

The Security to Lead: A Systematic Review of Leader and Follower Attachment Styles
and Leader-Member Exchange

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Abstract

Attachment styles can predict the quality of organisational relationships, particularly in reference to Leader Member Exchange (LMX). However, there is much work to be done in articulating and summarising these findings and in detecting gaps in the literature. This systematic review fills a critical niche by providing a review of the attachment/LMX relationship. Using the PRISMA framework, this review integrates research on attachment styles and LMX by evaluating associations between secure, anxious, and avoidant attachment styles with LMX for leaders and followers. Across ten studies, we review the evidence for associations between leader and follower attachment and LMX. We seek to investigate if secure attachment is associated with high-quality LMX and if insecure attachment is associated with lower quality LMX. Our review in general provides mixed support for these propositions, although the association of avoidant attachment for followers with LMX received consistent support. Furthermore, our results highlight the need to consider potential moderating and mediating factors within the attachment/LMX relationship. Based on the patterns of these relationships and the methodological gaps in the literature, we discuss the managerial implications for attachment styles in work and organisational psychology and suggest several directions for future research on the attachment-LMX relationship.

Keywords: leadership, leader-member exchange, LMX, attachment theory, attachment, leader development

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The topic of leadership is one of the most researched areas of applied psychology with consistent findings showing that leadership is an important factor for organizational performance and employee well-being (Boer, Deinert, Homan & Voelpel, 2016; Diebig, Bormann & Rowold, 2017). Most definitions highlight that leadership is a social influence process with the aim to achieve individual, team and organizational goals (Dansereau, Graen, & Haga, 1975; DePree, 1990; Yukl, 2002). Thus, leader effectiveness can be defined in terms of how a leader succeeds in motivating followers to achieve tasks according to an organization's requirements while also attending to followers' needs and expectations (Liu, Lepak, Takeuchi, & Sims, 2003; Schriesheim, Castro, & Cogliser, 1999; Yukl, 1989). Such motivation largely pivots on the emotional bonds and quality of leader-follower relationships, particularly in respect to trust and commitment (Boer et al., 2016).

There is a history of research on attachment styles in association with leadership behaviour and leader-follower relationships, especially as explained by leader-member exchange (LMX: Harms, 2011; Richards & Hackett, 2012). This is because relationship-based leadership behaviours, such as those fostered by LMX processes, promote mutual trust and demonstrate care for followers' needs, thus promoting supportive working relationships between leaders and followers (Clarke & Mahadi, 2017; Fletcher, Jordan, & Miller, 2000; Graen & Uhl-Bien, 1995). This connection accords with an extensive body of research suggesting that the essence of leadership is concerned with developing effective relationships with others (Bass, 1990; Chen, Lam, & Zhong, 2007; Day, Fleenor, Atwater, Sturm, & McKee, 2014; DuBrin, 2013; Fletcher, 2012; Game, 2008; Liu et al., 2003; Lyons & Schneider, 2009; Molero,

Moriano, & Shaver, 2013; Popper & Mayselless, 2007; Ronen & Mikulincer, 2012).

Attachment theory is similar because it emphasizes that all individuals are born with the tendency to initiate contact with their primary caregiver in times of need or distress (Harms, 2011; Mikulincer & Shaver, 2005; Rholes & Simpson, 2004). LMX examines the quality of the relationship between leaders and followers based on reciprocal dyads, where the importance of developing mutual trust and respect between leaders and followers is emphasized (Bernierth, Armenakis, Field, Giles, & Walker, 2007; Martin, Epitropaki, Thomas, & Topakas, 2010; Moss, Dowling, & Callanan, 2009; Wang, Law, Hackett, Wang, & Chen, 2005). Accordingly, good quality relationships between leaders and followers are characterised by high trust, mutual influence, reciprocal liking, responsiveness, and mutual support (Thomas, Martin, Epitropaki, Guillaume, & Lee, 2013), which demonstrate that effective leaders are available and respond to their followers' psychological and instrumental needs (Landen, & Wang, 2010; Ronen & Mikulincer, 2012; Walumbwa, Wang, Wang, Schaubroeck, & Avolio, 2010).

Attachment Theory

Attachment theory was initially formulated by John Bowlby and later extended by Mary Ainsworth (Ainsworth & Bowlby, 1991). A basic assumption of attachment theory is that all individuals are born with a biologically based predisposition to search for and promote contact with their primary caregivers in times of need (Rholes & Simpson, 2004). Through the interaction with caregivers as attachment figures, a child develops internal working models that contain beliefs and expectations about the caregiver (e.g. caring and responsive) and about the self (e.g. worthy of care and attention; Bowlby, 1973). As individuals mature, they develop an orientation toward attachment figures in general as a function of their unique history with specific attachment figures (Dewitte, De Houwer, Buysse, & Koster, 2008; Harms, 2011; Rholes

& Simpson, 2004). These processes are important for organisational life because individual differences in stress management strategies are likely to reflect internal working models of the self (Bowlby, 1973, 1982). Also, an important principle of attachment theory is that such mental models are carried forward into new relationships, providing the mechanisms that maintain the continuity of attachment styles (Hazan & Shaver, 1994).

Accordingly, many scholars have argued that attachment theory extends to any adult relationships that meet the three criteria of providing proximity, a safe haven, and a secure base (Ainsworth, Blehar, Waters, & Wall, 1978; Hazan & Shaver, 1994; Main, Kaplan, & Cassidy, 1985; Mikulincer & Shaver, 2005). Based on these criteria, attachment theory and LMX share a conceptual link because both theories reflect exchange processes based on trust in relationships (Boatwright, Lopez, Sauer, VanDerWege, & Huber, 2010; Gerstner & Day, 1997; Grosvenor & Boies, 2006; Harms, 2011; Hazan & Shaver, 1994; Hudson, 2013; Mayseless, 2010). Attachment theory also aims to explain the functional importance of how individual attachment styles affect preferences for relational behaviors (Gabriel, Carvallo, Dean, Tippin, & Renaud, 2005; Lopez & Brennan, 2000; Rholes & Simpson, 2004).

For example, researchers have used attachment theory to examine the influence of attachment styles on leader-follower dynamics, job satisfaction, job engagement, workaholism, turnover intentions and trust (Boatwright et al., 2010; De Sanctis, 2012; Harms, 2011; Loi, Chan, & Lam, 2014; Mayseless, 2010; Ossiannilsson & Linder, 2011; Tziner & Tanami, 2013; Tziner, Ben-David, Oren & Sharoni, 2014). The dynamic relationship between attachment styles and preferences for relational behaviours accords strongly with LMX, where the relationship between a leader and a follower can be explained as a model with three possible stages. The first stage of LMX

development is the testing phase (e.g. the initial development of LMX relationships), where individuals engage in limited social interactions. The second stage marks the development of regular interactions into attitudes of mutual trust, loyalty, respect, and the third stage is characterised by mutual commitment (Graen & Uhl-Bien, 1995). Throughout this process, LMX is enhanced when followers believe that the leader will be present when required (e.g. in stressful situations) and that the leader will show genuine interest in the follower and respect for his or her concerns (Lyons & Schneider, 2009).

In addition to applications with general interpersonal relationships attachment theory has been linked to relationships at work (Karreman & Vingerhoets, 2012; Popper & Maysel, 2003; Rholes & Simpson, 2004; Schirmer & Lopez, 2001; Rubinstein, Tziner & Bilig, 2012; Vasquez, Durik, & Hyde, 2002). These findings support that an individual's attachment style is often salient at work and that such styles remain relatively stable over the lifespan (Davila, Burge, & Hammen, 1997; Gillath, Selcuk, & Shaver, 2008; Zhang & Labouvie-Vief, 2004). However, attachment styles can change under certain conditions (Davila, et al., 1997; Gillath, et al., 2008; Zhang & Labouvie-Vief, 2004). For example, evidence suggests that self-reported attachment styles are relatively stable for about 70% of individuals although approximately 30% of adults may change their attachment style based on significant life events (Baldwin & Fehr, 1995; Davila et al., 1997; De Wolff & van Ijzendoorn, 1997). This is consistent with Bowlby's (1973) view that individuals are able to integrate new information about themselves and others in order to remain functional during changing life circumstances. Therefore, working models of attachment are likely to remain flexible and open to change to some degree (Collins & Read, 1994).

