Analyses Testing the Moderating Effects
(controlled for sample group)

	Psychological Safety					
	β	SE	t	P	LLCI	ULCI
Sample Group	.05	.08	.59	.56	-.11	.21
Transformational Leadership	.54	.05	11.61	.00	.44	.63
Power Distance	.05	.07	.75	.45	-.09	.20
Constant	-.09	.15	-.59	.55	-.37	.20
Int_1	-.15	.10	-1.51	.13	-.33	.04
R ²	.44					
	Risk-Taking Behaviour					
	β	SE	t	P	LLCI	ULCI
Sample Group	-0.1	.13	-.75	.46	-.35	.16
Transformational Leadership	-.18	.09	-1.91	.06	-.37	.01
Psychological Safety	.06	.12	.51	.61	-.17	.29
Power Distance	-.41	.11	-3.63	.00	-.64	-.19
Constant	3.67	.23	15.91	.00	3.21	4.12
Int_1	.12	.19	.60	.55	-.27	.50
Int_2	.27	.24	1.11	.27	-.21	.75
R ²	.09					

Note:

For Risk-taking DV, interaction 1 refers to transformational leadership and risk-taking, moderated by power distance. Interaction 2 refers to psychological safety and risk-taking, moderated by power distance. The sample size in this analysis is 201.

Table 10.
 Bootstrap Analyses of the Conditional Direct and Indirect
 Effects of Transformational Leadership on Risk-taking Behaviour
 (controlled for sample group)

Variable	Direct effects				Indirect effects			
	PE	SE	LLCI	ULCI	PE	SE	LLCI	ULCI
Low power distance (-.48)	-.24	.13	-.49	.17	-.04	.12	-.28	.18
Medium power distance (.02)	-.18	.09	-.37	.01	.03	.07	-.10	.16
High power distance (.47)	-.13	.13	-.39	.14	.09	.08	-.07	.26

Overall, little support for the hypothesised model was observed. Two aspects of the model to be supported were that transformational leadership positively predicted psychological safety and power distance orientation negatively predicted risk-taking. Despite the literature on transformational leaders that indicates such leaders are risk-takers themselves (House et al., 2004) and that followers may be influenced by their leaders' behaviour or simply use their leaders' attitude towards risk as a guideline for their own attitudes and behaviours (Hofstede, 1993; Neve & Eisenberger, 2014), the results of this research did not observe that transformational leadership predicted subordinate risk-taking behaviour; Hypothesis 1 is not supported. Hypothesis 2 theorised that subordinates working under transformational leaders would feel supported and safe to interact more frequently (Kumako & Asumeng, 2013), thus, psychological safety may be one mechanism through which transformational leadership relates to subordinate risk-taking. However, the results did not support H2. Specifically, transformational leadership did not predict risk-taking, however it did

predict psychological safety ($\beta = .54, p < .01$). The latter effect is consistent with research observing that transformational leadership positively predicts psychological safety research (Walumbwa & Schaubroeck, 2009; Carmeli, Sheaffer, Binyamin, Reiter-Palmon & Shimoni, 2014). Psychological safety was not found to predict risk-taking behaviour ($\beta = .06, p > .05$) and therefore the indirect effect that was hypothesised was not supported.

Power distance orientation was hypothesised to moderate the relationship between transformational leadership and risk-taking (Hypothesis 3); between transformational leadership and psychological safety (Hypothesis 4) and between psychological safety and risk taking (Hypothesis 5); none of these hypotheses were supported. H6 theorised that power distance would negatively predict risk-taking, and the results support this hypothesis ($\beta = -.41, p < .01$). This finding is consistent with research conducted by Kreiser, Marino, Dickson and Weaver (2010) who found that power distance was negatively and significantly correlated to risk-taking across six countries. Finally, as indicated in Table 9, the model accounted for 4.39% of variance in psychological safety and 0.93% of variance in risk-taking behaviour.

Discussion

Although extant research has supported the positive relations between transformational leadership with individual (e.g., performance, Bono & Judge, 2003) and organisational outcomes (e.g., organisational innovation, Jung, Wu & Chow, 2008), the effect of transformational leadership with follower risk-taking has not been sufficiently explored. Understanding the effect of transformational leadership on follower risk-taking is important in this ambiguous and fast-paced world where businesses need to continually innovate and reinvent themselves in order to survive and thrive (Wiseman & Gomez-Mejia, 1998). The hypothesised model explored whether transformational leadership and power distance orientation relate to follower risk-taking and whether these effects are interactively and partially mediated through psychological safety. Overall, little support for the hypothesised model was observed. However, two aspects of the model were supported, that is, the positive effect of transformational leadership on psychological safety and the negative effect of power distance orientation on follower risk-taking. Below these findings are discussed.

Transformational leadership predicts psychological safety. As expected, transformational leadership positively relates to follower psychological safety. This is consistent with other transformational leadership and psychological safety research (Walumbwa & Schaubroeck, 2009; Carmeli, Sheaffer, Binyamin, Reiter-Palmon & Shimoni, 2014). Leaders' behaviours have an impact on the interpersonal relationships as well as the development of a climate in which followers feel safe enough to challenge the status quo or openly share mistakes (Li, Chen & Begley, 2015). Similarly, Sharifirad (2013) found that transformational leadership affects

psychological safety and argued that with the support and encouragement of transformational leaders, followers are more likely to focus on tasks rather than fears. Psychological safety has been linked to many positive outcomes such as learning from failure (Edmondson, 2004), organisational adaptation and innovation (Starkey, 1998), learning and eventual organisational success (Sitkin, 1992), open sharing about capability gaps (Carmeli, 2007), error management (Frese, 2004), willingness of individuals to disclose errors (Zhao & Olivera, 2006), creative thinking (Palanski & Vogelgesang, 2011), and trust (Neve & Eisenberger, 2013).

Power distance predicts risk-taking. Results indicated that power distance orientation negatively predicted risk-taking. For higher power distance oriented individuals, there is a preference for greater social distance between supervisors and subordinates, a lower preference for participative practices (Hofstede, 1980), higher unequivocal acceptance of supervisor directives and decisions (Gelfand, Frese & Salmon, 2011), greater conformity to societal norms (Hofstede, 1984), and lower preference for challenging supervisors' opinions (Helmreich, Wilhelm, Klinect & Merritt, 2001). Higher power distance orientation may make subordinates feel less willing to make decisions, especially risky decisions (Kreiser, Marino, Dickson, & Weaver, 2010). In contrast, subordinates with lower power distance orientation expect to be consulted, thrive on informal empowerment (Hofstede, Hofstede & Minkov, 2010), prefer more participative management practices (Hofstede, Hofstede & Minkov, 2010), seek to be independent (Hofstede, 1984), and stand up for what they perceive to be the right decision (House et al., 2004). As such, lower power distance oriented subordinates are likely to take more risks in decision-making than those higher in

power distance orientation; results of this study support the hypothesised negative relation between power distance orientation and risk-taking.

Lack of support for the overall hypothesised model. Apart from the above two relations, the other hypothesised relations were not supported. Interpreting null results are difficult as there are a myriad of possible explanations including the possibility that there are no relations among the variables as observed, or that other factors (e.g., limitations of the current study) may have affected the ability to observe such relations in the current research. Given the limitations of the current study (discussed in greater detail below), findings from this study must be interpreted with caution. As discussed below, however, various potential reasons for some of the null findings are presented and future research should explore these possibilities to better understand the relations between the study's variables

Transformational leadership did not predict risk-taking. One null finding indicated that transformational leadership did not predict follower risk-taking behaviour. It may be that transformational leadership has no relation to risk-taking. There is only one dissertation study on transformational leadership and risk-taking by Piccolo (2005), therefore I draw parallels to a related variable (e.g., innovation) with more empirical research for discussion. Sharifirad (2013) notes that transformational leaders may trigger follower dependency through censorship of follower's non-confirming ideas and opinions, and thereby limit follower innovation. Another possible explanation is that followers may be intimidated by transformational leaders under certain circumstances such that followers may be less willing to voice their own

opinions or decisions (Basu & Green, 1997). Pouya, Azar, Moshbaki and Jafarnejad (2010) argued that the tendency for followers to place transformational leaders on pedestals as 'idols' and role models can also create a tendency to let leaders make decisions, risky or otherwise. Similar parallels could be drawn to the relationship between transformational leaders and follower risk-taking. Specifically, transformational leaders may in some situations or through another mediator variable, create similar follower dependencies such that followers are intimidated or feel they self-censor in decision-making and simply absolve themselves of decision-making. Thus, transformational leadership may have an indirect effect on risk-taking through other mediators.

