

**Leader-member exchange and subjective well-being: The moderating role of metacognitive cultural intelligence**

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## **Leader-member exchange and subjective well-being: The moderating role of metacognitive cultural intelligence**

### **Abstract**

**Purpose** – This study examines employees’ metacognitive cultural intelligence as a moderator in the relationship between leader-member exchange (LMX) and employees’ subjective well-being.

**Design/methodology/approach** – We tested the conceptual model using regression analysis from a sample of 462 migrant workers in Australia.

**Findings** –The results demonstrated that employees’ metacognitive cultural intelligence moderated the relationship between LMX and employees’ subjective well-being in such a way that the effect was stronger among those employees with lower levels of metacognitive cultural intelligence.

**Research limitations/implications** – The cross-sectional design, with self-reporting at one point in time, could affect a causal relationship among variables, although each relationship was built on strong theoretical perspectives. However, prior research emphasizes that a single source is not considered to be an issue when interactions are examined.

**Originality/Value** – Drawing on Conservation of Resources theory, this paper contributes to the literature by demonstrating that employees’ metacognitive cultural intelligence is a boundary condition that alters the strengths of the LMX–subjective well-being relationship.

**Practical implications** – One way to improve metacognitive cultural intelligence for global leadership effectiveness could be through the introduction of diversity and cross-cultural training, such as didactic programs provided either in-house or by external institutions.

**Keywords** metacognitive cultural intelligence, leader-member exchange, subjective well-being, life satisfaction, migrant.

**Paper type** Research paper

## 1. Introduction

The importance of social relationships at work for employee health is well recognized in the literature (Schermuly and Meyer, 2016). Research provides clear evidence that social support at work impacts employees' psychological and physical health outcomes (Heaphy and Dutton, 2008), as well as providing socioemotional and material resources (Graen and Uhl-Bien, 1995). In particular, social relationships between employees and managers have been a focus for developing the concept of Leader-Member Exchange (LMX), defined as the quality of the relationships between leaders and each of their followers/subordinates, ranging from low-quality to high quality relationships (Bernerth *et al.*, 2007) that have been found to affect employee well-being (Dulebohn *et al.*, 2012; Epitropaki and Martin, 1999; Inceoglu *et al.*, 2018).

The essence of the LMX literature suggests that relationships between managers and each of their employees are not equal, and as a result, the support and resources available differ, depending on these relationships (Dulebohn *et al.*, 2012; Graen and Uhl-Bien, 1995; Martin *et al.*, 2016; Thomas and Lankau, 2009). While the strength of these relationships is dictated largely by the similarities between workers and managers, the differences that exist between managers and employees can result in weaker ties (Graen and Uhl-Bien, 1995). This potentially means that for migrant workers living in Western countries, relationships with their supervisors may be challenging, due to cultural differences that may impede the building of good relationships. The total extent of this proposition and the mechanism that alters the strength of those relationships, however, are not well studied.

Understanding the impact of LMX on subjective well-being from the perceptions of migrant workers is important as migrant populations across the globe have grown rapidly in recent years, from 220 million in 2010 to 258 million in 2017 (United Nations, 2017). In addition, migrants contribute to the sustainable economic development in both their home

and host countries (United Nations, 2017). Moreover, they often fill labor gaps, create jobs, and enrich the social, economic and cultural spheres in their host country (United Nations, 2017). At work, migrant and minority employees generally experience poorer working conditions compared to their colleagues, as they are often excluded and treated unfairly in the workplace (Le *et al.*, 2020). However, only a few studies have examined how work relationships (i.e., LMX) are related to subjective well-being and/or used homogenous populations in their sample (e.g., Liao *et al.*, 2017 used Chinese employees in Taiwan). Thus, ongoing research is warranted to enrich our understanding of the process in which LMX influences migrant employees' subjective well-being.

Subjective well-being, (also known as quality of life or life satisfaction), a concept first introduced by Lawton (1997), is defined as people's perceptions of how they feel about their life quality, traditionally measured by factors contributing to life satisfaction (Lau *et al.*, 2005). While there are variations of subjective well-being, the most frequently posed criteria for this concept in the social sciences are satisfaction, happiness, or the quality of life (Steel *et al.*, 2018). The above broad variations in subjective well-being means that it might be measured in various ways, via life satisfaction, quality of life, job satisfaction, family satisfaction, or a combination of some or all the above constructs (see Steel *et al.*, 2018 for the measure of subjective well-being). Various factors have been identified as influencing one's subjective well-being, such as psychological capital (Liao *et al.*, 2017), job satisfaction, and workplace support (Newman *et al.*, 2015). However, it is less clear whether the quality of relationship between migrant employees and their supervisors at work could be one of those critical factors that influence migrant employees' subjective well-being, and which moderating factor might alter the strength of this relationship.

The importance of subjective well-being (measured as life satisfaction) has been illustrated by its impact on people's health and longevity (Diener and Chan, 2011), and

employees' burnout (Haar and Roche, 2010). In organizational contexts, life satisfaction influences work outcomes as it is found to predict job performance (more so than job satisfaction), and reduces turnover intentions (Erdogan *et al.*, 2012; Jones, 2006). However, Erdogan *et al.*'s (2012) review confirms that there is scant attention paid to how the realm of work influences life satisfaction in the management literature. This is a critical research gap because the majority of the world's population is now employed and as such, understanding how, and which, factors in the work domain contributes to one's life satisfaction might also help explain employee behaviors such as turnover and job performance (Erdogan *et al.*, 2012), which is of interests of managers and organizations.