This potential flexibility is important for leaders as well as followers because many leadership processes are based in internal working models representing the self and others. Accordingly, change in these models may help individuals overcome maladaptive behaviour patterns (Boatwright et al., 2010; Chen et al., 2007; Crawshaw & Game, 2015; Keller, 2003; Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000; Nishii & Mayer, 2009). Furthermore, evidence suggests that internal working models of attachment in adulthood are influenced by relationship-specific contextual factors that extend beyond the nuclear family, such as leader-follower relationship (Bowlby, 1982; Baldwin & Fehr, 1995; Mikulincer & Shaver, 2007).

However, persons with different types of attachment tend to reflect different kinds of adaptive behaviours. Secure individuals tend to be low in anxiety and avoidance and tend to view themselves and others as worthy of care, attention, and support (Harms, 2011; Littman-Ovadia, Oren & Lavy, 2013). In contrast, individuals with insecure attachment may be anxiously attached and view themselves negatively, needing constant assurance from others, fearing rejection, and reporting anxiety when others are not available or responsive to them (Mikulincer & Shaver, 2005, 2007). Individuals with insecure attachment may also be avoidant, viewing others as unavailable or unresponsive and thus distancing themselves, which leads to self-reliance and difficulties in trusting and depending on others (Bowlby, 1973; Mikulincer & Shaver, 2005).

Attachment and Leader-Follower Behaviours

Two major models of adult attachment are used in attachment research. A two-dimensional model that uses insecure attachment (e.g. anxious and avoidant; Hazan & Shaver, 1990) and secure attachment styles; and one that uses four attachment categories (e.g. secure, avoidant or fearful, dismissive, and anxious or preoccupied;

Bartholomew & Horowitz, 1991). Due to parsimony, most adult attachment studies use the two-dimensional model developed by Hazan and Shaver (1990) of insecure attachment (e.g. anxious and avoidant attachment) versus secure attachment (Berson, Dan, & Yammarino, 2006; Engelbert & Walgren, 2016; Grosvenor & Boies, 2006; Hansbrough, 2012; Hinojosa, Davis McCauley, Randolph-Seng, & Gardner, 2014; Rholes & Simpson, 2004).

Previous studies have shown positive links between leaders' secure attachment style and outcomes that characterise effective leaders such as relational leadership, delegation effectiveness, workplace cohesion in groups, turnover intention, job satisfaction, and low levels of burnout for followers (Harms, 2011; Johnstone & Feeney, 2015; Mayselless, 2010; Molero, Moriano, & Shaver, 2013; Popper & Mayselless, 2003; Richards & Schat, 2011). These effects may occur because leaders can perform two key caregiving functions: they can adopt the role of stronger and wiser caregivers and provide a safe haven and a secure base for their followers, while balancing reliance on self with reliance on others (Mayselless, 2010; Popper & Mayselless, 2007). A leader fulfils both the care seeker and caregiver roles, by reaching his or her own goals while supporting and regulating the distress of his or her followers when dealing with challenges (Hudson, 2013). Furthermore, effective leaders are sensitive; they focus and respond to followers' needs for emotional and instrumental resources while enhancing follower self-worth and self-efficacy (Hudson, 2013; Popper & Mayselless, 2007). When others seek proximity or help, effective leaders are responsive, but they are not overactive when others need to operate on their own (Crawshaw & Game, 2015). Leaders are perceived as capable when they are able to display contextually correct emotions to their followers, and this requires using emotion regulation effectively by not wasting physical and emotional resources to hyperactivate or suppress negative

emotions (Haver, Akerjordet, & Furunes, 2013; Little, Nelson, Wallace, & Johnson, 2011). These are qualities associated with securely attached individuals, who feel worthy of love and protection. Also, through high quality LMX relationships such leaders can develop flexible and resilient emotion-regulation strategies in themselves and followers (Hudson, 2013; Popper & Mayselless, 2007).

In contrast, insecure attachment is characterised by negative affect and a lower ability to manage negative emotions, and as a result leaders' insecure attachment style may have an adverse impact on followers' affective responses and job performance (Davidovitz et al., 2007; Richards & Schat, 2011; Ronen & Mikulincer, 2012). Therefore, insecurely attached individuals are less suited to leadership roles. For example, avoidant individuals will discourage reliance on others because they rely on themselves. Therefore, they are often perceived as insensitive and uncaring towards others, especially towards others' emotional needs (Kafetsios, Athanasiadou, and Dimou, 2014). Avoidant leaders can also be insensitive and unresponsive to subordinates' needs to such a degree that they contribute to a lack of trust (Crawshaw & Game, 2015). These leaders are unlikely to care or respond with comforting behaviours, and may develop a deactivating or suppressing approach to emotion regulation, ignoring their own and other people's needs (Mayselless, 2010). Therefore, avoidantly attached individuals are less likely to accept leadership positions, and in the cases when they do, their performance as leaders may be compromised by their lack of sensitivity (Mayselless, 2010). Furthermore, avoidant leaders are unlikely to be motivated to find solutions to problems that block relationship development (Keller & Cacioppe, 2001). Accordingly, avoidant attachment in leaders has been associated with emotion suppression, lower job satisfaction and higher negative affect at work (Gross & John, 2003; Richards & Shat, 2011). Similarly, anxiously attached individuals are

preoccupied by their own feelings and have a strong wish to be noticed and appreciated, and while lacking the task-oriented attention required by an effective leader they tend to regulate emotions by hyper-activating them (Mayseless, 2010). In summary, the literature supports that LMX theory has a strong conceptual link to attachment theory because LMX reflects exchange process and the importance of trust, which are key components of the attachment-based constructs of proximity, safe haven, and a secure base (Boatwright et al., 2010; Bowlby, 1982; Brennan, Clark, & Shaver, 1998; Chan, Au, & Hackett, 2012; Chen et al., 2007; Dewitte et al., 2008; Graen & Uhl-Bien, 1995; Harms, 2011). Attachment styles play an important role in work processes because particular styles influence motivation, work related behaviours and emotional responses of leaders and followers (Harms, 2011; Hazan & Shaver, 1990; Mikulincer & Shaver, 2007; Richards & Schat, 2011).

LMX, Organisational Outcomes, and Transformational Leadership (TFL)

When considering LMX as related to organisational outcomes, it is critical to distinguish how LMX-based process relate to other types of leadership processes as well as different types of outcomes. As noted earlier, leadership processes are essentially focused on the complex interplay of relational process directed towards valued organisational outcomes. However, it is also crucial to note that there are many types of organisational outcomes, with some outcomes being more proximal to LMX process and attachment (Ullrich, Wieseke, Christ, Schulze, & van Dick, 2007). Using the distinctions proposed by Boer et al. (2016) we suggest that outcomes based on employee reactions (e.g. commitment and job satisfaction) are more proximal to LMX process compared to outcomes directly attributed to leaders (e.g., leader achievement in specific tasks). The distinction between *employee outcomes*, which are displayed in attitudes and behaviours of employees, and *leader outcomes*, which are work-specific

attitudes or behaviours attributed to leaders is important because of the mediating role of LMX between TFL and performance (Boer et al., 2016). Indeed, meta-analytic evidence supports a differential impact model that highlights this mediating role of LMX, which is stronger for associations between TLF and employee outcomes (e.g., job satisfaction, organisational commitment) compared to leader outcomes (e.g., leader effectiveness) (Boer et al., 2016).