A relation between transformational leadership and follower risk-taking may exist, however, because of the following reasons, the current study did not observe the relation: i) measurement issues related to risk-taking and ii) distal effects of transformational leadership. Firstly, risk-taking may be difficult to measure because, those who take risks may not view their actions as risky, measures available for field research are not as well established, and those higher in power distance orientation may not be willing to admit their actual risky behaviours. Taken together, these potential difficulties in actually capturing one's risk taking, especially self-reported risk-taking, may have prevented this study's ability to observe such a relation. Secondly, the effects of transformational leadership to follower risk-taking may be distal through other mediators. If transformational leadership effects are distal, then a direct effect may not be observed. Van Knippenberg and Sitkin (2013) identified 52 different mediators predicting 38 different outcomes for transformational leadership, although

none of these studies tested for risk-taking as an outcome variable. One possible mediator is issue-framing (Piccolo, 2005). Issue framing examines the influence of changes to wording of decision problems and how these changes can make situations look better or worse, so that decision choices can be influenced by both content and delivery (Piccolo, 2005). Piccolo (2005) adopted an experimental approach and found that transformational leadership had a positive main effect on follower risk-taking as well as an indirect effect through a cognitive mechanism, issue interpretation.

Psychological safety did not predict risk-taking. Psychological safety did not predict risk-taking behaviour. Psychological safety may not predict risk-taking because of the paradoxical effects of safety and risk-taking. For example, psychological safety may inadvertently create feelings of comfort and complacency which deter followers from taking risks that may jeopardise their feelings of psychological safety, such that the more psychologically safe a follower feels, the less likely they are to take risks that could potentially affect their position or relationship with their leader or the team (Venkataraman, MacMillan, & McGrath, 1992). Future research should explore additional boundary conditions in which psychological safety may or may not relate to risk taking behaviour. In addition, it may be that a relation between psychological safety and follower risk-taking exists, however, because of the following reasons, the current study did not observe one. He, Wang, and Payne (2019) in their meta-analysis of antecedents to psychological safety found that the industry context affects the relations between psychological safety and risk-taking. It may be that characteristics of the industry, for example, organisation performance in industry,

competitor strategy, and transformative pace, that may affect the relations between psychological safety and risk-taking.

Power distance orientation did not moderate the hypothesised model.

Contrary to other research, this study did not observe any effects of power distance orientation as a moderator on the relations between transformational leadership and psychological safety (Kirkman, Chen, Farh, Chen, & Lowe, 2009), between psychological safety and risk-taking (Duan, Bao, Huang & Brinsfield, 2018), or between transformational leadership and risk-taking. One explanation for this may be that different situations and perspectives seem to lead to different interpretations and definitions of risk taking (Trimpop, 1994). Alternatively, it may be that other cultural values might influence the hypothesised relations. One such cultural value which may moderate transformational leadership, psychological safety and risk-taking is collectivism. Individualism-collectivism has an effect on the decision to champion innovation (Shane, Venkataraman, and MacMillan, 1995) and this may be similar to the decision to take risks. Individuals higher on the cultural value of collectivism, in which there is a preference for strong, cohesive in-groups, with unquestioning loyalty (Hofstede, 1991) are likely to resist or refrain from any (risky) decision that may “threaten the existing power and resource distribution” within an organisation (Venkataraman, MacMillan, & McGrath, 1992, p.502), hence collectivism may moderate the hypothesised relations and risk-taking.

Additional observations about risk-taking. In Sample I, I sought to discover if there are tangible benefits of risk-taking, such as enhanced job performance,

employee engagement and self-efficacy. My study observed that self-efficacy was significantly correlated with risk-taking, and null effects were observed for employee engagement and job performance. As the length of working experience of the respondents who took part in this research averaged 15.77 years, it is possible that subordinates armed with significant amount of experience, and presumably are more competent at their jobs, are more willing to make risky decisions. This is consistent with the results of experiments on betting games conducted by Funk, Rapoport and Jones (1979) where they found that experience and knowledge were positively significant to risk-taking. Other variables found to positively correlate with risk-taking in Sample 1 include: years of working experience, risk perception, and gender (such that males self-reported that they took more risks than females). The finding on gender is consistent with other research on risk-taking, where empirical evidences of gender differences were observed, where females tended to take less risk (Charness & Gneezy, 2007).

Limitations

Sample and data collection limitations. The current study has several limitations. One limitation is the small and nested sample of Sample 1 which precludes clear interpretations of the data. Sample 1 also potentially suffers from selection bias as supervisors invited subordinates to take part in the research. For example, there is a possibility that supervisors selected subordinates with whom they have a more effective relationship with and this would affect the subordinates' assessment of their supervisor's level of transformational leadership. Across both samples, the self-reporting nature of surveys also creates limitations brought about by same-source bias.

Data response items. Inconsistency in the survey response categories is another limitation. For example, age was measured not as a continuous variable but rather as five fixed age groups (e.g., between 35 – 44). Similarly, organisational size was not a continuous variable, but five organisation size options were provided for selection.

Definition and operationalisation of risk-taking. Another limitation is the definition and operationalisation of risk-taking. The managerial definition of risk may vary from one person to the next. The concept of risk-taking in one context may differ in another (Shapiro, 1986). Future researchers should provide clearer definitions of risk-taking, such as that proposed by Sitkin and Pablo (1992): a) their expected outcomes are more uncertain; b) decision goals are more difficult to achieve; and c) the potential outcome set includes some extreme consequences. Related, the scales

for risk-taking and risk perception were adapted from other studies and therefore the validity may not be well established. For example, only two items were used to operationalize risk taking behaviour and this scale may not fully capture the content of risk taking behaviour. Future research may wish to explore the more established measures such as entrepreneurial orientation or intrapreneurial orientation, which have risk-taking components within the measure (Shirokova, Bogatyreva, Beliaeva, & Puer, 2016), and adapt the risk-taking items for research to be behavioural rather than dispositional as orientations tend measure. Alternatively, future researchers may adopt and adapt risk-taking items from innovation (Sharifirad, 2013; Badu & Green, 1997; Jung, Chow & Wu, 2003), and top manager ambidexterity (Li, Lin & Tien, 2015) measures which have a component of risk-taking embedded within it.

Potential model mis-specification. As with any model, important variables may have been omitted that would mis-specify the model. Additional variables such as risk aversion and risk propensity (Sitkin & Weingart, 1995; Li, Zhang & Tian, 2015) may have added more depth to our understanding of the determinants of risky decision-making and the role and extent to which leadership styles might influence these likely correlates of risk-taking. Future research may wish to explore a broader range of determinants of risk-taking. Additional outcome variables of risk-taking will also add to our understanding of risk-taking effects. For example, job satisfaction was not tested, and it would have provided another factor by which to potentially understand the value and desirability of follower risk-taking in an organisation context.

Generalisability of findings. The majority of the survey respondents were predominantly Singaporean of Chinese descent. The issue of whether the results may be generalisable to different cultures is unknown. For future research, a replicated model, overcoming the limitations listed in this study, would add to the existing literature on a mediated, moderated approach to transformational leadership and follower risk-taking.

Directions for Future Research

In addition to the avenues for future research noted above, several other directions for future research may provide a better understanding of employee risk taking. These other possible research directions are discussed below.

Additional Mediators. The effect of transformational leadership on risk-taking may differ depending on the moderated or mediated effects of variables studied. One possible mediator is goal congruence. Goal congruence is described as the extent to which employees believe that they share similar organisational goals with leaders and/or peers (De Clercq, Rahman, & Belausteguigoitia, 2017). Larrick, and Wu (2009) found that, compared to a 'do your best' condition, a 'specific, challenging, goal' condition, increased risky behaviour in negotiation and decision making. Transformational leaders are effective at influencing follower perception of goal importance (Steinmann, Klug, & Maier, 2018) and goal congruence through developing shared vision, increased commitment to the mission and enabling followers to deliver the desired performance goal (Bass, 1999). It is possible that the effects of transformational leadership on risk-taking may be influenced by goal congruence such that higher transformational leadership increases goal congruence, which in turn increases risk-taking. Another possible mediator is error management (Frese & Keith, 2015). Error management is defined as the ability to effectively deal with errors after they have occurred, with the goal of minimizing negative and maximizing positive error consequences (Frese & Keith, 2015). Frese and Keith (2015) found that error management predicts learning and innovation in organizations. It may be that the way leaders react after an error may influence follower behaviours, such as, risk-taking.