This study advances the literature in a number of ways. First, drawing on Conservation of Resources (COR) theory, the paper contributes to the literature by examining LMX as a predictor of employees' subjective well-being. Although research in management has already paid particular attention to how LMX influences a variety of work outcomes related to employee wellbeing such as mental health (Montano *et al.*, 2017), emotional exhaustion (Thomas and Lankau, 2009), perceived injury risk at work (Muldoon *et al.*, 2012), and general health and psychological well-being (Inceoglu *et al.*, 2018; Skakon *et al.*, 2010), there are limited studies, which examine how work-related factors (i.e., LMX) encompass employees' quality of nonwork life (i.e., life satisfaction) (Erdogan *et al.*, 2012). We address this gap by proposing that a positive relationship between supervisors and employees is a critical factor for employees' satisfaction with life. Second, this study contributes to the literature by exploring whether and how metacognitive cultural intelligence (CQ), defined as the mental process through which individuals gain and understand cultural knowledge (Ang *et al.*, 2007), can be a boundary condition for the impact of LMX on subjective well-being. This understanding is critical, because CQ plays an increasingly important role in enabling both leaders and employees to work effectively in a global context (Kim and Van Dyne,

2012; Rockstuhl and Van Dyne, 2018). The conceptual model of this study is displayed in Figure 1.

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Insert Figure 1 about here  
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## **2. Theoretical Perspectives and Hypothesis Development**

### *2.1 Leader-member Exchange (LMX) and Subjective Well-being*

We use the Conservation of Resources (COR) theory to examine how LMX influences employees' subjective well-being. The COR theory, with its two perspectives of gain spiral and loss spiral (Hobfoll, 1989, 2002), provides an excellent theoretical framework for explaining the LMX–subjective well-being relationship because it explains humans' motivation to protect their current resources (conservation) and acquire new resources (acquisition) (Halbesleben *et al.*, 2014). The resources can be objectives, conditions, states, and any other things that people value (Halbesleben *et al.*, 2014; Hobfoll, 1989). In the organizational context, these resources could be LMX, social support, working conditions, time and energy. An important strength of COR theory is that it goes beyond predictions of stress and strain to understand motivation as a consequence of strain (Hobfoll, 2002).

Drawing upon COR, we argue that LMX can be considered as a resource that influences employees' subjective well-being. A loss spiral exists under stressful circumstances in which a depletion of resources (i.e., low LMX) occurs over time, resulting in more losses (e.g., lower well-being). In that case, individuals tend to strive to minimize loss of resources by acquiring, protecting, and retaining resources (Hobfoll, 1989, 2002). Halbesleben *et al.* (2014) argue that resource loss at work is more harmful to employees than resource gains and it is often applied to understand employees' job stress and well-being as the consequence of resource loss. We argue that a gain spiral exists when people experience high quality LMX, and the support helps employees enhance and create positive energy,

which then develops greater personal resources, leading to high subjective well-being. Given that support from an employee's immediate supervisor is a critical mechanism through which workers can replenish resources, organizations can facilitate this by providing opportunities for employees to maintain and gain resources (Muldoon *et al.*, 2012), and people must invest resources to gain resources or to avoid resource loss (Halbesleben *et al.*, 2014).

The concept, leader member exchange (LMX) is created on the notion that “leaders develop unique types of relationships with individual subordinates. These relationships fall along a continuum ranging from low-quality, in which the relationship is based strictly on the transactional part of the employment contract, to high-quality relationships based on mutual liking, trust, respect, and influence” (Bernerth *et al.*, 2007, p. 979). The literature provides clear evidence that the quality of the relationship between leaders and each of their followers has been found to affect employee attitudes, work outcomes and well-being (Dulebohn *et al.*, 2012; Epitropaki and Martin, 1999).

Evolving from social exchange theory (Dulebohn *et al.*, 2012; Liao *et al.*, 2010), LMX posits that leaders develop distinctive types of relationships with their subordinates by varying interactions across their followers (Liden *et al.*, 1993; Martin *et al.*, 2016). Specifically, leaders tend to form closer relationships with followers who are similar to themselves (e.g., demographic similarity, Waismel-Manor (2010), and personality similarity, Bernerth (2008). Depending on the quality of this relationship, two subgroups are formed: the in-group and the out-group, resulting in different treatments of subordinates. That is, the in-group often receives high quality LMX relationships, characterized by mutual obligations, respect, trust, commitment, liking, and support from their leaders (Graen and Uhl-Bien, 1995; Liden *et al.*, 1993). In contrast, low LMX relationships are characterized by economic exchange (Blau, 1964), such as tangible assets, pay, and formal role defined relations, which

are based on a mutual agreement and balanced reciprocation (Dulebohn *et al.*, 2012; Graen and Uhl-Bien, 1995).

Subjective well-being refers to how people feel about their life quality, their perception of well-being, which comprises both cognition and affect (Cummins *et al.*, 2002; Diener, 2000; Lau *et al.*, 2005). The affective component of subjective well-being is termed *happiness*, and the cognitive component “involves some forms of internal comparison process”, either with the self in the past or with other individuals (Cummins *et al.*, 2002, p. 8). A combination of satisfaction and happiness is referred to as subjective well-being (Steel *et al.*, 2018). Subjective well-being is broader than psychological well-being, and refers to employees’ attitudes about their work context, such as job satisfaction (Diener, 2000), affective well-being, (which determined by emotion, Le *et al.*, 2018a), as it measures individuals’ satisfaction with their health in general and other aspects of life. The construct of subjective well-being asks people to self-report how satisfied they are with eight life domains: living standards, health, work achievements, personal relationships, safety, community belongingness, future security, and religion/spirituality (Cummins *et al.*, 2002; Lau *et al.*, 2005). The underlying meaning of the subjective well-being construct has evolved from the theory of subjective well-being homeostasis, which suggests “subjectively well-being is actively controlled and maintained by a set of psychological devices that function under the control of personality. The operation of these devices is most evident at the level of general, personal well-being” (Cummins *et al.*, 2003, p. 162). Therefore, subjective well-being is an important indicator of an individual’s level of happiness, pleasure, unity, welfare, and other basic human needs (Costanza *et al.*, 2007).

