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European Journal of Work and Organizational Psychology

ISSN: 1359-432X (Print) 1464-0643 (Online) Journal homepage: www.tandfonline.com/journals/pewo20

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To cite this article: Zexi Flavia Li, Cécile Emery & Allan Lee (18 Jun 2025): That's what friends are for: anxious and avoidant attachment, workplace friendship and job performance, European Journal of Work and Organizational Psychology, DOI: 10.1080/1359432X.2025.2519581

To link to this article: https://doi.org/10.1080/1359432X.2025.2519581

EUROPEAN JOURNAL OF WORK AND ORGANIZATIONAL PSYCHOLOGY
https://doi.org/10.1080/1359432X.2025.2519581

That's what friends are for: anxious and avoidant attachment, workplace friendship and job performance

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ABSTRACT

Attachment theory suggests that variations in parent-child interactions shape adult relationships, with some individuals developing secure attachments while others develop insecure (anxious or avoidant) attachment styles. Despite the centrality of attachment theory in psychological and social sciences, there has been limited research on the role of attachment styles in the formation of intra-organizational networks. This study addresses this gap by investigating how attachment styles influence the formation of friendship networks in the workplace and examining the indirect link between attachment style and job performance through centrality in these networks. Using a multi-method, multi-study approach, we combine longitudinal analysis of friendship networks from MBA students (Study 1) with complete network data from a company in China (Study 2). Our findings reveal that individuals higher in attachment avoidance are less likely to form friendships at work, with friendship centrality mediating the negative relationship between avoidance and job performance. In contrast, our findings regarding anxious attachment were more complex, showing that anxiously attached individuals attempt to form friendships but simultaneously dissolve these relationships, highlighting a dynamic and potentially self-sabotaging process.

ARTICLE HISTORY
Received 24 April 2024
Accepted 8 June 2025

KEYWORDS
Attachment styles; friendship networks; centrality; performance; social networks

Introduction

Over the last few decades, few topics in the psychological and social sciences have captured as much research interest as attachment (Finkel & Simpson, 2015): the human proclivity to seek and develop affectional bonds with others (Bowlby, 1969). Attachment theory has been used to better understand relationship dynamics and their associated consequences for individuals (Simpson & Rholes, 2017). Central to attachment theory is the recognition that, alongside the innate need for attachment (e.g., Baumeister & Leary, 1995), variations in the quality of interactions with primary attachment figures (e.g., parents) during early childhood produce long-lasting and generalized individual differences in the functioning of the attachment system (e.g., Ainsworth et al., 1978; Bowlby, 1982). Adult attachment style reflects an individual's typical orientation towards relationships with others. Specifically, attachment theory highlights that individuals form an attachment style/pattern towards primary caregivers early in life, and this attachment style becomes their internal working model, or schema, for understanding and regulating future relationships (e.g., Brennan et al., 1998).

Although attachment theory has traditionally focused on family and romantic relationships, it has increasingly been applied in organizational contexts (e.g., Gruda & Kafetsios, 2020; Hazan & Shaver, 1990; A. Lee et al., 2024; Scrima et al., 2015). One critical workplace outcome is job performance, which remains a cornerstone of organizational research due to its relevance for both organizational effectiveness and individual career success (Iaffaldano & Muchinsky, 1985; Rotundo & Sackett, 2002). Indeed, job performance remains one of the most studied and consequential outcomes in organizational research due to its critical role in determining organizational effectiveness and individual career outcomes (Aguinis et al., 2013). High levels of job performance are linked not only to increased organizational productivity but also to enhanced employee retention, engagement, and innovation (Gabriel et al., 2021; Shoss et al., 2020). As organizations face growing complexity and competition, identifying psychological and relational predictors of performance has become increasingly important for designing effective talent management and development strategies (e.g., Krasikova et al., 2013). Existing research examining the link between attachment style and performance has primarily focused on intrapersonal mechanisms. For example, studies have shown that attachment insecurity is related to lower job performance via general self-