Scope of the Review

It is important to promote high quality LMX because LMX positively predicts individual and organizational work outcomes, including task performance, organisational citizenship behaviours, and counterproductive work behaviours (Hudson, 2013; Popper & Mayselless, 2003; Thomas et. al., 2013; Tziner, Fein, Sharoni, Nord & Bar-Hen, 2010). Equally important is the nature of attachment as it influences attachment-related behaviours, such as support seeking and giving, conflict resolution style and communication (Fletcher, Overall, & Friesen, 2006; Simpson & Rholes, 2012). Furthermore, we recognise that attachment insecurity in either the leader or the follower is likely to negatively influence LMX development (De Sanctis, 2012; Harms, 2011; Keller, 2003; Keller & Cacioppe, 2001; Martin et al., 2010; Richards & Schat, 2011). Although individuals with different attachment styles hold leadership positions, it is important to discover how a specific style of attachment impact their performance as leaders (Mayselless, 2010). In addition, the investigation of the attachment-LMX relationship is consistent with many recent calls to expand investigations into individual difference associations with LMX (Clarke & Mahadi, 2017; Hetland, Sandal, & Johnsen, 2008; Martin, Thomas, Charles, Epitropaki & McNamara, 2005; Ronen & Mikulincer, 2012). Finally, numerous, comprehensive studies on attachment (e.g., Davidovitz et al., 2007; Molero, Moriano, & Shaver, 2013; Popper, Amit, Gal, Mishkal-

Sinai, & Lisak, 2004) have highlighted the need to systematically explore associations between attachment, leadership style, follower outcomes, and differences between leaders and non-leaders.

Accordingly, the purpose of this study was to conduct a systematic review of empirical quantitative findings by comparing the associations between secure and insecure attachment (specified as anxious and avoidant attachment) in leaders and followers with LMX in organisational settings (e.g. empirical quantitative work that addresses this effect for participants who are organisational leaders or followers). Our goal was to take stock of the existing literature to investigate the balance of evidence for or against specific effects and to identify any methodological gaps in the literature. In addition to addressing methodological gaps in the literature, we view the results of a recent meta-analysis displaying the role of trust within the LMX performance relationship as a reason for conducting this review (Martin, Guillaume, Thomas, Lee, & Eptropaki, 2016). This is because through the three central attachment criteria of proximity, a safe haven, and a secure base, trust can be considered the central component of the attachment relationship (Ainsworth, et al., 1978; Mikulincer & Shaver, 2005). Also, attachment quality can be used to illustrate the level of trust individuals would typically hold across a wide range of situations including behaviours in organisational contexts (Gerstner & Day, 1997; Harms, 2011; Hazan & Shaver, 1994; Mayseless, 2010).

There are only now enough articles in the literature to conduct a review, because almost all publications on attachment and organisational outcomes have occurred since 2010 and have now reached the point making integration possible, particularly in reference to the attachment-leadership relationship (Yip, Ehrhardt, Black, & Walker, 2015). Thus, considering support for adult attachment as a way operationalise

dispositional aspects of trust, and the fact that the literature on attachment in organisational settings had only now reached sufficient volume for a review, we formed our rationale for conducting the present research. Accordingly, our hypotheses are as follows:

- There will be evidence for a *positive* association between *secure* attachment of leaders and/or followers with high LMX or high LMX dimensions (e.g., trust, liking, loyalty)
- There will be evidence for a *negative* association between the *anxious* style of insecure attachment of leaders and/or followers with high LMX or high LMX dimensions (e.g., trust, liking, loyalty)
- There will be evidence for a *negative* association between the *avoidant* style of insecure attachment of leaders and/or followers with high LMX or high LMX dimensions (e.g., trust, liking, loyalty)

Method

The aim of this literature review was to synthesise, analyse, evaluate and explain academic research and evidence from grey literature sources regarding potential associations between secure and insecure leader and follower attachment on the quality of LMX processes. As such, we followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009). The PRISMA format is based on a rigid scientific design to make a final synthesis more comprehensive and to minimise the chance of bias (Debajyoti & Lorusso, 2018; Petticrew & Roberts, 2006). The PRISMA framework was generated with the corporate input of 29 international research authors, methodological experts, and other research stakeholders in 2005, with the purpose of presenting a methodological framework for structured literature reviews (Moher, et al., 2009).

PRISMA is based on 27 characteristics for best practise in the design and conduct of systematic literature reviews and meta-analyses. The particular emphases in the PRIMSA framework includes a consideration of sources of potential bias that can occur across multiple areas within a review, such as the determination of eligibility criteria, information sources used, and the evaluation of potential bias in selected studies (Moher, et al., 2009). We illustrate the core processes within PRISMA by Figure 1, which uses the PRIMSA flowchart template (Debajyoti & Lorusso, 2018).

Literature Search

We conducted a systematic search of electronic databases, identifying literature in English and including only full text articles. We first searched for records within academic databases. A broad initial search was conducted that focused on articles from academic journals but also included records from academic books, academic magazines, and published reviews. The following academic databases produced our initial 862 results: Academic Search Ultimate, Australia/New Zealand Reference Centre, Business Source Ultimate, CINAHL with Full Text, EconLit, E-Journals, PsycARTICLES, Psychology and Behavioural Sciences Collection, PsycINFO, PsycTESTS, and Regional Business News. All searches were conducted in January 2019.

In addition to academic databases we searched a variety of sources to account for grey literature outside of academic sources. We used a strategy of initially focusing on unpublished dissertations and thesis documents by searching two databases: Dissertation Abstracts and Proquest Dissertations & Theses. This search resulted in 756 records. As the second step in reviewing grey literature, we then searched two open source archives which include large amounts of unpublished scholarly material: Semantic Scholar and Microsoft Academic. This search resulted in another 171 records. Combined with the initial 756 records from Dissertation Abstracts and Proquest these

additional searches resulted in a total of 927 records for grey literature. We chose to include academic dissertations with an understanding that these works would be checked for conformity to the publication criteria of research institutions and leading universities, including review by supervisors and examiners, and that any related publications would be checked for content overlap with earlier dissertations. In addition, we chose Semantic Scholar as a primary method for interrogating grey literature because of its recent, artificial intelligence-enabled search engine and because of superior reviews of Semantic Scholar performance (Cha, 2015; Fricke, 2018).

For the purpose of retrieving records that may have included LMX-based leadership processes without actually making reference to LMX, we developed and used search terms to account for leadership processes found within LMX. This was an important aspect of the review, and as such required a thorough investigation of potential search terms that would detect central LMX processes. To develop these terms, we examined a large range of important studies that elaborated on LMX processes (Bernerth, Armenakis, Field, Giles, & Walker, 2007; Boer et al., 2016; Clarke & Mahadi, 2017; Chan, Au, & Hackett, 2012; Fletcher, Overall, & Friesen, 2006; Day, Fleenor, Atwater, Sturm, & McKee, 2014; Deluga, 1994; Gerstner & Day, 1997; Graen & Uhl-Bien, 1995; Harms, 2011; Harms, Bai, & Han, 2016; Liden & Maslyn, 1998; Martin, Epitropaki, Thomas, & Topakas 2010; Richards & Hackett, 2012; Schriesheim, Castro, & Cogliser, 1999; Walumbwa, Wang, Wang, Schaubroeck, & Avolio, 2010; Wang, Law, Hackett, Wang, & Chen, 2005). After reviewing these articles, the three exchange-based processes of trust development, the development of mutual liking, and the development of mutual loyalty, emerged as the main dimensions of LMX processes. Therefore, we selected the keywords “trust” “liking” and “loyalty” for this review.

Recently, trust, liking, and loyalty have been associated with emotional bonds related to LMX (Boer, et al., 2016; Harms, Bai, & Han, 2016). In earlier research, trust, liking, and loyalty have been key constructs associated with the development of LMX relationships (Graen & Uhl-Bien, 1995) and they were clarified as the main dimensions of LMX processes over two decades ago (Schriesheim et al., 1999). Accordingly, we used “trust”, “liking”, and “loyalty as keywords because this allowed us to detect records that included the study of LMX processes even if LMX itself was not named in record. Also, this enabled us to anchor our review across two decades (1999 – 2019) based on the 1999 clarification of trust, liking, and loyalty as critical LMX constructs and processes within the Schriesheim et al. (1999) review.