To date, few studies on LMX have theorized this construct in terms of employees’ subjective well-being, in particular, in terms of how levels of LMX relationships influence employees’ lives beyond their work environments. The broader literature on LMX examined



this construct in organizational contexts, and its influence on organizational variables, including attitudinal and behavioral consequences of LMX; (e.g., see reviews or meta-analysis, Dulebohn *et al.*, 2012; Martin *et al.*, 2016). For example, LMX has a positive relationship with organizational citizenship behaviors, job performance, organizational commitment, job satisfaction and satisfaction with supervisor, and with pay (Dulebohn *et al.*, 2012), task performance, and citizenship performance (Martin *et al.*, 2016). LMX is also found to have a negative relationship with turnover intention, actual turnover, role ambiguity, and role conflict (Dulebohn *et al.*, 2012).

Previous literature provides ample evidence that the quality of LMX can substantially influence employee well-being (see the reviews of Inceoglu *et al.*, 2018; Montano *et al.*, 2017; Van Dierendonck *et al.*, 2004). For example, Epitropaki and Robin (1999) found high LMX is positively related to job-related well-being. In a comprehensive review on the influence of leaders' behaviors on employees, Skakon *et al.* (2010) confirm a positive association between high LMX and high affective well-being, and low levels of employee stress and burnout. Trincherro *et al.* (2014) found a positive relationship between LMX and psychological well-being among Italian nurses, and that this relationship is stronger among nurses working in private sectors than in the public sectors. Similarly, LMX was negatively associated with emotional exhaustion and depression among employees (Montano *et al.*, 2017; Schermuly and Meyer, 2016). Overall, the above studies consistently demonstrate that positive supervisor-follower relationships at work are critical for employee psychological and physical well-being.

Drawing on the COR, we then argue that when employees experience positive relationships with leaders as a result of leaders' behaviors, they are likely to gain more resources to build greater subjective well-being. Despite considerable research on the LMX-well-being relationship at work (see also the review of Erdogan *et al.*, 2012), only few studies

examine the direct impact of LMX on employees' life satisfaction. Liao *et al.*'s (2017) study examined employees from Taiwan in the financial and electronics manufacturing industries, and found that while LMX had no direct effect on life satisfaction, there was a significant indirect effect on life satisfaction through the mediating mechanism of psychological capital. LMX is also found to be a positive predictor of life satisfaction among Chinese and Spanish workers, and this relationship is moderated by resilience (González-Navarro *et al.*, 2019).

Previous literature on leadership behaviors provides a hint that supports our argument. For example, Yang *et al.*'s (2014) study confirm a positive and significant relationship between leaders' behaviors (i.e., ethical leadership) and employees' life satisfaction. Using the LMX theory, they argue that under ethical leaders, employees in China would be likely to have the same experience as the in-group, if they also share the same ethical values and beliefs as their leaders. In contrast, those employees who do not share such ethical values would feel like the out-group (i.e., ethical incongruence), having less support and attention, which affects their life satisfaction. Yang *et al.*'s (2014) found the indirect effects of ethical leadership on both employees' well-being and life satisfaction, mediated by job satisfaction, which means ethical leadership affects employees at work as well as after work. Drawing on the above theoretical and empirical arguments, we propose:

*H1.* LMX is positively related to employees' subjective well-being.

## *2.2 The Moderating Role of Metacognitive Cultural Intelligence*

Cultural intelligence (CQ) is defined as "an individual's capability to function and manage effectively in culturally diverse settings" (Ang *et al.*, 2007, p. 337). According to Ang *et al.* (2007), CQ is a multidimensional construct including metacognitive, behavioral, motivational, and cognitive CQ, and is particularly applicable to situations involving cross-cultural interactions where there are differences in race, ethnicity and nationality. People with high CQ are able to adapt quickly to other cultures without much difficulty (Brislin *et al.*,

2006). CQ is a type of competence which is distinguished from personality traits and social and emotional intelligence (Fang *et al.*, 2018). Although developed in the early 2000s, CQ has attracted growing attention from researchers in recent years, as the construct is considered to be a ‘new secret’ to success in multicultural settings; (see recent reviews on CQ Fang *et al.*, 2018; Ott and Michailova, 2018).

As noted earlier, metacognitive CQ refers to the mental process through which people gain and understand cultural knowledge (e.g., planning, controlling, and adjusting mental models of cultural assumptions and norms during and after interactions) (Ang *et al.*, 2007; Earley and Ang, 2003). This cultural knowledge includes an understanding of their own and other’s cultural assumptions, and being culturally sensitive when interacting with others (Chua *et al.*, 2012; Johnson *et al.*, 1996). As a result, cultural metacognition benefits individuals in learning from and adapting to new cultural contexts (Earley and Mosakowski, 2004), as well as enabling individuals’ capacity to succeed in international interactions or collaborations (Johnson *et al.*, 1996; Mor *et al.*, 2013; Ott and Michailova, 2018). Furthermore, Thomas *et al.* (2008, p. 126) highlighted that cultural metacognition is the core of CQ, because cultural metacognition allows individuals to “adapt to, select, and shape the cultural aspects of their environment”.