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Supplemental data for this article can be accessed online at https://doi.org/10.1080/1359432X.2025.2519581

efficacy (Kale, 2020) and increased burnout (Vîrgă et al., 2019). While these mechanisms are valuable, they do not fully align with the inherently relational nature of attachment theory, which centres on how people navigate interpersonal bonds. More recently, A. Lee et al. (2024) highlighted the importance of relational mechanisms in explaining how attachment shapes performance. They focused on the relationship between leaders and followers to explain the link between follower attachment and performance, marking an important shift in the literature. However, this work adopted a relatively narrow view of workplace relationships by focusing solely on the leader – follower dyad. This overlooks the complex network of informal relationships that employees form with peers, which also shape access to support, information, and other resources.

In this paper, we propose that friendship networks offer a powerful lens for examining the relational effects of attachment. Social network analysis enables researchers to map employees' actual positions within the broader web of workplace relationships (Cross & Parker, 2004), offering a more holistic view than dyadic approaches (such as LMX). We focus on friendship centrality – the degree to which an individual is embedded within a workplace friendship network – as a relational mechanism through which attachment style may influence performance. Building on structural advantage theory (Brass, 1984), we argue that individuals with more central positions in these networks benefit from greater social capital, which can enhance their performance (Brands & Mehra, 2019; Mehra et al., 2001).

According to structural advantage theory (Brass, 1984), individuals embedded in different informal network positions within an organization may experience varying access to information and resources. Those who occupy advantageous positions, such as brokerage or central roles, tend to achieve higher individual performance and greater career success (Brands & Mehra, 2019; Mehra et al., 2001). Driven by the micro-foundational approach of social network theory (Tasselli et al., 2015), this research investigates how attachment styles influence individuals' tendencies to occupy central positions in organizational networks and subsequent outcomes such as job performance. We explore these questions using a multi-method, multi-study approach combining longitudinal analysis of friendship networks collected from MBA students (Study 1) and empirical complete network data from a company based in China (Study 2). By examining whether attachment style predicts friendship centrality – and whether this, in turn, explains variance in job performance – we aim to make three key contributions to the literature related to both intra-organizational social networks and attachment.

First, we build on the growing literature that links attachment to work outcomes by providing evidence for a relational pathway to performance. Rather than treating performance as a purely individual-level construct driven by internal states or abilities, we highlight the role of informal peer relationships. In doing so, we complement and extend prior intrapersonal accounts (Kale, 2020; Vîrgă et al., 2019) and offer a broader alternative to recent dyadic approaches (A. Lee et al., 2024). As job performance is contingent on social interactions and support received from others (e.g., Clausen et al., 2019; Gabriel et al., 2021; Spreitzer et al., 2005), friendship network centrality offers unique insight into how attachment style may relate to these outcomes. Our research hence sheds light on the relational mechanisms linking attachment and workplace outcomes.

Second, we respond to calls for integrating attachment theory with social network approaches (Gillath et al., 2019; Yip et al., 2018) by using sociocentric network data from both a student cohort and an organizational setting. Unlike prior studies relying on self-reported, egocentric measures (e.g., Gillath et al., 2017, 2019), we examine how attachment shapes actual network positioning. Our findings extend previous work (e.g., Webster et al., 2016) into the workplace and address the need for longitudinal, network-informed designs (Yip et al., 2018). By adopting a sociocentric approach, we offer new evidence of how attachment style influences centrality and management of friendship networks at work. This builds on the limited prior research that used complete network data (e.g., Webster et al., 2016), providing a more accurate understanding of network characteristics and overcoming the limitations of egocentric designs. Ultimately, we contribute to the understanding of intra-organizational dynamics (Chen et al., 2022).