Given the uncertainty of outcomes in risk-taking, it is possible that leaders who display positive aspects of error management may be able to positively effect risk-taking in followers, as compared to leaders who display negative aspects of error management.

Wang, Oh, Courtright, and Colbert (2011) noted that the effects of transformational leadership may differ for organisations in different contexts, for example, organisations that are undergoing significant changes as compared with organisations that are more stable and undergoing less changes. It is possible that the effects of transformational leadership are stronger on risk-taking in a transformative organisational context than when compared to a steady-state organisational context. In a transformative organisation context, significant changes are expected in the organisation business strategy, operating model, structure, individual job performance, and risk-taking supports the achievement of significantly improved outcomes (Bass & Riggio, 2006). Pawar and Eastman (1997) supported the contextual influence of risk-taking by suggesting that risk-taking may be rewarded in some industries (i.e., high tech start-ups) and discouraged in others (i.e., manufacturing).

Practical Implications

Assuming risk-taking is desired to both the organisation and the individual, then organisational leaders need to take notice of the following recommendations. Firstly, as power distance orientation negatively predicts follower risk-taking, organisations with higher power distance oriented employees, who wish to encourage employee risk-taking may need to create organisational processes that circumvent the reluctance to do business differently (changes can be risky for the individual as well as their team). For example, creating the role of champions for business improvement, getting the champion (formally sanctioned by management) to rally the team for ideas and mandating that those in positions of authority support the team's efforts (Shane, Venkataraman, & MacMillan, 1995). Other organisational examples to encourage ideas, innovation and risk-taking include creating an anonymous employee suggestion scheme where any individual may submit ideas for management consideration. Specifically, such organisational processes remove personal risk and any other possible repercussion to the team (e.g., Ministry of Defence Singapore's Staff Suggestion Scheme) which may increase risk-taking behaviours.

Secondly, leaders and managers need to be cognizant of the power distance orientation of their followers and discern the organisational processes that would encourage risk-taking in high power distance versus low power distance cultures (Kreiser, Marino, Dickson, & Weaver, 2010). Leaders should learn to adjust the way they manage risky decision-making in their teams accordingly. For example, the leader may fully empower lower power distance oriented followers to take decisions and actions, but they may wish to adopt different practices with higher power distance

oriented followers, such as role-playing the devil's advocate game where one person in the team is 'empowered' to challenge the existing policy or status.

Conclusion

In this study, I sought to test the effects of transformational leadership on follower risk-taking, through follower psychological safety. Additionally, this partially mediated effect was theorised to be moderated by follower power distance orientation. Overall, little support for the hypothesised model was observed, however, two aspects of the model were supported, that is, the positive effect of transformational leadership on psychological safety and the negative effect of power distance orientation on employee risk-taking. The findings add to the existing literature on transformational leadership and psychological safety, and the positive effect of power distance orientation on follower risk-taking.

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Appendix

A. Study Variables

Transformational Leadership - MLQ Form 5X (Bass & Avolio, 2004)

1. Provides me with assistance in exchange for my efforts
2. Re-examines critical assumptions to question whether they are appropriate
3. Fails to interfere until problems become serious (reverse scored)
4. Focuses attention on irregularities, mistakes, exceptions, and deviations from standards (reverse scored)
5. Avoids getting involved when important issues arise (reverse scored)
6. Talks about their most important values and beliefs
7. Is absent when needed (reverse scored)
8. Seeks differing perspectives when solving problems
9. Talks optimistically about the future
10. Instills pride in me for being associated with him/her
11. Discusses in specific terms who is responsible for achieving performance targets
12. Waits for things to go wrong before taking action (reverse scored)
13. Talks enthusiastically about what needs to be accomplished
14. Specifies the importance of having a strong sense of purpose
15. Spends time teaching and coaching
16. Makes clear what one can expect to receive when performance goals are achieved
17. Shows that he/she is a firm believer in "If it ain't broke, don't fix it." (reverse scored)
18. Goes beyond self-interest for the good of the group
19. Treats me as an individual rather than just as a member of a group
20. Demonstrates that problems must become chronic before taking action (reverse scored)
21. Acts in ways that builds my respect
22. Concentrates his/her full attention on dealing with mistakes, complaints, and failures (reverse scored)
23. Considers the moral and ethical consequences of decisions
24. Keeps track of all mistakes (reverse scored)
25. Displays a sense of power and confidence
26. Articulates a compelling vision of the future
27. Directs my attention toward failures to meet standards (reverse scored)
28. Avoids making decisions (reverse scored)
29. Considers me as having different needs, abilities, and aspirations from others
30. Gets me to look at problems from many different angles
31. Helps me to develop my strengths
32. Suggests new ways of looking at how to complete assignments
33. Delays responding to urgent questions (reverse scored)
34. Emphasizes the importance of having a collective sense of mission
35. Expresses satisfaction when I meet expectations
36. Expresses confidence that goals will be achieved
37. Is effective in meeting my job-related needs
38. Uses methods of leadership that are satisfying
39. Gets me to do more than I expected to do

40. Is effective in representing me to higher authority
41. Works with me in a satisfactory way
42. Heightens my desire to succeed
43. Is effective in meeting organisational requirements
44. Increases my willingness to try harder
45. Leads a group that is effective

Psychological Safety - Edmondson (1999)

1. If I make a mistake at work, it is often held against me (reverse scored)
2. I am able to bring up problems and tough issues at work
3. I sometimes feel rejected by others for being different (reverse scored)
4. It is safe to take a risk at work
5. It is difficult to ask my colleagues for help (reverse scored)
6. My colleagues would not deliberately act in a way that undermines my efforts
7. At work, my unique skills and talents are valued and utilized

Power Distance - Dorfman and Howell (1988)

1. Managers should make most decisions without consulting subordinates
2. It is frequently necessary for a manager to use authority and power when dealing with subordinates
3. Managers should seldom ask for the opinions of employees
4. Managers should avoid off-the-job social contacts with employees
5. Employees should not disagree with management decisions
6. managers should not delegate important tasks to employees

Risk-taking Behaviour - adapted from Dohmen, Falk, Huffman, Sunde, Schupp and

Wagner (2011)

1. At work, I am generally a person who takes risks
2. At work, I am generally a person who avoids taking risks (reverse scored)

Risk Perception - adapted from Highhouse and Yuce's (1996)

1. I feel negative about the potential decision outcome (reverse scored)
2. I feel positive about the potential decision outcome
3. I feel that risky decisions are a threat (reverse scored)
4. I feel that risky decisions are an opportunity

Employee Engagement - Idris, Dollard, and Tuckey (2015)

1. At my work, I feel bursting with energy (vigour)
2. I am enthusiastic about my job (dedication)
3. I am immersed in my work" (absorption)

Self-Efficacy - Hecht and Allen (2005)

1. I believe that I could perform successfully in other jobs of this type
2. I feel confident that my skills and abilities equal or exceed that of others who do this job
3. My job is well within the scope of my abilities
4. I feel I am underqualified for my job (reverse scored)
5. I believe that I am one of the top performers in this type of job
6. I feel that my performance in this organization is exemplary

B. Survey Invitations

B1. Survey invitation sent to Supervisors (Sample 1)

Dear Sir/Madam,

Invitation to participate in Research Study on 'The Impact of Leadership on Employee and Organisation Outcomes'

I am writing to invite you to participate in a research study on The Impact of Leadership on Employee and Organisation Outcomes. The purpose of this research is to study the behaviour of leaders and how these behaviours impact employee and organisation outcomes.

While there is substantial research on the effects of leadership, much of the existing research takes place in Europe and North America. This study seeks to understand the effects of leadership in a South East Asian context, so that we may better understand how culture influences the relationship between the leader, the employee and organisation outcomes.

Your participation is crucial in helping to establish a clearer understanding of the current reality of leadership in South East Asia, and which leadership behaviours have a stronger effect on employee performance and organisation outcomes.