As individuals high in metacognitive CQ are able to think contextually and flexibly, this ability enables them to interact and cooperate more effectively in cross-cultural contexts (Mor *et al.*, 2013). Consequently, this may also benefit them in developing quality relationships with their supervisors (i.e., LMX. Although many studies have tested the effects of CQ (four dimensions) on intercultural interactions, understanding “which dimensions are critical for which kind of interactions is still developing” (Chua *et al.*, 2012, p. 117). Hence, instead of studying all CQ dimensions simultaneously, we examined one dimension of CQ—cultural metacognition—which is a central linking mechanism among all CQ dimensions, due

to its ability to regulate people's cognition and behavior (Thomas *et al.*, 2008). Furthermore, metacognitive CQ is a strongest predictor of decision making and intercultural judgement, and it is slightly stronger than cognitive CQ, but significantly stronger than motivational CQ or behavioral CQ (Rockstuhl and Van Dyne, 2018). Thus, cultural metacognition might be particularly critical to collaborative relationships due to its impact on communication and trust among people (Chua *et al.*, 2012), aligning well with the focus of our paper on examining the impact of the quality of the supervisor–subordinate relationship on migrant employees' subjective well-being.

We further theorize that metacognitive CQ is a boundary condition that can alter the strengths of the effects of LMX on subjective well-being. COR theory (Hobfoll, 1989, 2002) has provided insights into how stressful situations at work (i.e., low quality LMX) lead individuals to elevate their cultural capability to protect their valued resources (i.e., subjective well-being) from being depleted (Thanacoody *et al.*, 2014). Specifically, under constrained circumstances (e.g., low metacognitive CQ), individuals avoid future loss of their resources in the form of lower well-being (McCarthy *et al.*, 2016). In the case of migrant employees in multicultural workplaces, those workers who possess high levels of metacognitive CQ will be more capable of lessening the negative impact of a challenging work environment on their well-being.

Previous research confirms that metacognitive CQ increases individuals' intercultural effectiveness by enhancing contextualized thinking and cognitive flexibility, leading to high task performance, cultural adjustment, and decision-making effectiveness (Ang *et al.*, 2007; Rockstuhl and Van Dyne, 2018). Individuals with high metacognitive CQ were found to be effective in intercultural creative collaborations, partly because those individuals were better able to build affect-based trust in their collaborative relationships with people from other cultures (Chua *et al.*, 2012). This competence is particularly important, because research

shows that workplace relationships with managers and colleagues are significantly related to self-rated health among employees (Persson *et al.*, 2018), and particularly in the impact of LMX on employees' mental and physical health (Gregory and Osmonbekov, 2019; Montano *et al.*, 2017). Further evidence also supports the above argument; Le et al. (2018b) found that migrants who were culturally intelligent cognitively were more likely to engage in their career, and as a result, were more satisfied in life. In other words, when individuals possess high metacognitive intelligence, leading to greater resources, their level of subjective well-being will depend much less on situational and social factors such as LMX.

However, for people with low metacognitive CQ, high quality LMX would be critical. Migrant employees with low metacognitive CQ might be less able to adjust successfully to multicultural workplace settings and to build effective trusted relationships with others, including with their supervisor, which then negatively impact their subjective well-being. As noted earlier, a high quality LMX has positive effects on employee health and well-being (Skakon *et al.*, 2010; Trincherro *et al.*, 2014), and therefore, these migrant employees are much more likely to rely on social factors such as LMX to benefit their well-being. In other words, high quality LMX may assist those migrant employees with low metacognitive CQ to minimize their loss of resources in order to benefit their well-being. The above line of reasoning suggests that metacognitive CQ might attenuate the positive effects of LMX on subject well-being such that subjective well-being is more sensitive to LMX for employees who are less culturally intelligent metacognitively. Therefore, we hypothesize that:

*H2.* Metacognitive CQ moderates the relationship between LMX and subjective well-being such that this relationship is stronger when metacognitive CQ is low rather than high.

### 3. Methods

#### 3.1 Sample and Procedure

Data were collected from 462 employed migrant workers who immigrated to Australia from non-English speaking countries. Participants worked in various fields such as agriculture, administration, and education. The data were collected through a research company in Australia (similar to Amazon's Mechanical Turk (MTurk) in the US). MTurk is a website that contains important elements required to conduct research: a large participant pool online, and an integrated compensation system to allow researchers to pay and collect data rapidly and inexpensively (Buhrmester *et al.*, 2016). Previous research shows that data obtained from MTurk have been more valid both externally and internally compared to student samples (Buhrmester *et al.*, 2011; Mor *et al.*, 2013). Further, MTurk participants are more culturally diverse and often have more work experience than student samples (Buhrmester *et al.*, 2016; Mor *et al.*, 2013). Researchers confirm that MTurk can provide high quality data, and can complete behavioral-type tasks that were often traditionally only obtained by in-person testing (Buhrmester *et al.*, 2011; Casler *et al.*, 2013). In other words, the results from the aforementioned online data are similar to data collected from traditional convenient sampling in relation to behavioral and motivational variables (Crump *et al.*, 2013; Paolacci *et al.*, 2010). While we used cross-sectional and single source data, MacKinnon *et al.* (2002) confirmed that this limitation is not considered problematic when interactions are examined (i.e., moderating effects of metacognitive CQ).