Third, we contribute to the micro-foundations of social networks literature (Kilduff & Lee, 2020; Tasselli & Kilduff, 2021; Tasselli et al., 2015) by positioning attachment style as a relationally grounded individual difference that shapes network structure. While traits such as self-monitoring and the Big Five have been shown to predict network centrality (e.g., Bhardwaj et al., 2016; Klein et al., 2004), attachment style offers a theoretically distinct lens grounded in relationship schemas. As attachment style represents a relationship-based attribute that determines subjective evaluations of others and affects individuals' ability and willingness to build relationships (Richards & Hackett, 2012), we believe that attachment style represents a personality approach that opens up important research possibilities within the social network research programme (Kilduff &

Lee, 2020; Tasselli et al., 2018). In the current research, we argue that attachment style is particularly relevant to our understanding of intra-organizational social networks and is likely to have incremental predictive power over and above traits such as self-monitoring and extraversion. This is important because, while self-monitoring and extraversion are important predictors, they are intentionally general constructs (Shaver & Brennan, 1992), which do not capture the full range of individual differences that may influence social networks at work. By examining additional relationship-specific predictors, such as attachment styles, researchers can develop a more comprehensive and nuanced understanding of the individual-level factors shaping intra-organizational social networks.

Theory and hypotheses development

Attachment style

Adults vary in how they approach, develop, and maintain their relationships with others (Fraley et al., 2015). According to attachment theory, this variation is largely due to differences in early caregiving experiences (Ainsworth et al., 1978; Bowlby, 1982; Hazan & Shaver, 1987). Based on thousands of interactions with primary caregivers in childhood, individuals form an attachment style that becomes internalized as a fundamental, yet malleable, dimension of personality (Ein-Dor & Hirschberger, 2016) and as a working model for future relationships (Collins & Feeney, 2004; Mikulincer & Shaver, 2003), including those in the workplace (e.g., Scrima et al., 2015). While attachment style was originally framed in terms of three distinct types (secure, anxious, and avoidant; see Hazan & Shaver, 1987), recent consensus in attachment research supports the view that attachment styles are more dimensional than typological, to avoid bias created by discrete categories (Coble et al., 1996; Fraley et al., 2015; Geller & Bamberger, 2009). In this approach, adult attachment styles are more accurately conceptualized and measured along two orthogonal dimensions: attachment *anxiety* and *avoidance* (e.g., Bartholomew & Horowitz, 1991; Brennan et al., 1998), which collectively capture individual differences in interpersonal functioning and self-concept (Griffin & Bartholomew, 1994). Secure attachment is still captured in a two-dimensional space as a linear combination of the two dimensions of (low) anxiety and (low) avoidance.

The anxiety dimension captures the degree to which an individual tends to be anxious about abandonment and the availability and responsiveness of another person in times of need. Higher attachment anxiety is believed to stem from childhood, when a caregiver provided inconsistent levels of care, attention, and feedback, resulting in the child developing anxious attitudes towards the relationship (e.g., Dinero et al., 2008; Zayas et al., 2011). Consequently, individuals who score highly on anxious attachment tend to be vigilant in monitoring their environment (J. A. Feeney & Noller, 1990), often dwell on distressing feelings (Florian & Mikulincer, 1998), exhibit emotion-focused coping (e.g., self-blame, wishful thinking; Ognibene & Collins, 1998), report more dysfunctional rumination (Lanciano et al., 2012), and exaggerate appraisals of threat (Mikulincer et al., 2002). Conversely, the avoidance dimension indicates the extent to which an individual avoids intimacy, distrusts relationship partners' intentions, and attempts to maintain behavioural independence and emotional distance from that partner (e.g., Mikulincer & Shaver, 2007). An avoidant attachment style develops from childhood interactions in which caregivers repeatedly provide improper care and feedback or dismiss attempts at closeness or affection. Avoidant attachment develops as the individual connects requests for attachment with negative consequences, such as being rejected by the caregiver (e.g., Mikulincer & Shaver, 2007). As a result, individuals high in avoidance tend to rely on "fight or flight" responses (Ein-Dor et al., 2010), focusing on self-protection and self-interest, and thus quickly withdraw from sources of stress and distress (Fraley & Shaver, 1997).