Thus, for the academic and grey literature searches, the following search terms were used: “attachment theory” AND “LMX” OR “LMX theory” OR “leader-member exchange” OR “leader-member exchange theory” OR "leader member exchange" OR "leader member exchange theory" OR “trust” OR “liking” OR “loyalty.” We chose to specify “attachment theory” rather than the notion of “attachment” in general because the later term is associated with studies from numerous academic areas (e.g. physical sciences) outside of organisational studies. The search terms were entered to include terms used anywhere in the record, and these search terms and procedures were replicated across all of the databases using the years 1999-2019. All searches were conducted in January 2019 to enable record capture within the final year covered in the review. As noted earlier, the number of studies regarding attachment and organisational phenomena has only recently reached a point of saturation to enable useful reviews of the literature on attachment in organisational contexts (Yip et al., 2015). For this reason, we chose to develop our searches for the inclusion of the widest number of possible studies, and this involved allowing any empirical studies to be included regardless of

sample size and regardless of culture of origin. This allowed for the inclusion of studies using samples from non-Western cultures. It also allowed for the inclusion of a variety of studies that may have included a large number of potentially relevant covariate constructs (e.g., organisational culture). However, because of the relatively low number of studies regarding attachment and organisational phenomena (Yip et al., 2015) we chose not to develop search terms or specific search specifications for sample size, or to search specifically for potentially relevant covariate constructs outside of attachment and its relationship to LMX and the central process of “trust,” “liking,” and “loyalty.”

Inclusion and Exclusion Criteria

The research team reached consensus on the inclusion and exclusion criteria before conducting the review. Records retained at the all stages of the review were required to meet a set of four inclusion and exclusion criteria: (1) the study was required to be an empirical quantitative study, (2) secure and/or insecure attachment of an organisational leader or follower was a measured variable in the study, (3) an overall perception of LMX or one or more dimensions of LMX reflecting trust, liking, or loyalty was a measured variable in the study, and (4) there was an reported effect between secure and/or insecure attachment of the leader or follower and some dimension of LMX. In the elaboration of our criteria for measured variables and effects, we focused on the dimensions of trust, liking, or loyalty, based on their importance in the critical stage model of Graen and Uhl-Bien (1995) and within the foundational review of Schriesheim et al. (1999).

We focused on two broad types of attachment: 1) secure attachment, and 2) insecure attachment (that could include anxious or avoidant attachment). Thus, at least one of these types of attachment was required to be present as a measured variable in order to include a record in the analyses. Papers were also excluded if they did not

specifically address LMX or a key construct or process within LMX theory (e.g., trust) as a measured variable. For example, a study by Kafetsios, Athanasiadou, & Dimou (2014) was excluded because it measured the association between attachment style on emotional regulation capabilities rather than on an overall perception of LMX or a core LMX-based dimension (e.g., trust, liking, or loyalty). For all articles, when fit to the criteria was not obtained via a review of the title and abstract the full text was reviewed for eligibility according to the inclusion and exclusion criteria.

Type of Study

Studies using any type of empirical method were allowed for inclusion in the review. Cross-sectional designs were used uniformly across the final set of articles, although we note that several studies in the final set of articles were strengthened through the use of hierarchical linear modelling methods.

Inclusion of Studies

At the identification stage our search produced 862 records that were returned via academic database searches and another 927 records that were sourced from dissertation-specific databases and open source database searching resulting in 1789 records (see Figure 1). We then removed duplicate records and proceeded to screen records for adherence to the inclusion and exclusion criteria through a reading of the title and abstract. Initially we screened out 1759 records against the inclusion and exclusion criteria through the title and abstract. In general, we excluded records at the title and abstract stage for three obvious reasons: the record was a duplicate, the term attachment referred to a non-psychological phenomenon (e.g. chemical bonding) or the article was not an empirical study. Articles excluded for other reasons occurred in less than one percent of cases, and in those situations two members of the researcher team made independent judgements for inclusion at the title and abstract stage. In all cases

these judgements of inclusion and exclusion were the same. As a result, after removing duplicate records and screening the title and abstract we excluded 1759 records. We then retrieved the full text for the remaining 30 articles.

At the next stage, two members of the research team examined the full text of each of the 30 remaining records for eligibility according to the inclusion and exclusion criteria. This step was necessary because judgements of inclusion and exclusion were sometimes not possible via the review of title and abstract alone. Thus, to ensure reliable judgement for inclusion of the final records, the second and third authors served as judges and independently rated each of the 30 records retained for full text review against the four inclusion and exclusion criteria. If a reviewer judged a record to not meet one or more of the criteria it was marked for exclusion. Otherwise if a reviewer judged a record to meet all criteria it was marked for inclusion. After independently rating each of the 30 records for inclusion and exclusion, we calculated an interrater reliability coefficient of Cohen's Kappa based on the 30 pairs of ratings for all records. The Cohen's Kappa was estimated at .66 [.35, .97] and this indicated substantial agreement (Landis & Koch, 1977).

Initially the reviewers agreed to include four records and to exclude 22 records. However, in four of the 30 cases, the two reviewers did not initially agree on the inclusion rating. In these four cases of non-agreement, the reviewers together reached a consensus on inclusion. During this process, both reviewers discussed which of the four inclusion and exclusion criteria were most salient in determining their judgements of inclusion or exclusion. In all cases of non-agreement, the reviewers made a different interpretation for criterion three – that trust, liking or loyalty was or was not a measured variable in the study. To resolve disagreement, the reviewers discussed their different interpretations of criterion three and then reached a joint consensus on inclusion or

exclusion. This process resulted in the inclusion of two records within the four cases of non-agreement, resulting in six records retained for further analyses and 24 records excluded (see Figure 1).

As part of the overall inclusion and exclusion process, the research team also reviewed records within the reference lists of each of the six articles retained, and conducted a full text review for any articles not already included in the review. From this review of references, the research team identified four additional articles and these were independently assessed against the inclusion and exclusion criteria. There was complete agreement on the inclusion of these records, which resulted in the inclusion of four additional articles. This resulted in a total of ten final articles moving forward for quality appraisal. Figure 1 outlines the search strategy, the articles retrieved at each stage, and the overall process, which follows the PRISMA guidelines.

Table 1 summarises data extraction, including study design and measures, for the empirical studies included for final analyses. Quality appraisal and data extraction were undertaken for each study based on an evaluation for bias, internal and external validity, and general quality through an appraisal checklist. Various quality checklists exist for systematic reviews, and include checklists such as the Newcastle-Ottawa Scale (NOS; Wells, Shea, O'Connell, Peterson, Welch, Losos, & Tugwell, 2000); the Cochran Collaboration Risk of Bias Tool (CCRBT; Higgin & Green, 2011); and the Effective Public Health Practices Project Quality Assessment Tool (EPHPP; Thomas, Ciliska, Dobbins, Micucci, 2004), which was designed to assess bias in non-randomised cross-sectional studies as well as other types of research using a variety of study designs.

The EPHPP has been shown to contain less internal bias compared to other checklists (Armijo-Olivo, Stiles, Hagen, Biondo, & Cummings, 2010). Therefore, we used the EPHPP as a quality appraisal checklist because of evidence supporting its

reliability and because all of the studies included in this review used cross-sectional designs. The EPHPP uses six subscales to assess bias across six domains: selection bias, study design, consideration of confounding variables, blinding within design, data collection procedures, and withdrawal of participants. Studies are assessed as strong (1), moderate (2), or weak (3) across each of the six criteria, and these domain scores are then averaged to produce an overall quality score (Thomas, et al., 2004). While reviewing the full text against the appraisal checklist, we also recorded relevant details about the study in a data extraction form that included details of authorship, title, publication, volume, issue, date, measures, aims and hypotheses, method of recruitment, sample characteristics, design and data analyses, key findings, effects, outcomes, limitations and strengths. During the consideration of the measures used, we made note of studies that used self-report measures to produce relevant effect sizes as well as the potential of analysis methods to correct for biases such as nesting. We used this information to influence scores on the EPHPP domains, which we factored into the final quality ratings for each study.