The research will be conducted entirely with online survey tools, and consists of three short surveys; two of which will be completed by your subordinates and one survey to be completed by you. This research should take between 2-3 weeks to complete, from the date you first inform your subordinates of the research study.

If you agree to participate in this research, and I sincerely hope you do, I will require your assistance in three areas:

- Step 1 – Send the initial email to your subordinates to inform them of the research study (This email is drafted for you, please edit as you wish and email it to up to 10 of your subordinates/direct reports)
- Step 2 – Complete a short 10min survey on your subordinates, your leadership and organisation culture (this is will sent to you at the end of the survey period)
- Step 3 – 5 working days after the initial email has been sent to your subordinates, please send out a reminder email (This email is drafted for you, please edit as you wish and email it to all your subordinates/direct reports)

Research Confidentiality – The information provided by respondents are strictly confidential. During the course of administering the surveys, we will be requesting for some personal data, like names and email addresses. We will be linking your responses with your subordinates' responses. All personal data will be removed after the conclusion of the study. All the data collected will be analysed and then presented in an aggregated format in the research report. If required, your explicit consent will be sought for the use of this personal data for any other purpose. In addition, no company-level information will be reported, either to the company taking part or as

part of the research findings. Only aggregated information across 40 companies will be used in the analysis of this research study.

Withdrawal of Participation - At any point in time, if you wish to withdraw your participation, please send an email to josiekang@smu.edu.sg stating your name and email address. You will then receive a confirmation email from us acknowledging the withdrawal.

Please feel free to contact me if you have any further queries regarding this research study. I look forward to your favourable reply.

Yours sincerely,
Josie Kang
Doctoral Candidate
Lee Kong Chian School of Business
Singapore Management University
Email - Josiekang@smu.edu.sg
Mobile – xxxxxxxx

B2. Survey invitation sent to Subordinates (Sample 2)

Dear Sir/Madam,

Invitation to participate in Research Study on 'The Impact of Leadership on Employee and Organisation Outcomes'

I am writing to invite you to participate in a research study on The Impact of Leadership on Employee and Organisation Outcomes. The purpose of this research is to study the behaviour of leaders and how these behaviours impact employee and organisation outcomes.

While there is substantial research on the effects of leadership, much of the existing research takes place in Europe and North America. This study seeks to understand the effects of leadership in a South East Asian context, so that we may better understand how culture influences the relationship between the leader, the employee and organisation outcomes.

Your participation is crucial in helping to establish a clearer understanding of the current reality of leadership in South East Asia, and which leadership behaviours have a stronger effect on employee performance and organisation outcomes.

The research will be conducted entirely with online survey tools, and consists of three short surveys to be completed by you. This research should take between 2-3 weeks to complete.

If you agree to participate in this research, and I sincerely hope you do, I will require you to click on this link to provide your inputs to the first survey. The second survey

will be sent to you after one week, and the third survey, a week after you complete the second survey.

Please click on this link to access the first survey.

Research Confidentiality – The information provided by respondents are strictly confidential. During the course of administering the surveys, we will be requesting for some personal data, like names and email addresses. We will be linking your responses with your subordinates' responses. All personal data will be removed after the conclusion of the study. All the data collected will be analysed and then presented in an aggregated format in the research report. If required, your explicit consent will be sought for the use of this personal data for any other purpose. In addition, no company-level information will be reported, either to the company taking part or as part of the research findings. Only aggregated information across 40 companies will be used in the analysis of this research study.

Withdrawal of Participation - At any point in time, if you wish to withdraw your participation, please send an email to josiekang@smu.edu.sg stating your name and email address. You will then receive a confirmation email from us acknowledging the withdrawal.

Please feel free to contact me if you have any further queries regarding this research study. I look forward to your favourable reply.

Yours sincerely,
Josie Kang
Doctoral Candidate
Lee Kong Chian School of Business
Singapore Management University
Email - Josiekang@smu.edu.sg
Mobile – xxxxxxxx

C. Surveys

C1. Sample 1 - Supervisor Survey

Start of Block: Participant Information Sheet and Informed Consent

Thank you for taking the time to participate in this research study on 'The Impact of Leadership on Employee and Organisation Outcomes'.

Participant Information Sheet

- Please read this section for details of the research study and survey procedures.

1. Purpose of Research Study: The purpose of this research is to study the behaviour of leaders and how these behaviours impact employee and organisation outcomes. While there is substantial research on the effects of leadership, much of the existing research takes place in Europe and North America. This study seeks to understand the effects of leadership in a South East Asian context, so that we may better understand how culture influences the relationship between the leader, the employee and organisation outcomes.

2. Study Procedures and Duration: You will be asked to provide feedback for a ten-minute survey. This Survey covers your views of your personal leadership behavior, the organisation culture and the ways of working, and organisation performance.

Please note that you have the option to skip questions in the survey, however, you will not be able to amend your responses to any question, after you have submitted the survey. At any point in time, prior to the close of the survey period, if you wish to withdraw your participation, please send an email to josiekang@smu.edu.sg stating your name and email address. You will then receive a confirmation email from us acknowledging the withdrawal.

3. Benefits of Study: You will be making a positive contribution to the literature on leadership effectiveness in Asia. Your responses will help both practitioners and academic researchers understand the impact of culture on leadership outcomes and identify aspects of the leader's behaviour that have a stronger effect on desired employee and organizational outcomes.

4. Possible Risks of Study: There are no foreseeable risks in taking part in this research study.

5. Confidentiality and Privacy of Research Data: Your responses to the survey questions are strictly confidential and will not be made known to your subordinates. During the course of administering the survey, we will be requesting for your email address. Your email address will be used to match participant responses to be studied as part of the same organizational unit of study (i.e. your responses will be matched with your subordinates' responses). Some organizational and personal profile information will also be requested in the survey. Personal data such as names and email addresses, will be removed after the conclusion of the study. Therefore, if you wish to withdraw your participation, please send an email to josiekang@smu.edu.sg stating your name and email address, prior to the close of the survey period. You will then receive a confirmation email from us acknowledging the withdrawal.

If required, we will seek your explicit consent for the use of this personal data for any other purpose. In addition, no company-level information will be reported, either to the company taking part or as part of

the research findings. Only aggregated information across companies will be used in the analysis of this research study. In order to ensure privacy of the data, the following measures will be taken: (1) the questionnaire will be hosted on Qualtrics, which is a secured online survey platform; (2) the file containing the data set will be password protected and stored in Dropbox. All the data collected from you will be analysed and then presented in an aggregated format in the research report. The data collected will be accessed and used for analysis by the primary researcher, Josie Kang and her research supervisor, Dr Gary Greguras.

6.Contact Details: For questions/ clarifications on this study, please contact the Principal Investigator, Josie Kang, at email address Josiekang@smu.edu.sg, and/or office/mobile number: +65 xxxxxxxx or the Research Supervisor, Gary Greguras, at email address garygreguras@smu.edu.sg , and/or office number: +65 xxxxxxxx.

If you have any questions or concerns regarding your rights as a participant in this research study and wish to contact someone unaffiliated with the research team, please contact the SMU Institutional Review Board Secretariat at irb@smu.edu.sg or + 65 xxxxxxxx. When contacting SMU IRB, please provide the title of the Research Study and the name of the Principal Investigator, or quote the IRB approval number IRB-17-039-A071(617). Please bookmark or save a copy of this information sheet and informed consent form for your records.

I have read the Participant Information Sheet

Informed Consent Form

Participant's Declaration

- I understand that participation is voluntary. Refusal to participate will involve no penalty.
- I declare that I am at least 18 years of age.
- If I am affiliated with Singapore Management University, my decision to participate, decline, or withdraw from participation will have no adverse effect on my status at or future relations with Singapore Management University.
- I have read and fully understood the contents of this form, and hereby give consent to the Singapore Management University research team and its affiliates for this project to collect and/or use my data for the purpose(s) described in this form.

By clicking the 'I agree to participate' button, I consent to participate in this study and agree to all of the above. If you do not wish to participate in this research study, you may close the browser to exit the survey.

I agree to participate in this research study

Principal Investigator's Declaration:

I have explained and defined in detail the research procedures in which the participant (or legal representative) has consented to participate. I also declare that the data collected for this research study will be handled as stated above.