Previous research has demonstrated that attachment styles have strong associations with relational outcomes (e.g., relationship satisfaction) that are distinct from other individual differences. For instance, Noftle and Shaver (2006) reported that attachment style dimensions predict relationship quality better than measures of the Big Five. While researchers have traditionally examined how anxiety and avoidance impact parent-child and romantic relationships, attachment theory has expanded its scope to encompass adult relationships, including its application to workplace dynamics (see Yip et al., 2018 for a review). A burgeoning strand of research has suggested that attachment styles may impact employee workplace outcomes. For example, studies have identified that employees' attachment style is related to job attitudes (e.g., Krausz et al., 2001), burnout (e.g., Ronen & Mikulincer, 2012), turnover intentions (e.g., Scrima et al., 2015), organizational citizenship behaviour (e.g., Richards & Schat, 2011), and workplace deviance (e.g., Little et al., 2011). Research on attachment style in the workplace has also explored its association with dyadic relationships unique to the workplace, namely, leader – follower or co-worker relationships (Maslyn et al., 2017; Richards & Hackett, 2012).

For example, Kirrane et al. (2019) reported that insecure attachment styles had a negative relationship with employees' perceptions of the quality of their relationships with their leader and teammates, which, in turn, was associated with lower creative output.

Yet, by mainly focusing on dyadic relationships, previous research has failed to consider the broader social context in which employees are embedded. People do more than establish relationships with their direct manager and co-workers: they create relationships with all kinds of organizational members, building a complex network of friendships at work. Employees vary in the number of friendships they develop at work (i.e., their friendship network centrality), which has important implications (e.g., Feeley et al., 2008). In the current research, we argue that the consequences of attachment style could be better understood with a social network perspective. Indeed, using social network analysis enables a more fine-grained understanding of how attachment style may influence an employee's workplace friendship network.

Attachment styles and workplace friendship networks

Friendship networks are characterized as informal, voluntary, expressive, horizontal, and symmetric social relationships (Methot et al., 2016). There are four defining features of friendship: informality, voluntariness, communal, and socioemotional goals Pillemer and Rothbard (2018). Unlike formal, instrumental networks such as advice networks, friendship networks arise largely from individual choice and initiative (Mehra et al., 2001) and are enacted through voluntary, shared informal activities that signal mutual liking and personal connection (Snyder & Smith, 1986; van Zalk et al., 2020). As friends provide support, information, and psychosocial resources (Baldwin et al., 1997; Fang et al., 2015; Gibbons, 2004), research has established that occupying a central position in a friendship network at work is associated with a multitude of benefits. For example, people who report having a higher degree of centrality (measured by the number of ties/friendships an actor has) in a friendship network at work tend to have more favourable work attitudes (e.g., Eagle et al., 2009), better job performance (Baldwin et al., 1997; Fang et al., 2015), lower turnover (Feeley et al., 2008), higher career advancement (Rossman et al., 2010), and greater career success (see meta-analytic review by Fang et al., 2015). In general, it appears that having more friends at work is beneficial for employees. This is not surprising given that humans have a fundamental and strong need to belong (Baumeister & Leary, 1995). As such, individuals flourish when they feel a sense of belonging and relatedness to others, and social connections at work are no exception (e.g., Howard et al., 2020).

While previous research has generally suggested that having more workplace friends has positive consequences for employees, there is limited understanding of the factors that predict friendship networks. This is partly because social network research has traditionally emphasized that the structure of networks affects and shapes people's identities and outcomes in ways that are beyond individuals' control (Kilduff & Lee, 2020). This structuralist perspective has historically downplayed the role that individual attributes play in determining network patterns (Kilduff & Lee, 2020). In contrast to this perspective, organizational researchers are beginning to explore the micro-foundations of social networks and the role that individual attributes play (Tasselli et al., 2015). In exploring factors that predict friendship networks, researchers have examined aspects of personality such as the Big Five traits (Klein et al., 2004) and self-monitoring (Bhardwaj et al., 2016; Landis, 2016; Tasselli & Kilduff, 2018). Fang et al. (2015) meta-analysis of social network and personality studies suggested the dominance of self-monitoring relative to the Big Five personality variables in predicting centrality in organizational social networks. However, as highlighted by the authors, "other approaches may improve the predictive validity of personality" (p. 1225). In the current research, we argue that attachment style represents a trait that is particularly relevant to our understanding of friendship networks and is likely to have incremental predictive power over and above self-monitoring and the broad Big Five traits examined previously.