We used the EPHPP averages to produce overall quality scores where studies ranged in quality from *strong* (1.00 – 1.50), *moderate* (1.51 - 2.5), and *weak* (2.51 – 3.00). The first and third author made independent quality assessments on each of the six subscales according to established procedures for the use of the EPHPP (Thomas, et al. 2004). Studies that did not receive an overall quality rating of strong were typically weaker because of selection bias and a less effective control of confounding variables. Only one discrepancy occurred during the phase of assigning an independent overall quality rating to each record, which resulted in a Cohen's Kappa of .73 [.24, 1.00], which indicated substantial agreement (Landis & Koch, 1977). For the single study

with inconsistent ratings, the author team then discussed and compared these ratings to arrive at an overall quality assessment.

Because only studies using cross sectional designs were included, variations in quality for articles in this review were based on differences within cross sectional designs. We recognise it is often necessary to include research based on multiple types of designs into structured reviews, and in these cases multiple quality rating instruments for different types of designs can be used, such as experimental trials versus quasi-experimental designs (Gonzalez, Clarke, Pereira, Boyce-Gaudreau, Waldman, Demczuk, & Legare, 2017). However, in the present research all of our studies, which were included using our pre-defined search procedures and inclusion and exclusion criteria, used cross sectional designs. Accordingly, our quality ratings do not reflect variation in quality between designs, but they do reflect differences in quality within different cross sectional studies. These distinctions can be seen, for example, in Table 1 which displays the strong quality assessment to studies using hierarchical linear modelling, statistical controls within analyses, and for the use of multiple sources of data to control the risk of bias. A note on limitations is also included where studies use only self-report data and cross sectional design. We assigned moderate quality ratings to studies based on simple cross sectional survey methods with potentially biased sample selection procedures (e.g., snowball sampling) and limited controls for nested or otherwise biased data. The overall quality assessment for each article appears in column six of Table 1.

Results

We generated two tables to assist with analyses and syntheses of findings across articles. In Table 1, we grouped the articles by those measuring both leader and follower attachment (the first five articles in Table 1), and those measuring only follower

attachment (the remaining articles in Table 1). In total, Table 1 presents information on authors and year, types of attachment measures, study design and sample characteristics, measures used, key findings, quality assessment, limitations, and directions for future research suggested by each article. In addition, we developed Table 2 to present a summary of information that is organised across potential associations – namely between secure, anxious, and avoidant attachment with LMX. Within Table 2, we also present three separate comparisons for each type of attachment, which examine potential associations for leaders with LMX, potential associations for followers with LMX, and differences between leaders and followers on LMX.

Analysis and Synthesis

Ten records were eligible for inclusion (Davidovitz et al., 2007; Frazier, Gooty, Little, & Nelson, 2015; Game, 2008; Grosvenor & Boies, 2006; Harms, Bai, & Han, 2016; Joplin, Nelson, & Quick, 1999; Maslyn, Schyns, & Farmer, 2017; Popper et al., 2004; Popper, Mayselless, & Castelnovo, 2000; Richards & Hackett, 2012). These ten studies yielded data from 3481 adult respondents with the smallest sample of 121 and the largest of 1313 ($M = 348.10$, $SD = 361.91$). The mean age of the participants within this sample was 29.71 years old, $SD = 9.59$. Approximately 63% of total participants were male, while 37% were female.

In all studies the participants were recruited through the internet or by mail and they represented various occupations such as manufacturing, retail, banking, education, health care, and government, police, and the military. Data were collected from across four countries: the USA (Frazier et al., 2015; Harms et al., 2016; Joplin et al., 1999; Maslyn et al., 2017; Richards & Hackett, 2012), Israel (Davidovitz et al., 2007; Popper et al., 2004; Popper et al., 2000), Canada (Grosvenor & Boies, 2006), and the UK (Game, 2008). Measures were translated into Hebrew (Davidovitz et al., 2007; Popper

et al., 2004; Popper et al., 2000) and French (Grosvenor & Boies, 2006). All studies were quantitative and used a cross sectional survey design; however, some studies incorporated hierarchical linear modelling into the analyses (Davidovitz et al., 2007; Game, 2008; Harms et al., 2016; Richards & Hackett, 2012). Six out of ten studies were rated as strong quality, with the remaining four studies rated at moderate quality. However, within the studies rated as strong, four used superior designs based either in a dyadic matching design measuring attachment for both leaders and followers (Harms et al., 2016; Popper et al., 2004) or in multilevel methods of hierarchal linear modelling to more precisely measure effects based in different levels of analyses (Davidovitz, et al., 2007; Harms et al., 2016; Richards & Hackett, 2012). These four studies therefore presented the highest quality design and analyses.

Secure Attachment and LMX

In the top rows of Table 2, six studies from 1999 to 2017 are listed that investigated the role of leaders' and followers' *secure* attachment on LMX quality. A total of 1664 participants were included in this group, and there were seven potential associations generated, which are listed under column one with the heading "Possible Secure Associations for" (Frazier et al., 2015; Grosvenor & Boies, 2006; Joplin et al., 1999; Maslyn et al., 2017; Popper et al., 2004; Popper et al., 2000). This sub-sample with a mean age of 29.88 years ($SD = 9.67$) was composed of 63.5% females. The participants in this group were from the USA, Canada, and Israel; they were recruited from the military and police as well as retail, service, medical, government, professional, large manufacturing, and business organizations. The studies used different measures to assess attachment style that included the Adult Attachment in the Workplace scale (AAW: Neustadt, Chamorro-Premuzic, & Furnham, 2011), the Attachment Style Questionnaire (ASQ: Mikulincer, Florian, & Tolmaz, 1990), the

Relationship Questionnaire (RQ; Griffen & Bartholomew, 1994), and the Self Reliance Inventory (SRI: Joplin et al., 1999). Leader member exchange was measured using the LMX-7 (Graen & Uhl Bien, 1995), the LMX-MDM (Liden & Maslyn, 1998), an informal social influence scale (Mikulincer et al., 1990), a supervisor social support scale (House, 1981), and the idealised influence dimension of the Multifactor Leadership Questionnaire (MLQ: Bass, 1985).

Overall, the predicted association of secure attachment with high quality LMX showed inconsistent results. One study provided support for the hypothesis that secure leader attachment would be positively related to LMX (Popper et al., 2000), with a moderate effect size of $r = .31$. Three studies provided support for the hypothesis that secure follower attachment would be positively related to LMX (Frazier et al., 2015; Grosvenor & Boies, 2006; Popper et al., 2000), with moderate effect sizes ranging from $r = .33 - .38$. Finally, one additional study compared the leader-follower difference for LMX (Popper et al., 2004) with a high effect of ($F = 13.00$). There were also two studies that displayed no associations for follower secure attachment on LMX (Joplin et al., 1999; Maslyn et al., 2017).

Anxious Attachment and LMX

In the middle rows of Table 2, all ten studies in the final sample for inclusion are listed as investigating the role of leaders' and followers' *anxious* attachment on LMX quality. A total of 3481 participants were included in this group, and there were 12 potential associations generated (Davidovitz et al., 2007; Frazier et al., 2015; Game, 2008; Grosvenor & Boies, 2006; Harms et al., 2016; Joplin et al., 1999; Maslyn et al., 2017; Popper et al., 2004; Popper et al., 2000; Richards & Hackett, 2012). This constituted the total sample of participants with a mean age of 29.71 years old, with an $SD = 9.59$. Approximately 63% of total participants were male. The studies were

conducted from 1999 to 2017. The participants in the total sample were from the USA, Canada, and Israel; they were recruited from the military as well as retail, service, medical, government, professional, large manufacturing, and business organizations. All studies were cross-sectional and measured attachment style and LMX, using a total of five measures.

The studies used the same array of measures included in the discussion of secure attachment, but also included two additional attachment measures: Hazen and Shaver's (1987) prototype descriptions of attachment in checklist form and the Experiences in Close Relationships questionnaire (ECR: Brennan, Clark, & Shaver, 1998). These studies also included two additional scales for LMX: a study-specific scale for LMX-based security provision (Davidovitz et al., 2007) and the Relationship Attribution Measure with leader focus (RAM: Fincham & Bradbury, 1992)

Overall, the predicted association of anxious attachment with high quality LMX showed inconsistent results. For two correlational studies, effect sizes were moderate and ranged from $r = -.26 - .28$ (Frazier et al., 2015; Grosvenor & Boies, 2006). For one hierarchical linear modelling study the effect size was $\gamma = -.06$ for follower attachment and LMX (Davidovitz et al., 2007). One additional study compared leader-follower difference for LMX (Popper et al., 2004) with a high effect of ($F = 7.65$). However, there were three studies that failed to show an association for leader attachment with LMX (Davidovitz et al., 2007; Popper et al., 2000; Richards & Hackett, 2012), and there were five studies that failed to show an association for follower attachment on LMX (Game, 2008; Harms et al., 2016; Joplin et al., 1999; Maslyn et al., 2017; Popper et al., 2000).