In order to ensure the data were of quality and accuracy, we followed best practices to screen respondents' questionnaires and answers to ensure that only the surveys without ambiguous data entry were included (Jiang *et al.*, 2019). The sample demographics were: 57.4% were female, average age was 43.7 (SD = 12.5). Participants worked an average 3.3 years in their current organization. A majority of respondents had Asian backgrounds

(56.6%), and hold permanent residency visas or Australian citizenship (92.0%) (see the Appendix for more information on the size of organizations, types of employment, cultural backgrounds, and income).

### *3.2 Measures*

**Metacognitive CQ.** We measured metacognitive CQ by the four-item scale developed by Ang et al. (2007). Sample items were: “I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds,” and “I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.” The Cronbach’s alpha for metacognitive CQ was 0.85. Participants responded to metacognitive CQ items using a 5-point Likert-type scale (1 = strongly disagree and 5 = strongly agree).

**LMX.** We measured LMX using the seven-item scale adapted from Scandura and Graen (1984). Sample items were: “I feel that my immediate supervisor recognizes my potential,” and “regardless of how much formal authority my immediate supervisor has built into his or her position, he or she would be personally inclined to use power to help me solve problems in my work.” The Cronbach’s alpha for LMX was 0.90. Participants responded to these items using a 5-point Likert-type scale (1 = strongly disagree and 5 = strongly agree).

**Subjective well-being.** We measured subjective well-being using the personal well-being index developed by Commins, Gullone and Lau (2002). As noted in the section above, this scale consists of nine items, asking how satisfied people are with eight life domains. Sample items were: “How satisfied you are with ... your life as a whole”; “your standard of living”; and “your achievements”. We chose the personal well-being index because it measures specific life domains rather than a general measure of life satisfaction. This measure has been tested and validated in many countries including Australia (where this study is located), and it was used to develop a national index of subjective well-being,

namely, the Australian Unity Wellbeing Index (Cummins *et al.*, 2003). The Cronbach's alpha for personal well-being index was 0.93. The response format was a 11-point Likert-type scale (0 = extremely dissatisfied and 10 = extremely satisfied).

We controlled for age, gender, and the length of their settlement in Australia in all analyses. Among these variables, gender was dummy coded (Male = 1; Female = 0). Since previous research suggests that age, gender, and length of stay in a host country might potentially influence migrants' perceptions and behaviors (Le *et al.*, 2018b), we controlled these demographics in our data analyses.

### 3.3 Data Analysis

Prior to testing hypotheses, we tested the measurement model using confirmatory factor analysis (CFA) in AMOS version 25, in order to explore whether the three measured constructs, namely, LMX, metacognitive CQ, and subjective well-being, were distinctive. The three-factor model fitted the data well,  $\chi^2 = 585.795$ ,  $df = 167$ ,  $p < 0.001$ , RMSEA = 0.07, SRMR = 0.04, CFI = 0.93, and much better than the one-factor model did,  $\chi^2 = 2839.02$ ,  $df = 170$ ,  $p < 0.001$ , RMSEA = 0.19, SRMR = 0.18, and CFI = 0.54. The one-factor model was also significantly poorer than the hypothesized measurement model ( $\Delta\chi^2(3) = 2253.22$ ,  $p < 0.001$ ). Results are presented in Table 1, which demonstrates that these three constructs are distinctive and can be examined as separate constructs.

Hypotheses were tested using SPSS version 25 and Hayes' (2013) PROCESS macro for a simple moderation model. Specifically, SPSS was used to test the relationship between LMX and subjective well-being and a moderation effect of metacognitive CQ. Hayes' (2013) PROCESS Model 1 was also employed to test a moderation effect of metacognitive CQ. As demonstrated in Figure 1, metacognitive CQ was the moderator for the relationship between LMX (the independent variable) and subjective well-being (the dependent variable).



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## 4. Results

Table 2 displays means, standard deviations, and correlations of variables. The results show that LMX, metacognitive CQ, and subjective well-being were positively and significantly correlated with one another. LMX was positively correlated to well-being ( $r = 0.33, p < 0.01$ ), providing initial support for Hypothesis 1. Below, we employed hierarchical regression analysis and PROCESS (bootstrap-based) analyses to test a proposed hypothesis.

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Insert Table 2 about here  
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Hypothesis 1 proposed that LMX would be positively related to subjective well-being. Hierarchical regression was performed with subjective well-being as the dependent variable. In Step 1, control variables (age, gender, and the length of stay) were entered (Model 1). In Step 2, LMX was entered (Model 2). In Step 3, metacognitive CQ was entered (Model 3). In Step 4, the interaction term of LMX  $\times$  metacognitive CQ was entered (Model 4). Both metacognitive CQ and LMX were mean-centered (Aiken *et al.*, 1991). As can be seen in Table 3, results show that LMX had a significant and positive influence on subjective well-being (Model 2:  $\beta = 0.33; p < 0.001$ ), when age, gender, and length of stay were controlled. These results provided support for Hypothesis 1.