As highlighted above, attachment theory represents a seminal theory of relationships. According to the model of attachment system dynamics (Mikulincer & Shaver, 2003), those who are more avoidant view others as generally unavailable or untrustworthy in times of need (Mikulincer & Shaver, 2005), leading to the "deactivation of proximity seeking, inhibition of the quest for support, and active attempts to handle distress alone" (Mikulincer et al., 2003, p. 85). This deactivation of the attachment system serves to avoid the anticipated frustration associated with the unavailability of an attachment figure (Cassidy & Kobak, 1988). This results in the denial and suppression of attachment needs, the denial of the importance of relationships, and the avoidance of emotional involvement or intimacy (Mikulincer & Shaver, 2005). Over time, the chronic activation of these avoidant attachment dynamics results in a fragile internal working model of self and a negative model of others (Simpson & Karantzas, 2019). Those higher in avoidance tend to reject the emotional needs of others and seek to

protect their own emotional state and fragile self-esteem by creating distance (Mikulincer & Shaver, 2003; Mikulincer et al., 2005). Unsurprisingly, studies have revealed a negative association between avoidant attachment style and leader-follower relationship quality at work (e.g., Harms, 2011; Maslyn et al., 2017; Richards & Hackett, 2012). Outside of the workplace, a few studies have applied attachment theory to study various aspects of social networks, such as people's perceptions of their closeness to network members (e.g., Doherty & Feeney, 2004; Rowe & Carnelley, 2005). Most relevant to the current research is evidence that attachment avoidance is negatively associated with various indicators of one's friendship network (Gillath et al., 2017). Similarly, Webster et al. (2016) found that avoidant attachment was negatively associated with university students' friendship popularity.

Based on these findings and the propositions of attachment theory, we propose that attachment avoidance is likely to shape the size of employees' friendship networks. More precisely, we argue that avoidant attachment will be negatively related to centrality (e.g., number of friends) in friendship networks.

Hypothesis 1: There will be a negative relationship between avoidant attachment and friendship centrality.

While the theory and research related to attachment avoidance make it straightforward to predict a negative relationship with centrality in friendship networks, the relationship with attachment anxiety is more complex. According to Mikulincer and Shaver (2003), rather than simply avoiding interdependent relationships, those high in attachment anxiety paradoxically exhibit both approach and avoidance tendencies in relationships. The chronic activation of these anxious attachment dynamics results in a complex model of others (Simpson & Karantzas, 2019). More precisely, individuals high in attachment anxiety tend to have a mixed view of others: on the one hand, they can be frustratingly inconsistent and unreliable in times of need, but on the other, they provide adequate support in response to reassurance-seeking efforts (Mikulincer & Shaver, 2007). Attachment anxiety is associated with intense proximity-seeking efforts accompanied by " . . . anxious, hypervigilant attention to relationship partners and rapid detection of possible signs of disapproval, waning interest, or impending abandonment" (Mikulincer et al., 2003, p. 85).