Josephine KANG Poh Tin 1 July 2017

End of Block: Participant Information Sheet and Informed Consent

Start of Block: Leadership Behaviour

This section covers information about your leadership behaviour.

Please select the option that best reflects your leadership behavior at work.	Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
I provide others with assistance in exchange for their efforts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I re-examine critical assumptions to question whether they are appropriate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I fail to interfere until problems become serious.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I focus attention on irregularities, mistakes, exceptions, and deviations from standards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid getting involved when important issues arise.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I talk about my most important values and beliefs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am absent when needed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I seek differing perspectives when solving problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I talk optimistically about the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I instill pride in others for being associated with me.

I discuss in specific terms who is responsible for achieving performance targets.

I wait for things to go wrong before taking action.

I talk enthusiastically about what needs to be accomplished.

I specify the importance of having a strong sense of purpose.

I spend time teaching and coaching.

I make clear what one can expect to receive when performance goals are achieved.

I go beyond self-interest for the good of the group.

I show that I am a firm believer in "If it ain't broke, don't fix it."

I treat others as individuals rather than just as a member of a group.

I demonstrate that problems must become chronic before I take action.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I act in ways that build others' respect for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I concentrate my full attention on dealing with mistakes, complaints, and failures.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider the moral and ethical consequences of decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I keep track of all mistakes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I display a sense of power and confidence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I articulate a compelling vision of the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I direct my attention toward failures to meet standards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid making decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider an individual as having different needs, abilities, and aspirations from others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I get others to look at problems from many different angles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I help others to develop their strengths.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I suggest new ways of looking at how to complete assignments.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I delay responding to urgent questions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I emphasize the importance of having a collective sense of mission.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I express satisfaction when others meet expectations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I express confidence that goals will be achieved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am effective in meeting others' job-related needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use methods of leadership that are satisfying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get others to do more than they expected to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am effective in representing others to higher authority.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I work with others in a satisfactory way.

I heighten others' desire to succeed.

I am effective in meeting organizational requirements.

I increase others' willingness to try harder.

I lead a group that is effective.

End of Block: Leadership Behaviour

Start of Block: Leadership Humility

To what extent do you agree with the following statements?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I know myself well (e.g., limitations, strengths)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I acknowledges others' contributions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I listen to others' suggestions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a good example for others to follow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am boastful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a team player	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I care about others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I treat others fairly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I teach others how to improve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Leadership Humility

Start of Block: Leadership Risk-taking

This section covers information about your leadership risk-taking behaviour.

At work, I am generally a person who takes risks

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

At work, I am generally a person who avoids taking risks

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I believe that when mastering a task, people can learn a lot from their mistakes

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I believe that errors point out the areas we need to improve

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I believe that there is value in discussing errors with the team

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I get upset and irritated if an error occurs

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
At work, I often willingly accept tasks with a high likelihood of problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often put myself in a position of risk to help this organisation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often tell others when I have made a mistake even if I could easily hide it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I value taking a chance on new products, services, or procedures.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To improve and innovate our products/services and way of working, I am willing to challenge the status quo and long-standing practices of the company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am comfortable with failures that occur when I try new ways of solving problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to take an experimental approach to my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When I make risky business decisions, I feel positive about the potential decision outcome

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

When I make risky business decisions, I feel negative about the potential decision outcome

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I view risky decision making at work as an opportunity

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I view risky decision making at work as a threat

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Based on your work experience, how would you rate the following business activities in terms of risk...

	No Risk	Low Risk	Neutral	Risky	Very Risky
Merging with another company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implementing a new IT software	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Launching a new business venture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transferring to a new role (lateral move) within the same company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changing work processes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking on higher level responsibility (promotion)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Entering a new market	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changing business strategy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Launching a new product/service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

List 3 other business decisions that you have to make at work, that are considered risky.

End of Block: Leadership Risk-taking

Start of Block: Subordinate Performance

Provide an assessment of your subordinates' appetite for risk-taking at work. Two categories are provided for your assessment 'Take More Risks' and 'Take Less Risks'.(Please ensure you have listed names of all the subordinates you invited to take part in the research study, in the two category options below.)

Please list the names of subordinates who take MORE risks at work.

Please list the names of subordinates who take LESS risks at work.

Provide an assessment of your subordinates' current performance at work. Three categories are provided for your assessment 'Above Peer Group', 'Consistent Within Peer Group' and 'Below Peer Group'.(Please ensure you have listed names of all the subordinates you invited to take part in the research study in the three options below.)

Please list the names of subordinates who are performing above their peer groups.

Please list the names of subordinates who are performing consistently within their peer groups.

Please list the names of subordinates who are performing below their peer groups.

End of Block: Subordinate Performance

Start of Block: Organisation Profile and Culture

This section covers your organisation profile, as well as your perception of your organisation values and culture.

Compared to similar organisations in our industry, I believe my organisation to be performing at...

- Top 3 position
- Above peer group
- On par with peer group
- Below peer group

Compared to similar organisations in our industry, I believe my organisation has a reputation of being...

	Very Conservative	Conservative	Neutral	Somewhat Innovative	Very Innovative
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Compared to similar organisations in our industry, the pace of transformation and change within my organisation is...

- Significantly slower pace
- Slower pace
- Average
- Faster pace
- Significantly faster pace

In general, the leaders of my organisation believe that...

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Owing to the nature of the environment, it is best to explore it gradually via timid, incremental behavior.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the organisation's objectives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In general, the leaders of my organisation have...

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
A strong proclivity for low-risk projects (with normal and certain rates of return).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A strong proclivity for high-risk projects (with chances of very high returns).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When confronted with decision-making situations involving uncertainty, my organisation...

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Typically adopts a cautious, 'wait-and-see' posture in order to minimise the probability of making costly decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Typically adopts a bold, aggressive posture in order to maximise the probability of exploiting potential opportunities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Risk-taking is explicitly mentioned in our organisation culture and values

- Agree
- Disagree
-

Risk-taking is implicit in our organisation culture and values

- Agree
- Unsure
- Disagree
-

End of Block: Organisation Profile and Culture

Start of Block: Debrief Information

Would you like to receive a summarised copy of the research findings?

- Yes
- No
-

Please provide us with your work email address.

(This will be used to match feedback provided by relevant participants from the same organization for organizational unit analysis.)

Thank you for participating in this research study. You have now reached the end of the survey.

If you have any concerns about this study or if you have further questions, please contact the primary researcher Josie Kang at josiekang@smu.edu.sg. You may also contact the research supervisor, Dr Gary Greguras at garygreguras@smu.edu.sg. For questions on your rights as participant, please contact IRB Secretariat at irb@smu.edu.sg.

To exit the survey, please click on the "Submit" button.

End of Block: Debrief Information

C2. Sample 1 – Subordinate Survey #1 (same as Sample 2 Subordinate Survey #1)

Start of Block: Participant Information Sheet and Informed Consent

Thank you for taking the time to participate in this research study on 'The Impact of Leadership on Employee and Organisation Outcomes'.

Participant Information Sheet

- Please read this section for details of the research study and survey procedures.

1. Purpose of Research Study: The purpose of this research is to study the behaviour of leaders and how these behaviours impact employee and organisation outcomes. While there is substantial research on the effects of leadership, much of the existing research takes place in Europe and North America. This study seeks to understand the effects of leadership in a South East Asian context, so that we may better understand how culture influences the relationship between the leader, the employee and organisation outcomes.

2. Study Procedures and Duration: You have been nominated for this study by your Head of Department/ Line Manager/ or supervisor. You will be asked to provide feedback for 2 ten/twelve-minute surveys. The second survey will be released a week after the completion of the first survey. The duration of the study is expected to be within 2-3 weeks from the date of the first survey email communication. Part 1 of the survey covers details of your personal preferences, work experience, and feedback on the relationship and leadership qualities of your Head of Department/ Line Manager/ or supervisor. Part 2 of the survey covers your views of the organisation culture and the ways of working, and organization performance. Please note that you have the option to skip questions in the survey, however, you will not be able to amend your responses to any question, after you have submitted the survey. At any point in time, prior to the close of the survey period, if you wish to withdraw your participation, please send an email to josiekang@smu.edu.sg stating your name and email address. You will then receive a confirmation email from us acknowledging the withdrawal.