Hypothesis 2 proposed that metacognitive CQ would moderate the relationship between LMX and personal well-being, such that the relationship is stronger when metacognitive cultural intelligence is low rather than high. Results of the regression analysis show that the interaction, LMX  $\times$  metacognitive CQ, was significant (Model 4, Step 4:  $\beta = -0.12, p < 0.01$ ) in predicting subjective well-being (see Table 3). This result suggests that a

moderating effect of metacognitive CQ existed in the relationship between LMX and subjective well-being, and this relationship is stronger when MCQ is low. A further confirmation by the PROCESS analysis Model 1 was conducted to test this hypothesis. All control variables (age, gender, and the length of stay) were entered in this model, together with measured variables. The interaction term (LMX  $\times$  metacognitive CQ) had a significant influence on subjective well-being ( $B = -0.34$ ,  $SE = 0.12$ ), providing the same results as SPSS. The simple slopes for the interaction/moderating effect are shown in Figure 2. The relationship between LMX and subjective well-being was stronger when metacognitive CQ was low (slope = 0.91,  $p < 0.001$ ) rather than high (slope = 0.48,  $p < 0.001$ ). These results confirmed that Hypothesis 2 was also supported.

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Insert Table 3 about here  
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## 5. Discussion

This study advances the field and COR by demonstrating that LMX is a positive predictor of subjective well-being among migrant employees. We also confirm a role of metacognitive CQ as a moderator of the LMX–subjective well-being relationship; the impact of LMX on subjective-well-being was stronger among those migrant employees with lower rather than higher levels of metacognitive CQ. Thus, although LMX can affect subjective well-being, metacognitive CQ, as a resource, can mitigate its negative effects.

### 5.1 Theoretical and Practical Implications

The results provided several important theoretical contributions to research. First, this study confirmed that a strong relationship exists between LMX and subjective well-being, adding to past studies on LMX and employees' psychological well-being (Trincherro *et al.*, 2014) and

emotional exhaustion and depression (Montano *et al.*, 2017; Schermuly and Meyer, 2016). We extend the use of COR theory by confirming that different treatments of supervisors toward in-groups and out-groups either create or deplete resources that impact on employees' subjective well-being. Our findings indicate that LMX has a profound direct impact on migrant employees' quality of life. This current study also extends Liao *et al.*'s (2017) study, which found an indirect relationship between LMX and life satisfaction. One possible reason for this difference could be the context of our study, where the respondents were migrants from many non-English speaking countries, while Liao *et al.*'s (2017) sample is Chinese living in Taiwan.

Second, this study highlighted an important role of metacognitive CQ as a boundary condition that alters the strengths of the LMX–subjective well-being relationship. As a new moderator introduced to study well-being as an outcome of LMX, metacognitive CQ demonstrates differential effects on subjective well-being among those two groups that experienced high (in-group) and low (out-group) LMX relationships. The finding of the current study suggests that the impact of LMX relationship is attenuated by an individual's level of metacognitive cultural intelligence. Given that culturally intelligent employees are more sensitive and aware of cultural knowledge, they are better able to adjust successfully to other culturally diverse colleagues, which is an essential criterion for working in the globalization context (Fang *et al.*, 2018; Ott and Michailova, 2018); those migrant employees are less dependent on LMX to minimize the loss of resources, which supports COR theory. However, those workers who are low in cultural metacognition might need additional support from social relationships, such as high LMX, to lessen the negative impact of LMX on subjective well-being. In sum, our study is a pioneering examination of the role of metacognitive CQ in influencing the impact of LMX on employees' non-work outcomes.

The most important finding of this study is the role of metacognitive CQ in moderating the proposed relationship, which emphasizes the need to improve cultural knowledge and competence within multicultural organizations for both leaders and employees. Therefore, a manager has a moral responsibility to employees to invest in improving their cultural competence, in order to minimize the negative impact on migrant employees' well-being. Researchers argue that under the impact of globalization and multinational corporations, organizations should understand and provide development opportunities to enhance the capacity of leaders with international leadership potential (Kim and Van Dyne, 2012). Similarly, global leaders must have a capability to understand, function and manage cultural differences, in milieus with a diverse workforce and global competition (Li *et al.*, 2013; Ng *et al.*, 2009). Managing a diverse workforce successfully means managers are able to minimize conflict and negative emotion (Nishii, 2013), and therefore, development of high cultural competencies for global leaders is one of the most important organizational practices (Ng *et al.*, 2009).

One way to improve metacognitive CQ for global leadership effectiveness could be through the introduction of diversity and cross-cultural training, such as didactic programs provided either in-house or by external institutions (Ng *et al.*, 2009). These programs aim to enhance global leaders' cultural awareness, appropriate knowledge, and behaviors that enable them to work effectively with people from different cultures. Another way is to understand leaders' experiential learning styles, as research provides evidence that the length of working overseas can have a positive impact on the level of CQ for global leaders, and this is strengthened by global leaders' experiential learning style (Li *et al.*, 2013). Specifically, the development of metacognitive CQ and overall CQ is enhanced when global leaders and executives have a divergent learning style (which refers to concrete experience and reflective observation). Therefore, leaders should be aware of and manage their learning style to better

develop their CQ. It is also important for firms to know leader's learning style when designing appropriate developmental courses for leaders (Li *et al.*, 2013). Finally, Kim and Van Dyne (2012) highlight that both intercultural contacts and CQ are important for developing international leadership potential, particularly for white (majority status) leaders.