The implications of anxious attachment for the formation and maintenance of friendship networks are therefore complicated. An interesting dynamic of the fading relationship is frequently observed in individuals with high anxious attachment. On the one hand, it has been argued that anxious individuals seek to acquire many friends in order to satisfy their excessive need for love, closeness, and reassurance from others (e.g., Pietromonaco & Beck, 2015). On the other hand, despite their strong desire to make friends, anxious individuals seem to struggle to maintain friendships (Gillath et al., 2017; Gruda et al., 2022). A handful of empirical studies support this. For example, Gillath et al. (2017), using cross-sectional ego-networks collected from undergraduate students, found that anxious attachment was positively related to the initiation of new friendship ties and the dissolution of existing friendship ties (measured as a self-reported network management skill) at the same time. More recently, Gruda et al. (2022) found that anxious individuals are initially perceived positively in social interactions, but these impressions tend to deteriorate over time. Gillath et al. (2017) also found that attachment anxiety is negatively associated with perceived tie strength, implying that anxious individuals are less likely to feel close to other members in their network. Consequently, relationships of highly anxious individuals are more likely to end negatively.

Although few studies have discussed the relationship dynamics of anxious attachment, little is known about anxious attachment and the formation of friendships in the workplace. Previous studies have reported negative correlations between attachment anxiety and relationship quality at work (Frazier et al., 2015; Mayseless, 2010), although other studies report non-significant associations (Game, 2008; Maslyn et al., 2017; Popper et al., 2000). It is also important to note that most research focuses on self-rated relationship quality, so less is known about how other parties view relationships with those higher in attachment anxiety. Research also suggests that individuals with higher attachment anxiety tend to perceive their relationships with other organizational members as less positive (Richards & Schat, 2011) and report lower levels of trust and subsequent caregiving behaviours towards others (Feeney & Collins, 2001). Managing a larger-sized friendship network consumes time and energy (Landis, 2016). As people with higher levels of attachment anxiety tend to focus more on addressing their own insecurities and well-being than on the needs of others (Geller & Bamberger, 2009), they are inclined to provide less care and engage in fewer altruistic behaviours (Desivilya et al., 2006; Mikulincer et al., 2005). A study of attachment and social networks in professional football teams also found that anxious players are more likely to have little or no personal contacts with teammates (Dizdari & Seiler, 2020).

Taken together, the above research suggests that anxiously attached individuals worry about their

relationships in the workplace (Harms, 2011). We therefore argue that anxious individuals will be less likely to make friends at work.

Hypothesis 2: There will be a negative relationship between anxious attachment and friendship network centrality.

Attachment style, workplace friendship, and job performance

The preceding hypotheses posit that attachment style will influence employees' degree centrality in workplace friendship networks; that is, the number of friends employees have at work. We also argue that an individual's friendship network will impact job performance. Job performance is a central outcome that has been extensively studied in workplace relationship research, from both dyadic and social network perspectives. In dyadic friendship research, constructs such as friendship quality, closeness, emotional ambivalence, trust, and reciprocity have been shown to significantly predict work-related outcomes, including increased job satisfaction, organizational commitment, and task performance (e.g., Lee & Ok Ph, 2011; Methot & Melwani, 2017; Winstead et al., 1995). High-quality friendships often provide emotional and instrumental support, reduce stress, and enhance motivation, thereby improving individual performance (e.g., Dechant, 2011; Methot et al., 2016).

However, recent research has also highlighted the potential downsides of workplace friendships (Pillemer & Rothbard, 2018). For example, close friendships at work can create role conflict, as individuals struggle to reconcile personal loyalty with professional obligations (Fasbender et al., 2023; Hood et al., 2017). Moreover, the self-disclosure often involved in workplace friendships may backfire, especially in competitive environments, where private information could be used strategically or lead to reputational costs (Pillemer & Rothbard, 2018). Additionally, the emotional ambivalence inherent in some friendships can be psychologically taxing, leading to resource depletion and increased exhaustion, which in turn may undermine job performance (Fasbender et al., 2023; Methot et al., 2016).