Avoidant Attachment and LMX

We now discuss the final attachment dimension of *avoidant* attachment. In the bottom rows of Table 2, all ten studies in the final sample are listed as investigating the role of leaders' and followers' avoidant attachment on LMX quality. There were 12 potential associations generated across the total of ten studies including 3481 participants (Davidovitz et al., 2007; Frazier et al., 2015; Game, 2008; Grosvenor & Boies, 2006; Harms et al., 2016; Joplin et al., 1999; Maslyn et al., 2017; Popper et al., 2004; Popper et al., 2000; Richards & Hackett, 2012). The age of participants and gender distribution, the dates and locations of the studies and the occupations from which participants were recruited are the same as the studies listed for anxious attachment. The measures used are also the same as those listed for the studies of anxious attachment.

The predicted association of avoidant attachment with high quality LMX showed relatively consistent results as compared to the effects of LMX on secure and anxious attachment. Namely, all studies except two (Popper et al., 2000; Richards & Hackett, 2012) provided support for the hypotheses that either leader or follower avoidant attachment would be negatively related to LMX.

There were two hierarchical linear modelling studies that produced large effect sizes for avoidant attachment with LMX. One study displayed an effect size of $\gamma = -.52$ for leader avoidant attachment with LMX (Davidovitz et al., 2007) and a second study displayed an effect size of $\gamma = -.43$ for follower avoidant attachment with LMX (Game, 2008). One of these hierarchical linear modelling studies also produced a small effect size at $\gamma = -.04$ for follower avoidant attachment and LMX (Davidovitz et al., 2007). Two additional studies compared leader-follower differences in attachment with LMX. One produced a high effect for LMX and avoidant attachment differences (Popper et al., 2004) with an effect of ($F = 12.02$) and another displayed a small effect at $\gamma = -.02$ for

leader-follower difference with LMX (Harms et al., 2016). For several basic correlational studies examining associations between follower avoidant attachment and LMX, effect sizes were moderate and ranged from $r = -.18 - .43$ for three studies (Frazier et al., 2015; Grosvenor & Boies, 2006; Joplin et al., 1999). There was a moderate effect at $B = -.26$ (Maslyn et al., 2017) between follower avoidant attachment and LMX for one additional study.

Measures

We note that across all ten studies the most frequently used attachment scale was the RQ (Bartholomew & Horowitz, 1991), used by Grosvenor and Boies (2006), Harms et al. (2016), and Popper et al. (2000). The SRI (Joplin, et al, 1999) was used by Frazier et al. (2015) and Joplin et al., (1999), and the ECR (Brennan, Clark, & Shaver, 1998) was used by Game (2008) and Richards and Hackett (2012). All other attachment scales cited in Table 1 were used in only one study. In respect to LMX scales, only one scale, the LMX MDM (Liden & Maslyn, 1998) was used in more than one study (Maslyn et al., 2017, Richards & Hackett, 2012). All other LMX scales cited in Table 1 were used in only one study. However, the greater number of LMX scales compared to the number of attachment scales is to be expected based on the inclusion of LMX dimensions such trust, loyalty, and liking, which although are dimensions of LMX are also measured in scales other than LMX specific scales, for example the MLQ (Bass, 1985).

Discussion

Leaders' attachment style may have important implications on the quality of their LMX-based relationships. Leadership is a social process, and LMX theory emphasizes the importance of leader-follower relationship by examining the quality of this relationship. The aim of this review was to identify associations of leader and

follower secure and insecure attachment on perception of LMX quality. Specifically, our goal was to take stock of the existing literature to investigate the balance of evidence for or against specific effects and to identify any methodological gaps in the literature. We used the hypotheses that there will be evidence for a positive association between secure attachment and LMX and there will be evidence for negative associations between two dimensions of insecure attachment – anxious and avoidant attachment – and LMX.

This review was conducted through a systematic literature search of academic databases, dissertation-specific databases, open source databases, and checks of reference lists for included articles. The initial searches produced 1,789 results indicating a consistent interest in the associations between attachment style and leadership. These initial results included journal articles as well as a considerable amount of grey literature, which highlights the importance of a structured review to consolidate evidence from academic journals with evidence outside of academic journals. To date, although some work has been done on the role of attachment, LMX and leadership effectiveness, there is no comprehensive systematic review of this relationship.

As noted in Figure 1, after identification, screening, and applying eligibility criteria, we included ten studies (nine published journal articles and one published conference paper). These studies represented work in four countries; with 3481 participants assessed for their attachment style and qualities of leader member exchange. Based on our quality appraisal that appears in Table 1, all studies reached moderate or high quality. Some studies were rated moderate in quality due to combinations of the following factors: problems with sample selection, use of self-report measures, and limited controls for nested data. All studies were based in cross-

sectional designs, which detracted from the overall quality of evidence. However, some researchers were able to correct for this shortcoming through the use of multi-source data and hierarchical linear modelling methods, which justified a strong rating for these articles (see Table 1 for details).

Key Findings

Despite not fully corroborating our propositions, our findings are consistent with previous research trends, although some cautions are warranted in respect to the stability of effects for secure and anxious attachment on LMX.

Secure Attachment and LMX

It is widely accepted that the secure attachment style forms the basis for positive relationships with others and that high quality LMX relationships characterized by trust and respect (Graen & Uhl-Bien, 1995). It seems that securely attached individuals have the psychological base required for leadership (Harms, 2011; Popper & Mayseless, 2007; Richards & Hackett, 2012; Rholes & Simpson, 2004).

In our review, two strong studies displayed a relationship for leader attachment, where one study reported a significant association between leader secure attachment and LMX (Popper et al., 2000) and another study reported a leader-follower difference in the LMX association with secure attachment (Popper et al., 2004). Consistent with previous research, it was found in three studies that followers who were securely attached had higher quality LMX-based relationships (Frazier et al., 2015; Grosvenor & Boies, 2005; Popper et al., 2000). However there were about the same number of studies that found that follower secure attachment had no relationship with LMX quality (Joplin et al., 1999; Maslyn et al., 2017). It is difficult from this mixed evidence to suggest that replicating direct effects between secure leader or follower attachment and LMX is likely.

The inconsistent results for securely attached followers may be due to a lack of mediator or moderator variables being incorporated into studies. For example, researchers have presented evidence that various dimensions of TFL are also linked to secure attachment (e.g. Popper et al., 2000), and that these dimensions include both direct and indirect effects associated with LMX and secure follower attachment. Recent research also supports that LMX mediates between TFL and organizational outcomes, and suggests more complex, indirect relationships such moderated mediation may need to be considered with the inclusion of TFL dimensions in conjunction with LMX (Boer, et al., 2016).

Anxious Attachment and LMX

Anxiously attached individuals are unavailable and unresponsive and provide inconsistent caregiving, which contributes to difficulties in trusting and depending on others (Bowlby, 1973; Mikulincer & Shaver, 2005). Anxiously attached individuals may also lack the task-oriented action required by an effective leader and they may fear to address conflict (Keller & Cacioppe, 2001; Mayseless, 2010).