Please also note that your Head of Department/Line Manager/Supervisor will be completing a survey on their self assessed Leadership behaviors, people and organization performance, and will be providing their ratings on each of their employee's performance. Their responses will be consolidated with other participant responses for analysis at an organization unit level of analysis. Your responses will not be made known to your HOD/Line Manager/Supervisor and they will have no information on who has or has not participated in the survey. Please refer to section 5 on confidentiality of data provided.

3. Benefits of Study: You will be making a positive contribution to the literature on leadership effectiveness in Asia. Your responses will help both practitioners and academic researchers understand the impact of culture on leadership outcomes and identify aspects of the leader's behaviour that have a stronger effect on desired employee and organisational outcomes.

4. Possible Risks of Study: There are no foreseeable risks in taking part in this research study.

5. Confidentiality and Privacy of Research Data : Your responses to the survey questions are strictly confidential. During the course of administering the two surveys, we will be requesting for your email address, personal profile and company information. Your email address will be used to match feedback provided from Survey 1 and Survey 2 to the same respondent, as well as match responses to be studied

as part of the same organisational unit of study. Personally identifiable data (e.g. such as names and email addresses), will be removed after the conclusion of the study.

If required, we will seek your explicit consent for the use of this personal data for any other purpose. In addition, no company-level information will be reported, either to the company taking part or as part of the research findings. Only aggregated information across 40 companies will be used in the analysis of this research study. In order to ensure privacy of the data, the following measures will be taken: (1) the questionnaire will be hosted on Qualtrics, which is a secured online survey platform; (2) the file containing the data set will be password protected and stored in Dropbox. All the data collected from you will be analysed and then presented in an aggregated format in the research report. The data collected will be accessed and used for analysis by the primary researcher, Josie Kang and her research supervisor, Dr Gary Greguras.

6. Contact Details: For questions/ clarifications on this study, please contact the Principal Investigator, Josie Kang, at email address Josiekang@smu.edu.sg, and/or office/mobile number: +65x, or the Research Supervisor, Gary Greguras, at email address garygreguras@smu.edu.sg, and/or office number: +65 x.

If you have any questions or concerns regarding your rights as a participant in this research study and wish to contact someone unaffiliated with the research team, please contact the SMU Institutional Review Board Secretariat at irb@smu.edu.sg or + 65 68281925. When contacting SMU IRB, please provide the title of the Research Study and the name of the Principal Investigator, or quote the IRB approval number IRB-17-039-A071(617). Please bookmark or save a copy of this information sheet and informed consent form for your records.

I have read the Participant Information Sheet

Informed Consent Form

Participant's Declaration

- I understand that participation is voluntary. Refusal to participate will involve no penalty.
- I declare that I am at least 18 years of age.
- If I am affiliated with Singapore Management University, my decision to participate, decline, or withdraw from participation will have no adverse effect on my status at or future relations with Singapore Management University.
- I have read and fully understood the contents of this form, and hereby give consent to the Singapore Management University research team and its affiliates for this project to collect and/or use my data for the purpose(s) described in this form.

By clicking the 'I agree to participate' button, I consent to participate in this study and agree to all of the above. If you do not wish to participate in this research study, you may close the browser to exit the survey.

I agree to participate in this research study

Principal Investigator's Declaration:

I have explained and defined in detail the research procedures in which the participant (or legal representative) has consented to participate. I also declare that the data collected for this research study will be handled as stated above.

Josephine KANG Poh Tin 1 July 2017

End of Block: Participant Information Sheet and Informed Consent

Start of Block: Leader Profile

This section covers basic information about your Leader / Head of Department / Supervisor (i.e. the person who requested your participation in this research).

What is the position occupied by the leader you are providing feedback on?

- C-suite (top leadership such as CEO, CFO, CIO, CHRO, etc.)
 - C minus 1 (where C-suite is top leadership such as CEO, CFO, CIO, CHRO, and C minus 1 is the level directly reporting to the top leadership)
 - C minus 2 (the level reporting to C minus 1)
-

How many years have you known the leader you are providing feedback on?

- Less than a year
 - 2-3 years
 - 4-5 years
 - 6-10 years
 - More than 10 years
-

How many years have you worked closely with the leader you are providing feedback on?

- Less than a year
 - 2-3 years
 - 4-5 years
 - 6-10 years
 - More than 10 years
-

How often do you interact with this leader?

- Daily
 - Weekly
 - Bi-monthly (Every 2 weeks)
 - Monthly
 - Others _____
-

My leader's values provide a good fit with the things that I value in life.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

The things that I value in life are very similar to the things that my leader values.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

My personal values match my leader's values.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

End of Block: Leader Profile

Start of Block: Leadership Behaviour

This section covers information about your leader's behaviour.

My leader...

The leader I am providing feedback on...	Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
Provides me with assistance in exchange for my efforts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Re-examines critical assumptions to question whether they are appropriate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fails to interfere until problems become serious.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Focuses attention on irregularities, mistakes, exceptions, and deviations from standards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoids getting involved when important issues arise.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talks about their most important values and beliefs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is absent when needed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seeks differing perspectives when solving problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talks optimistically about the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instills pride in me for being associated with him/her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Discusses in specific terms who is responsible for achieving performance targets.

Waits for things to go wrong before taking action.

Talks enthusiastically about what needs to be accomplished.

Specifies the importance of having a strong sense of purpose.

Spends time teaching and coaching.

Makes clear what one can expect to receive when performance goals are achieved.

Shows that he/she is a firm believer in "If it ain't broke, don't fix it."

Goes beyond self-interest for the good of the group.

Treats me as an individual rather than just as a member of a group.

Demonstrates that problems must become chronic before taking action.

Acts in ways that builds my respect.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concentrates his/her full attention on dealing with mistakes, complaints, and failures.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considers the moral and ethical consequences of decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keeps track of all mistakes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Displays a sense of power and confidence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Articulates a compelling vision of the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Directs my attention toward failures to meet standards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoids making decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considers me as having different needs, abilities, and aspirations from others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gets me to look at problems from many different angles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helps me to develop my strengths.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Suggests new ways of looking at how to complete assignments.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Delays responding to urgent questions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emphasizes the importance of having a collective sense of mission.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expresses satisfaction when I meet expectations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expresses confidence that goals will be achieved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is effective in meeting my job-related needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uses methods of leadership that are satisfying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gets me to do more than I expected to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is effective in representing me to higher authority.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Works with me in a satisfactory way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heightens my desire to succeed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is effective in meeting organizational requirements.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Increases my willingness to try harder.

Leads a group that is effective.

The leader I am providing feedback on...

Is generally a person who takes risks at work

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Is generally a person who avoids taking risks at work

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Believes that when mastering a task, people can learn a lot from their mistakes

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Believes that errors point out the areas we need to improve

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Believes that there is value in discussing errors with the team

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Gets upset and irritated if an error occurs

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

End of Block: Leadership Behaviour

Start of Block: Leadership Humility

To what extent do you agree with the following statements?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My leader knows him or herself well (e.g., limitations, strengths)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader acknowledges others' contributions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader listens to others' suggestions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader is a good example for others to follow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader is boastful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader is a team player	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader cares about others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader treats others fairly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader teaches others how to improve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Leadership Humility

Start of Block: Psychological Safety

To what extent do you agree with the following statements?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
If I make a mistake at work, it is often held against me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to bring up problems and tough issues at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes feel rejected by others for being different	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is safe to take a risk at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is difficult to ask my colleagues for help	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My colleagues would not deliberately act in a way that undermines my efforts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At work, my unique skills and talents are valued and utilized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Psychological Safety

Start of Block: Leadership Culture

This section covers your expectations of the working relationship with your leader / head of department / supervisor.

Managers should make most decisions without consulting subordinates

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

It is frequently necessary for a manager to use authority and power when dealing with subordinates

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Managers should seldom ask for the opinions of employees

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Managers should avoid off-the-job social contacts with employees

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Employees should not disagree with management decisions

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Managers should not delegate important tasks to employees

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

End of Block: Leadership Culture

Start of Block: Closing Remarks

Please provide us with your email address.

(This will be used to match feedback provided in Survey 1 and Survey 2 to the same respondent.

Please provide the same email address used by your leader in his/her invitation to you to participate in this research.)

Thank you for completing Part 1 of the survey.