As leadership is bidirectional between a leader and a subordinate (Van Dierendonck *et al.*, 2004), employees also need to take an active role in developing a high quality relationship with their supervisor/managers in order to have agency in employee health promotion (Persson *et al.*, 2018). There are a number of implications: first, CQ courses could be developed for migrant employees to enhance their CQ, such as improving communication skills with others, particularly with their supervisors, as well as to enhance their cultural understandings of the host countries. Training and development of migrants' CQ is particularly important for their success in multicultural organizations, because employees who have high metacognitive CQ will develop a better intercultural cooperation (Mor *et al.*, 2013), and intercultural judgement and decision-making effectiveness (Ott and Michailova, 2018; Rockstuhl and Van Dyne, 2018). Second, organizations could implement reflective practices on the part of business professionals, so that they are more conscious of the cultural biases and improve their cultural competence. Third, empowering employees is important, because it has been found to mediate the relationship between LMX and employees' health (Gregory and Osmonbekov, 2019). Finally, hosting an ongoing series of mental well-being activities at work, and having open conversations with culturally diverse groups, may assist in building relationships and improving subjective well-being, which should enhance managers' ability to support the culturally diverse employees around them.

While the majority of training effectiveness literature on diversity management focuses on the value it brings to the organization, little research has been conducted on the effectiveness of immersive training experiences in diversity management. This could include

the development of 3D/4D experiences of diversity management practices to improve empathy from managers towards employees, which would improve cultural competence beyond the surface level, and support a deeper understanding of the experience of belonging to a minority group. This development would help managers to be more conscious of their innate cultural biases and improve the ties that exist between leaders and followers. Similarly, the training may allow employees to experience what it means to be a manager, which may improve their understanding and their empathy towards leaders, and help develop a higher trust relationship between leaders and subordinates.

### *5.2 Limitations and Future Research Directions*

We acknowledge a number of a number of limitations in this study. First, the cross-sectional design, with self-reporting at one point in time, could affect a causal relationship among variables, although each relationship was built on strong theoretical perspectives. This limitation might also be the potential for common method variance. However, prior research emphasizes that a single source is not considered to be a critical issue when interactions are examined (MacKinnon *et al.*, 2002); this approach was also adopted by Nishii (2013). Future studies might need to employ longitudinal design to determine causes and effects between and among variables over time and to avoid common method variance.

Second, the data were collected from a single source: migrant employees. Future research might consider collecting data from multiple sources (i.e., both supervisors and employees) to compare the perspectives from both data sources and to explore whether supervisors who have high cultural intelligence would lead better and work more effectively with migrant employees in the multicultural workplaces. Future researchers could also consider examining whether the LMX construct has the equivalent meaning across cultures and across sources (i.e., leaders' self-report as well as subordinates' reports (Ayman and Korabik, 2010). Future research might also consider comparing multiple groups of migrant

workers to examine the differences in perceptions of subjective well-being, because subjective well-being might be perceived differently in each culture (Steel *et al.*, 2018), which might lead to variations in the results.

Third, migrant participants were only recruited if they were proficient in English and employed in Australia to be able to understand and answer all questions well. However, as English is their second language, their English proficiency might affect the quality of their responses. As noted earlier, we screened all questionnaires to ensure that any confusing data were removed from the dataset.

Finally, our choice of using the seven-item scale from Scandura and Graen (1984) to measure LMX might be another limitation. Although this scale is well cited and has high coefficient alphas, this measure focuses more on the quality of relationships between supervisors and subordinates. Future research might consider using a more recent LMX scale such as leader-member social exchange (LMSX) of Bernerth *et al.* (2007), as this newer scale might better capture both the quality of the relationships and the social change aspect between supervisors and their employees.

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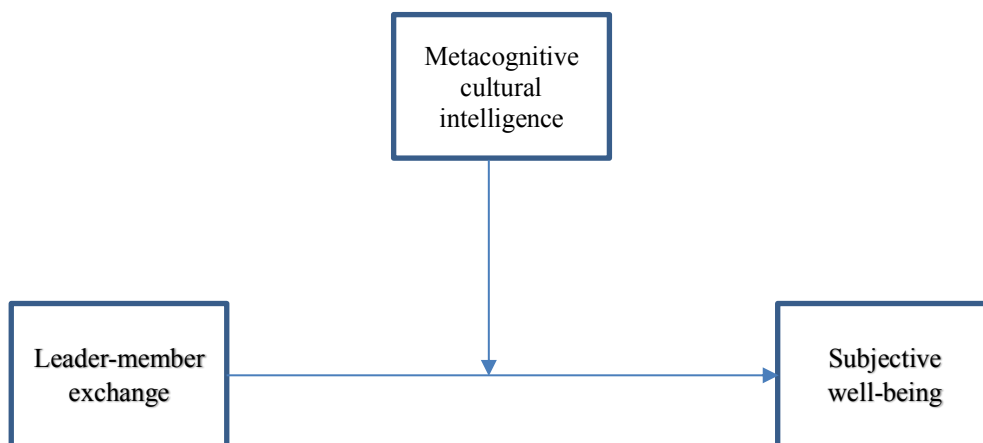


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**Fig. 1.** The conceptual model

**Table 1**

Confirmatory factor analysis.

Models	$\chi^2$ (df)	$\chi^2$ /df	$\Delta \chi^2$ ( $\Delta$ df)	SRMR	RMSEA	CFI
1 factor model	2839.02(170)	16.70	2253.22(3)***	0.18	0.19	0.54
2 factor model	1386.52(169)	8.20	800.72(2)***	0.12	0.13	0.70
3 factor model	585.80(167)	3.51	---	0.04	0.07	0.93

*Notes:* No = 462.

3-factor model (1 = LMX, 2 = Metacognitive CQ, 3 = subjective well-being); 2-factor model (1 = LMX and Metacognitive CQ, 2 = subjective well-being); 1-factor model (1 = all factors combined).

\* $p < 0.05$ .\*\* $p < 0.01$ .\*\*\* $p < 0.001$ .**Table 2**

Means, standard deviations, and correlations among variables.