Similar to our findings on secure attachment, we can conclude that there is inconclusive and mixed evidence regarding the relationship between anxious attachment and LMX. One strong study reported a leader-follower difference in the LMX association with anxious attachment (Popper et al., 2004). This may occur because individuals with a poor model of self may be preoccupied with gaining acceptance, which could have a negative effect on their ability to function effectively as supportive leaders (Richards & Hackett, 2012). However, we also note that three strong studies found no effect for the relationship between leader anxious attachment and LMX (Davidovitz et al., 2007; Popper et al., 2000; Richards & Hackett, 2012)

In respect to associations between follower anxious attachment and LMX, there was mixed evidence across eight studies, with three of the studies reporting negative effects between follower anxious attachment and LMX (Davidovitz et al., 2007; Frazier et al., 2015; Grosvenor & Boies, 2006), and the other studies reporting no effect (Game, 2008; Harms et al., 2016; Joplin et al., 1999; Maslyn et al., 2017; Popper et al., 2000). These findings do not necessarily contradict the expectations of other researchers (e.g., Keller & Cacioppe, 2001), rather, they suggest that the influence of attachment on the leader-subordinate dyad can be more complicated and may be influenced by additional moderating or mediating factors under some circumstances (Kafetsios, et al, 2014; Richards, 2009; Richards & Hackett, 2012).

Avoidant Attachment and LMX

Avoidant individuals discourage reliance on others, may be perceived and insensitive and uncaring towards others, and avoidant individuals may lack the psychological base required for leadership (Popper & Mayseless, 2007). In this study, in contrast to the mixed evidence for secure and anxious attachment on LMX, we discovered that avoidant attachment in persons, and in particular, avoidant attachment in followers, displayed more consistent negative effects on LMX, and these effects were estimated within some of the highest quality studies (Davidovitz et al., 2007; Harms et al., 2016; Popper et al., 2004).

One study reported that avoidant leader attachment was negatively related to LMX-based leadership behaviours (Davidovitz et al., 2007), and a two studies reported a leader-follower difference in avoidant attachment associated with LMX (Harms et al., 2016; Popper et al., 2004). These findings may have occurred because leaders with a poor model of self may be regularly preoccupied with gaining acceptance, which could

have a negative effect on their ability to function effectively as supportive leaders (Richards & Hackett, 2012).

In respect to associations between follower avoidant attachment and LMX, there was also consistent evidence across studies, with four moderate studies and two strong studies reporting negative association between follower avoidant attachment and LMX (Davidovitz et al., 2007; Frazier et al., 2015; Game, 2008; Grosvenor & Boies, 2006; Joplin et al., 1999; Maslyn et al., 2017). One study that failed to report a negative association between follower avoidant attachment and LMX was probably dealing with range restriction (Popper et al., 2000), which was a limitation we noted in Table 1.

The studies we summarise in this review make a general conceptual contribution that supports the role of attachment as a source of variability in LMX quality. There has been some inconsistency in the literature regarding individual differences as antecedents to LMX quality (Bernierth, et al., 2008; Martin, et al., 2010; Martin, et al., 2005), but one distinct conclusion of our findings is that attachment constructs can be associated with LMX quality. In particular, while some of the ten retrieved articles were of higher quality than others, the conclusions offered in this review support the utility of the growing presence of attachment constructs in the leadership literature. Important conceptual and theoretical findings within the summarised studies are that the role of follower attachment is more likely to be directly associated with LMX quality compared to leader attachment, and that the avoidant dimension of insecure attachment is more important than anxious attachment. One of the strengths of this review is highlighting the methodical contribution of multilevel methods of hierarchical linear modelling (HLM: Davidovitz, et al., 2007; Game, 2008; Harms et al., 2016; Richards & Hackett, 2012) and dyadic matching designs for measuring attachment for both leaders and followers (Harms et al., 2016; Popper et al., 2004). Our results suggest that these methods should

be continued and paired with longitudinal designs, particularly in relation to the joint contribution of leaders' and followers' interpersonal affect dynamics such as synchronic covariation of affect and behaviours (Hofmans, et al., 2018).

Limitations

Although the hypotheses in this systematic literature review received support, there were evident limitations. First, there is a homogeneity of study design, with only cross sectional designs represented in the studies included within this review. In addition, these studies predominantly used self-report measures that introduce another source of potential bias. Accordingly, there is a possibility that common method variance (CMV) biased the effects that were estimated within some studies. CMV can happen when variables used to estimate an effect come from the same source, because there is systematic bias that can occur via common elements of perception and inference during self-report by the same person (Donaldson & Grant-Vallone, 2002). These common elements of perception and inference (e.g., social desirability, acquiescence) are then translated into statistically common variance as individuals make ratings of variables (e.g., both predictor and outcome measures) at the same time (Podsakoff & Organ, 1986). In the final set of articles, only the coefficients produced by Harms et al. (2016), Popper et al. (2000), Popper et al. (2004), and Richards & Hackett (2012) were based on sources of data other than self-reports. Therefore, the magnitude of some reported coefficients within this study must be interpreted with caution. However, several methodological studies suggest that the potential bias due to CMV may be much less severe than previously thought (Ones, Viswesvaran, & Reiss, 1996; Spector, 2006), and that the potential of self-report bias alone does not justify low construct validity for a measure (Chan, 2009). These findings suggest that all of the effects reported in this paper remain a useful guide to future research and practice.

Another key limitation of this review was that the volume of included studies was low compared to other systematic reviews, and this meant that diversity regarding country of sample origin and sample size was not possible. In addition, due to variation of how different studies operationalised LMX processes (e.g., trust, liking, and loyalty) some relevant studies may have been unintentionally excluded if they did not reference LMX process variables in a way that were recognisable using our search terms. We attempted to attenuate this risk by having two authors independently review studies to determine eligibility for inclusion based on the measurement of LMX processes. However, it is still possible that studies which measured LMX processes (without specifically referencing those processes) were missed for inclusion. Finally, search terms focusing on LMX and related processes may not have captured all relevant published studies, because processes within LMX (i.e., the generation of loyalty) can also occur in other leadership models and paradigms. However, our search processes were designed to detect psychological processes within leadership, such as the generation of loyalty or trust, regardless of whether such processes were framed to occur within LMX or other leadership frameworks (based on logical operator “or” in the search terms for LMX or trust or liking or loyalty). In summary, we were careful to include LMX dimensions – constructs and processes (e.g., trust) that are in fact parts of LMX – without actually requiring the term LMX to be used. We used the specific “keywords “trust” “liking” and “loyalty” based on a historically important review (Schriesheim, et al., 1999) and the critical importance of these processes in the second stage of LMX development (Graen & Uhl-Bien, 1995). However, it is possible that these three keywords may have failed to retrieve some records with referents to other LMX dimensions. In spite of this limitation, it seems that these keywords did help us

retrieve records measuring dimensions of LMX that are not specifically tagged with the terms trust, liking, and loyalty (e.g., Popper et al., 2000).

Finally, because the studies were conducted in different organizations, context effects could have come into play, such as different levels of personal contact between leaders and followers and different baselines in types of leadership behaviour due to differences in organisational culture. This limitation is particularly important to keep in mind for two studies using aggregated data from multiple samples across various occupations and organisations (Frazier et al., 2015; Grosvenor & Boies, 2006). In these cases there would be effects of different organisational cultures at work, which could produce nested, hierarchical effects within the data.

Directions for Future Research and Practical Implications

Research shows that LMX predicts a variety of positive individual and organizational outcomes (Hudson, 2013; Popper & Mayseless, 2003; Thomas et. al., 2013), therefore it is practical to maximize efforts to promote the development of high quality LMX relationships. We have noted several potential directions for future research in Table 1, but we will address several of these possibilities in more detail.

The attachment style of leaders probably impinges on sense of security in followers. We suppose that when leaders show genuine concern and support to their followers, and when they are seen by followers as available and accessible in time of threat, these followers will most likely develop a specific sense of attachment to their leader based in strong LMX. However, we could find no longitudinal research to examine if a leader can actually influence the attachment style of the followers through trusting experiences that develop over time. Such studies would need to include a detailed investigation of cultural factors within organisations, and could involve longitudinal cohort studies involving specific interventions. The need for such

longitudinal cohort studies to assess both the development of LMX, the potential stability of attachment styles, and the need to investigate mediating or moderating variables (e.g., the impact of LMX on TFL) have been noted by numerous authors within our review (Boer, et al., 2016; Frazier et al., 2015; Maslyn et al., 2017; Richards & Hackett, 2012).