Part 2 of the survey will be sent to you in a week's time. We would appreciate it if you could take the time to complete part 2 of the survey as well. If you have any queries regarding this research, please feel free to contact the primary researcher at josiekang@smu.edu.sg

Please click on the "Submit" button.

End of Block: Closing Remarks

C3. Sample 1 – Subordinate Survey #2 (same as Sample 2 Subordinate Survey #2)

Start of Block: Introduction

Thank you for taking the time to participate in this research study on 'The Impact of Leadership on Employee and Organisation Outcomes'. This is Part 2 of the Survey, and should take 10mins to complete.

End of Block: Introduction

Start of Block: Organisation Culture

This section covers your perception of your organisation values and culture.

In general, the leaders of my organisation have...

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
A strong proclivity for low-risk projects (with normal and certain rates of return).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A strong proclivity for high-risk projects (with chances of very high returns).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In general, the leaders of my organisation believe that...

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Owing to the nature of the environment, it is best to explore it gradually via timid, incremental behavior.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the organisation's objectives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When confronted with decision-making situations involving uncertainty, my organisation...

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Typically adopts a cautious, 'wait-and-see' posture in order to minimise the probability of making costly decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Typically adopts a bold, aggressive posture in order to maximise the probability of exploiting potential opportunities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Risk-taking is explicitly mentioned in our organisation culture and values

- Agree
 - Disagree
-

Risk-taking is implicit in our organisation culture and values

- Agree
 - Unsure
 - Disagree
-

Please complete the following questions on your work environment.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
If I make a mistake at work, it is often held against me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to bring up problems and tough issues to my manager.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to bring up problems and tough issues to my colleagues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes feel rejected by others for being different.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is safe to take a risk at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is difficult to ask my colleagues for help.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My colleagues would not deliberately act in a way that undermines my efforts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At work, my unique skills and talents are valued and utilised.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Organisation Culture

Start of Block: Respondent Attitude to Decision Making

This section covers your attitude and preference towards decision making.

At work, I am generally a person who avoids taking risks.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

At work, I am generally a person who takes risks.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
At work, I often willingly accept tasks with a high likelihood of problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often puts myself in a position of risk to help this organisation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often tells others when I have made a mistake even if I could easily hide it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I value taking a chance on new products, services, or procedures.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To improve and innovate our products/services and way of working, I am willing to challenge the status quo and long-standing practices of the company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am comfortable with failures that occur when I try new ways of solving problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to take an experimental approach to my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When I make risky business decisions, I feel positive about the potential decision outcome

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

When I make risky business decisions, I feel negative about the potential decision outcome

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I view risky decision making at work as an opportunity

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I view risky decision making at work as a threat

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

How likely would you be to...

	Extremely Unlikely	Somewhat Unlikely	Neutral	Somewhat Likely	Extremely Likely
Ask your manager for a raise.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disagree with your manager on a major issue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speak your mind about an unpopular issue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implement a new software application at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Change a cross-department work flow process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accept a new role (within the same company) that requires new competencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rate the following business activities in terms of risk...

	No Risk	Low Risk	Neutral	Risky	Very Risky
Merging with another company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implementing a new IT software	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Launching a new business unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transferring to a new role within the same company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changing work processes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

List 3 other business decisions that you have to make at work, that are considered risky.

End of Block: Respondent Attitude to Decision Making

Start of Block: Respondent Work Profile

This section covers your work motivation and performance.

I believe that I can perform successfully in other jobs of this type.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I feel confident that my skills and abilities equal or exceed that of others who do this job.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

My job is well within the scope of my abilities.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I feel I am under-qualified for my job.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I believe that I am one of the top performers in this type of job.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I feel that my performance in this organisation is exemplary.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

At work, I am usually bursting with energy

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I am enthusiastic about my job.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

I am immersed in my work.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Overall, my leader/supervisor/HOD played a significant role in developing my capabilities as a leader.

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

This is an attention check question. Please select Option 1.

- Option 3
 - Option 1
 - Option 2
-

End of Block: Respondent Work Profile

Start of Block: Organisation Profile

Please answer the following questions about your organisation profile.

How many employees does your organisation employ?

- 1-200
 - 201-500
 - 501-1000
 - 1001-2000
 - 2000+
-

Compared to similar organisations in our industry, I believe my organisation to be performing at...

- Top 3 position
 - Above peer group
 - On par with peer group
 - Below peer group
-

Compared to similar organisations in our industry, I believe my organisation has a reputation of being...

	Very Conservative	Conservative	Neutral	Innovative	Very Innovative
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Compared to similar organisations in our industry, the pace of transformation and change within my organisation is...

- Significantly slower pace
 - Slower pace
 - Average
 - Faster pace
 - Significantly faster pace
-

End of Block: Organisation Profile

Start of Block: Respondent Profile

Please answer the following questions to help us understand your personal profile and work experience.

What is your gender?

- Male
- Female

What is your age?

- 15-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

What is your nationality?

What is the country that you have spent the largest part of your life in?

What is your highest educational qualification?

- Graduate of any further education college or university
 - Masters
 - Doctorate
 - Post Doctorate
 - Others
-

What is your occupation?

What industry do you work in?

- Agriculture
- Energy and utilities
- Manufacturing
- Government
- Statutory board & GIC
- Non-profit organization
- Professional services (consulting, etc)
- Education
- Singapore Armed Forces & The Home Team
- Bank and Finance
- Transportation
- Marketing and sales
- Logistics
- Telecommunications
- Media
- Technology
- Other service industries
- Others

If you have selected the option "Others" for the question above, please provide your answer here.

What organizational level are you currently at?

- Leadership Team (Chief Executive, Chairperson, President, Managing Director, Board member)
 - Senior Executive (Departmental Head, Director, Vice President, Regional Head)
 - Upper Middle (Senior Assistant Director, Deputy Director, Deputy Head of Department)
 - Middle (Senior Manager, Manager, Assistant Director)
 - Employee Level (Fresh graduate, Analysts, Executive)
 - Support Staff (Clerical/Secretarial and Support Staff, IT Technicians)
-

How many years of working experience do you have?

End of Block: Respondent Profile

Start of Block: Closing Remarks

Please provide your email address, so that we can map your responses to the data you provided in survey 1. (Please provide the same email address you used in survey 1.)

Would you like to receive a summarised copy of the research findings?

- Yes
 - No
-

Thank you for participating in this research study. You have now reached the end of the survey. If you have any concerns about this study or if you have further questions, please contact the primary researcher Josie Kang at josiekang@smu.edu.sg. You may also contact the research supervisor, Dr Gary Greguras at garygreguras@smu.edu.sg. For questions on your rights as participant, please contact IRB Secretariat at irb@smu.edu.sg. To exit the survey, please click on the "Submit" button.

End of Block: Closing Remarks

C4. Sample 2 – Subordinate Survey #3

Start of Block: Introduction

Thank you for taking the time to participate in this research study on 'The Impact of Leadership on Employee and Organisation Outcomes'. This is Survey #3, and should take 3-5mins to complete.

End of Block: Introduction

Start of Block: Leadership Humility

Complete these questions with your current line manager/boss in mind. To what extent do you agree with the following statements?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My leader knows him or herself well (e.g., limitations, strengths)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader acknowledges others' contributions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader listens to others' suggestions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader is a good example for others to follow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader is boastful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader is a team player	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader cares about others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader treats others fairly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leader teaches others how to improve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Leadership Humility

Start of Block: Leadership Culture

This section covers your expectations of the working relationship with your leader (i.e. line manager or boss).

Managers should make most decisions without consulting subordinates

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

It is frequently necessary for a manager to use authority and power when dealing with subordinates

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Managers should seldom ask for the opinions of employees

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Managers should avoid off-the-job social contacts with employees

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Employees should not disagree with management decisions

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

Managers should not delegate important tasks to employees

- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
-

End of Block: Leadership Culture

Start of Block: Organisation Profile

Please answer the following questions about your organisation profile.

How many employees does your organisation employ?

- 1-200
 - 201-500
 - 501-800
 - 801-1000
 - 1001-2000
 - 2000+
-

Compared to similar organisations in our industry, I believe my organisation to be performing at...

- Top 3 position
 - Above peer group
 - On par with peer group
 - Below peer group
-

Compared to similar organisations in our industry, I believe my organisation has a reputation of being...