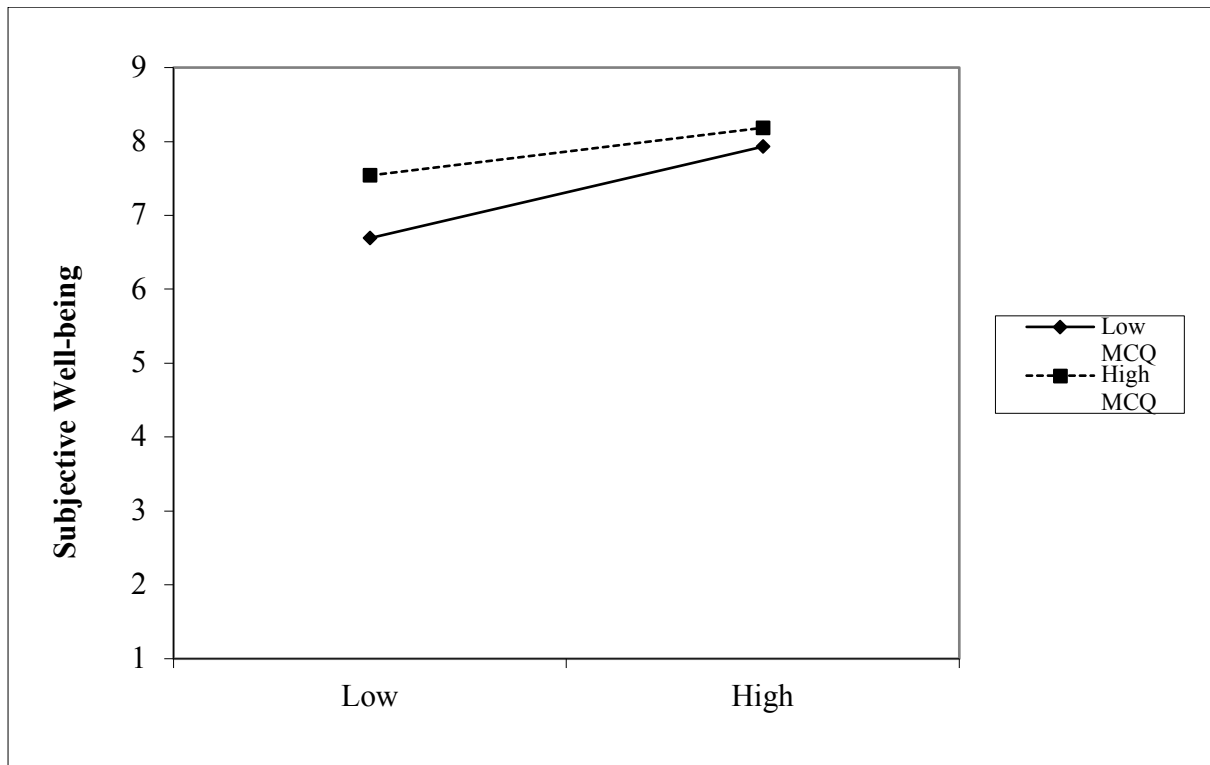
Variables	M	SD	1	2	3	4	5
1. Age	43.70	12.45					
2. Gender	0.43	0.50	0.17**				
3. Length of stay	21.01	16.47	0.65**	0.10*			
4. Metacognitive CQ	3.86	0.63	0.07	-0.14**	0.00		
5. LMX	3.56	0.68	0.00	0.04	0.03	0.20**	
6. Subjective well-being	8.26	1.51	0.16**	-0.05	0.10*	0.28**	0.33**

*Note:* No = 462.\* $p < 0.05$ .\*\* $p < 0.01$ .\*\*\* $p < 0.001$ .**Table 3**

Results of regression analysis.

	<b>Dependent Variable: Subjective well-being</b>			
	Model 1 (Step 1)	Model 2 (Step 2)	Model 3 (Step 3)	Model 4 (Step 4)
Age	0.18**	0.19**	0.16**	0.15**
Gender	-0.08	-0.09	-0.06	-0.06
Length of stay	-0.01	-0.03	-0.01	-0.00
LMX		0.33***	0.29***	0.31***
Metacognitive CQ			0.21***	0.18***
LMX * Metacognitive CQ				-0.12**

*Note:* No = 462.\* $p < 0.05$ .\*\* $p < 0.01$ .\*\*\* $p < 0.001$ .Standardized coefficients ( $\beta$ ) are reported.



**Fig. 2.** The moderating effect of metacognitive CQ (MCQ) on the relationship between LMX and subjective well-being.

## Appendix

### Background information of respondents

<b>Variables</b>	<b>Categories</b>	<b>Percent</b>
<i>Size of organisations (Numbers of employees)</i>	Under 50 employees	40.1
	50-99	9.1
	100-249	13.0
	250-499	7.6
	500-999	7.6
	1000 or more	22.7
<i>Type of employment</i>	Full-time	63.2
	Part-time	36.7
<i>Visa status</i>	Permanent	37.7
	Temporary	8.0
	Australian citizen	54.3
<i>Cultural backgrounds/races</i>	Asian	55.6
	White/Caucasian	34.4
	Other	10.0
<i>Gender</i>	Female	57.4
	Male	42.6
<i>Income</i>	Below \$50,000	36.5
	\$50,000 - \$59,999	13.0
	\$60,000 - \$69,999	13.4
	\$70,000 - \$79,999	10.0
	\$80,000 - \$89,999	9.7
	\$90,000 or more	17.1

Note: No = 462.