Longitudinal studies could also help establish the causal direction of relationships between attachment styles and LMX, perhaps by measuring the attachment of incoming leaders at a baseline before they assume the role (Maslyn et al., 2017). Once acting in the role of leaders, LMX quality should be measured across multiple time points to detect trends in its development, and measures of potential moderating and mediating variables should also be included (Richards & Hackett, 2012). In general, future longitudinal research is needed in three areas: (1) examining development of LMX quality in the relationships of securely and insecurely attached leaders and followers over time, (2) examining how attachment influences perceptions of LMX and how perceptions could change as the relationship develops over time, and (3) examining if attachment styles of leaders and followers can be changed by organisational interventions or reoccurring experiences in organisations. Ideally, future studies would deepen our understanding of attachment related mechanisms underlying a good quality LMX-based relationship and link these mechanisms to related organizational outcomes. Interestingly, it may even be possible to assess the development of leaders over time in a retrospective fashion, using psycho-biographical methods to study developmental precursors of leaders when extant biographies are available (Popper et al., 2000).

Also, as mentioned in past research, follower and leader attachment may be target for leader training and development programs (Davidovitz et al, 2007; Ronen &

Mikulincer, 2012). In this regard, leadership development and training is an area of practical application, which is particularly relevant when individuals with high technical knowledge and skill but lower interpersonal skills are pushed into leadership positions by contextual forces. Accordingly, a first step is leader self-awareness, which is a key to all leader training. In the context of attachment and LMX this would include being self-aware of attachment styles in followers and how these could affect leadership behaviours. As we noted in Table 1, it would even be possible to incorporate job design with training to address insecure attachment (Harms et al., 2016).

Employee selection and placement is another area that could be examined for impact. Although we found inconsistent relationships between secure attachment and LMX, future research may suggest that when the selection pool of potential leaders is large enough, securely attached leaders could be selected for the highest return. For example, the individuals with the highest secure attachment scores might be selected for leadership positions in the most stressful or demanding contexts. Thus, it would be beneficial for organisational decision makers to be aware of the attachment styles in actual and potential leaders in order to help organizations to recruit and develop leaders; maximise talent use, retention and organizational development; and aim to promote leader behaviours that promote greater job satisfaction and well-being in employees (Rahimnia & Sharifirad, 2014; Riley, 2011).

Stress management interventions could also be targeted and employed based on changing events within organisations, in conjunction with the assessment of insecure attachment in individuals. We noted earlier that individual differences in stress management strategies are likely to reflect internal working models of the self (Bowlby, 1973, 1982). These internal models would be related to one's unique history and specific attachment figures. For employees with insecure attachment, these models may

become more or less salient in organisational life based on the ebb and flow of stressful events such as organisational change initiatives. At such times, assisting employees with insecure attachment to recognise and incorporate evidence for the trustworthiness of local leaders may serve to access and challenge existing models of the self that undermine a sense of security.

Conceptually, one would expect that leader attachment would be associated with LMX quality. This observation seems to be inconsistent with the findings of this review, which support the instability of effects from leader attachment to LMX. However, most studies within this review examined the potential of only *direct* effects from leader attachment to LMX quality. We note that when leader-follower differences in attachment were combined into interaction terms, the findings of two studies in this review produced indirect effects of combined leader-follower avoidant attachment on LMX (Harms, et al., 2016; Popper et al., 2004). It seems reasonable, therefore, that leader-based attachment could be associated with LMX, but only through indirect effects captured in moderation and mediation models. In particular, TFL models highlight diverse leader behaviours that produce high-quality relationships with followers, such as intellectual stimulation and inspirational vision. For example, recent research demonstrates that components of TFL and LMX interact to produce higher effects via a differential impact model (Boer, et al., 2016). We suggest that if the interactive effects between TFL and LMX dimensions could be considered in moderation and mediation models, there may be evidence for an indirect effect for leader attachment on LMX quality (Harms, et al., 2016; Popper et al., 2004). Therefore, across the studies in this review, it is likely the absence of modelling moderation and mediation effects between LMX and related constructs such as TFL dimensions could be related to the lack of significant results for leader attachment associated with LMX

quality. The use of such moderation and mediation models is an important direction for future research, especially as used with the assessment of micro-level, relational processes tapping covariation of affect, cognition, and behaviour between dyad members across time (Hofmans, Dóci, Solinger, Choi, & Judge, 2019).

This paper contributes to recent calls for more detailed examinations of the micro-level, relational processes constantly at work in leader-follower dyads, which influence the emergence of the relatively steady quality of relationship in leader-follower relationships (Hofmans, et al., 2019). Namely, within this paper, we have included 10 studies on LMX and attachment, and the conceptual orientation to each of these studies was focused on the micro-level, relational processes illustrated in the attachment bonds within the LMX relationship. We recommend that future studies be designed with longitudinal methods and operationalise variables that target the micro-level, relational processes at work in leader-follower dyads. Such longitudinal methods are likely to focus on interpersonal affect dynamics such as synchrony, which is the covariation of affect, cognition, and behaviour between dyad members (Hofmans, et al., 2019). By focusing on such micro-level, relational processes it would be possible to assess outcomes such as trust and liking that emerge from ongoing micro-level, relational processes.

Conclusion

Effective leadership is considered increasingly important, with an extensive body of research suggesting that the essence of leadership is concerned with developing effective relationships with others. The unique contributions of this review indicate the potential for attachment theory to assist researchers and practitioners in understanding the nature and quality of leader-follower relationships in organizations. The studies in this review increase our overall understanding of attachment dynamics in leader-

follower interactions by showing the processes that link leaders' secure and insecure orientations with the quality of LMX.

Across all findings in the ten articles the following conclusions can be made. First, for follower attachment, there are consistent findings for the effects of secure and avoidant attachment on LMX quality, and these effects are relatively higher when compared to the effect between anxious attachment and LMX quality. These findings can be consistently observed within the four of the highest quality studies (Davidovitz et al., 2007; Harms et al., 2016; Popper et al., 2000, Richards & Hackett, 2012), which indicate confidence that secure and avoidant attachment dimensions for followers display relatively higher effect sizes with LMX-based dimensions. Therefore secure and avoidant attachment may be more practically relevant for future studies compared to anxious attachment.

Second, the four highest quality studies, which used either a dyadic matching design measuring attachment for both leaders and followers (Harms et al., 2016; Popper et al., 2004) or multilevel methods of hierarchical linear modelling to more precisely measure effects based in different levels of analyses (Davidovitz, et al., 2007; Harms et al., 2016; Richards & Hackett, 2012) suggest that it is not possible to make stable predictions of the effect of leader attachment alone on LMX quality. Across these studies, effects for multiple dimensions of leader attachment were either low (Davidovitz, et al., 2007) or non-existent (Richards & Hackett, 2012). Thus the extant literature suggests that leader attachment alone cannot be reliably associated with LMX quality. It is likely that a dyadic approach of comparing leader-follower differences in attachment as used by Harms et al. (2016) and Popper et al. (2004) will provide improved validity when assessing associations between LMX and attachment differences.

Although attachment style can be considered a part of an individual's personality, research suggests that working models of attachment remain flexible and open to change (Collins & Read, 1994). Therefore, for leaders and followers that have an insecure attachment style there may be opportunities to promote a transition to more secure attachment via the regulated, ongoing interaction in trusting leader-follower relationships. If leaders or followers have a secure attachment style, positive experiences with others (e.g. higher quality LMX) could actually meet the attachment needs of the anxious individuals and may mitigate the effect of anxiety on engagement, commitment, and other important outcomes. Therefore, leaders could provide a sense of attachment security, increasing the quality of LMX and affecting the followers' attitudes and behaviour at work.

In general, this review points to the value of considering attachment in the development and deployment of leaders and followers and in promoting the effective functioning of both leaders and followers. Although future studies must move beyond cross-sectional methods, there is ample evidence to suggest that the attachment of leaders and followers is an important consideration for leader and follower recruitment, selection, placement, and development, particularly in contexts where behaviours typical of securely attached leaders and followers are manifest as salient and are particularly critical to the success of organisations.

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