	Very Conservative	Conservative	Neutral	Innovative	Very Innovative
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Compared to similar organisations in our industry, the pace of transformation and change within my organisation is...

- Significantly slower pace
 - Slower pace
 - Average
 - Faster pace
 - Significantly faster pace
-

End of Block: Organisation Profile

Start of Block: Respondent Profile

Please answer the following questions to help us understand your personal profile

and work experience.

What is your gender?

- Male
 - Female
-

What is your age?

- 15-24
 - 25-34
 - 35-44
 - 45-54
 - 55-64
 - 65+
-

What is your nationality?

What is the country that you have spent the largest part of your life in?

What is your highest educational qualification?

- Graduate of any further education college or university
 - Masters
 - Doctorate
 - Post Doctorate
 - Others
-

What is your occupation?

What industry do you work in?

- Agriculture
- Energy and utilities
- Manufacturing
- Government
- Statutory board & GIC
- Non-profit organization
- Professional services (consulting, etc)
- Education
- Singapore Armed Forces & The Home Team
- Bank and Finance
- Transportation
- Marketing and sales
- Logistics
- Telecommunications
- Media
- Technology
- Other service industries
- Others

If you have selected the option "Others" for the question above, please provide your answer here.

What organizational level are you currently at?

- Leadership Team (Chief Executive, Chairperson, President, Managing Director, Board member)
 - Senior Executive (Departmental Head, Director, Vice President, Regional Head)
 - Upper Middle (Senior Assistant Director, Deputy Director, Deputy Head of Department)
 - Middle (Senior Manager, Manager, Assistant Director)
 - Employee Level (Fresh graduate, Analysts, Executive)
 - Support Staff (Clerical/Secretarial and Support Staff, IT Technicians)
-

How many years of working experience do you have?

End of Block: Respondent Profile

Start of Block: Closing Remarks

Please provide your email address, so that we can map your responses to the data you provided in survey #1 and #2. (Please provide the same email address you used in the previous surveys.)

Would you like to receive a summarised copy of the research findings?

- Yes
 - No
-

Thank you for participating in this research study. You have now reached the end of

the survey.

If you have any concerns about this study or if you have further questions, please contact the primary researcher Josie Kang at josiekang@smu.edu.sg. You may also contact the research supervisor, Dr Gary Greguras at garygreguras@smu.edu.sg. For questions on your rights as participant, please contact IRB Secretariat at irb@smu.edu.sg.

To exit the survey, please click on the "Submit" button.

End of Block: Closing Remarks

D. Additional Analyses

Table 11.
Means, Standard Deviations, and Intercorrelations for Key Variables
(Combined Study, Controlled for Sample Group and Risk Perception)

Variables	N	Mean	SD	1	2	3	4	5	6	7	8	9
1. Transformational Leadership	330	3.46	0.79	(0.94)								
2. Psychological Safety	325	3.57	0.64	0.57**	(0.78)							
3. Power Distance	324	2.03	0.52	- 0.08	- 0.09	(0.69)						
4. Risk-taking Behaviour	201	3.50	0.78	- 0.16*	- 0.11	- 0.16*	(0.91)					
5. Transactional Leadership	331	3.28	0.63	0.58**	0.54**	- 0.10	- 0.09	(0.66)				
6. Gender	195	0.47	0.50	0.07	- 0.01	0.03	0.12	- 0.17*	-			
7. Years of Working Experience	187	15.77	8.54	- 0.07	- 0.08	- 0.09	0.22**	- 0.17*	0.08	-		
8. Years Knowing Supervisor	331	2.62	1.25	0.02	0.01	0.01	0.12	- 0.07	0.20**	0.38**	-	
9. Years Worked with Supervisor	331	2.23	1.13	- 0.02	0.01	0.03	0.01	- 0.09	0.12	0.34**	0.76**	-

Table 12.
Means, Standard Deviations, and Intercorrelations for All Variables
(Combined Study, Controlled for Sample Group)

Variables	N	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Transformational Leadership	330.00	3.46	0.79	-																				
2. Psychological Safety	325.00	3.57	0.64	0.57**	-																			
3. Power Distance	324.00	2.03	0.52	-0.07	-0.09	-																		
4. Risk-taking Behaviour	201.00	3.50	0.78	-0.15*	-0.10	-0.22**	-																	
5. Risk Perception	201.00	3.60	0.53	-0.01	0.02	-0.22**	0.33**	-																
6. Transactional Leadership	331.00	3.28	0.63	0.58**	0.54**	-0.10	-0.08	0.00	-															
7. Gender	195.00	0.47	0.50	0.06	0.00	0.00	0.16*	0.15*	-0.17*	-														
8. Years of Working Experience	187.00	15.77	8.54	-0.07	-0.08	-0.09	0.21**	0.00	-0.17*	0.08	-													
9. Years Knowing Supervisor	331.00	2.62	1.25	0.02	0.01	0.01	0.12	0.01	-0.07	0.20**	0.38**	-												
10. Years Worked with Supervisor	331.00	2.23	1.13	-0.02	0.01	0.05	-0.02	-0.09	-0.09	0.11	0.34**	0.76**	-											
11. Leader's Position	331.00	1.69	1.00	0.07	0.02	-0.04	0.03	0.02	-0.06	-0.01	0.17*	0.20**	0.17**	-										
12. Risk Taking is Explicit in Culture	201.00	1.60	0.79	0.05	0.01	0.18*	-0.03	0.11	0.05	-0.05	0.02	0.02	-0.04	-0.10	-									
13. Organisation Size	188.00	3.34	1.65	0.07	0.07	-0.04	-0.09	-0.09	0.12	0.01	-0.12	-0.20**	-0.24**	-0.39**	0.10	-								
14. Organisation Position in Industry	188.00	3.94	0.95	0.24**	0.31**	-0.14	0.06	0.08	0.21**	0.10	-0.06	0.03	-0.06	-0.01	0.02	0.21**	-							
15. Organisation Risk-taking	188.00	3.30	1.11	0.35**	0.40**	0.05	-0.08	-0.06	0.33**	0.05	-0.01	-0.02	-0.06	-0.09	0.22**	0.14	0.32**	-						
16. Organisation Transformation Pace	188.00	3.32	1.09	0.37**	0.34**	-0.07	-0.05	-0.04	0.23**	0.11	0.02	0.05	-0.02	-0.04	0.12	0.17*	0.45**	0.60**	-					
17. Matched Gender (Sup-Sub)	183.00	0.48	0.50	0.04	0.02	0.00	-0.06	-0.06	0.10	-0.36**	-0.21**	-0.19**	-0.21**	0.10	0.04	0.05	-0.05	0.05	-0.11	-				
18. Other Risk-taking Measures	201.00	3.69	0.49	-0.08	-0.13	-0.19**	0.53**	0.41**	-0.08	0.26**	0.14	0.08	0.01	0.04	0.01	-0.02	0.09	0.03	-0.07	0.03	-			
19. Leader's Risk-taking Behaviour	331.00	3.34	0.96	0.47**	0.36**	-0.12*	0.07	0.08	0.31**	0.04	0.06	-0.02	-0.05	0.13*	0.12	0.01	0.10	0.35**	0.29**	0.05	0.05	-		
20. Leader Values	331.00	3.57	0.88	0.61**	0.47**	-0.04	-0.07	0.08	0.50**	0.02	-0.09	0.08	0.02	0.06	-0.10	0.02	0.11	0.18*	0.11	0.21**	0.04	0.23**	-	
21. Leader Humility	228.00	3.83	0.74	0.75**	0.57**	0.02	-0.15*	-0.02	0.56**	-0.01	-0.08	0.05	0.00	-0.04	0.00	0.04	0.19**	0.36**	0.33**	0.07	-0.11	0.28**	0.63**	-

E. Confirmatory Factor Analysis

X² / df	1.375	TLI	.929
CFI	.936	GFI	.84
IFI	.937	RMSEA	.043

Notes:

Composite reliability of all the factors were above the recommended value of .70 (Bagozzi & Yi, 1988). Fornell and Larcker's (1981) method was used to examine the convergent and discriminant validity of the factors obtained. The factor loadings of all the measurement items are greater than .5 and the average variance extracted (AVE) values of the dimensions are greater than .50, which supports the convergent validity. The AVE values of all the quality factors were greater than the square of the inter-construct correlations, which indicated the discriminant validity of the measurement model.

N=201