Nevertheless, dyadic friendship research has notable limitations due to the inherently dynamic, affective, and context-dependent nature of interpersonal ties (Kahn et al., 2011; Methot et al., 2016). In contrast, social network approaches offer a structurally grounded perspective that captures more stable and observable relational patterns over time, linking them to work-related outcomes (Borgatti & Halgin, 2011). This is because performance-related returns stem not only from dyadic-level interactions but also from individuals' embeddedness in broader social structures, such as network centrality or brokerage positions (Obstfeld et al., 2014; Tasselli et al., 2025). As such, network-based predictors tend to yield more consistent and generalizable insights across organizational contexts than dyadic relational measures (Kilduff & Krackhardt, 2008).

In social network research, organizational structure can result not only from formally established roles but also from informal or emergent behavioural patterns (Brass, 1984). This suggests that individuals benefit from occupying advantageous positions (such as central positions) in informal networks by gaining access to information, resources, and career sponsorship (Seibert et al., 2001). In friendship networks, individuals with more friendship ties are more likely to receive greater social and psychological support (Baldwin et al., 1997; Fang et al., 2015; Tasselli et al., 2023). In the workplace, this can be advantageous, as people with more friends can call on numerous sources of both tangible and intangible resources. The notion that resources are transferred through network ties can be explained by social capital theory (Lin, 1999). Put simply, the underlying premise of the social capital perspective is that investment in social relations provides various returns (Lin, 1999). As such, workplace friendships can impact employee outcomes through the provision of moral and material support, work and non-work advice, and quality information exchanges (see David et al., 2023 for a review). Indeed, a growing body of research has shown that employee job performance is significantly tied to an employee's ability to build and maintain a relational support system and interpersonal networks (Chiaburu & Harrison, 2008; Grant & Parker, 2009).

The significant relevance of centrality and job performance has long been studied in the social network literature (e.g., Brands & Kilduff, 2014; Brands & Mehra, 2019; Fang et al., 2015). Degree centrality indicates the level of popularity, activity, and power of an actor within an organization (Fang et al., 2015; Freeman et al., 1979; Tasselli & Kilduff, 2021; Wasserman & Faust, 1994). Therefore, individuals who are more central enjoy greater access to information and material resources, whereas those less central face dependence on others for seeking information and require more links and effort to communicate (Freeman et al., 1979). Having more friends at work is associated with higher levels of productivity, retention, job satisfaction (Rath, 2006), and greater career success (Fang et al., 2015). Building on

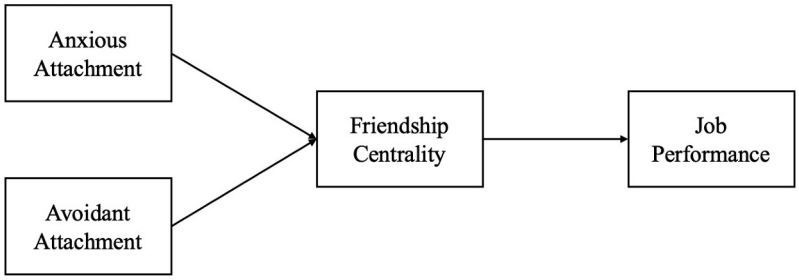

Figure 1. The conceptual model.

previous research and social capital theory, we posit that friendship network centrality will be positively associated with employee job performance.

Hypothesis 3: Friendship network centrality will be positively associated with job performance.

As alluded to in the introduction, there is a growing interest in understanding the impact of employee attachment on workplace outcomes (Yip et al., 2018). Researchers have explored how attachment dynamics in work relationships are directly related to valued organizational outcomes such as follower proactivity (Wu & Parker, 2012, 2017), job attitudes (Scrima et al., 2015), work-related well-being (Lanciano & Zammuner, 2014), and creative problem-solving (Mikulincer et al., 2011). Richards and Schat (2011) found that attachment anxiety and avoidance predicted outcomes such as emotion regulation behaviours, turnover intentions, and organizational citizenship behaviour after controlling for Big Five personality traits. As such, attachment style represents an individual difference that appears to offer something unique compared to those typically studied in the workplace and provides a valuable perspective for understanding job outcomes.

Given the fundamental importance of job performance for individual and organizational effectiveness (e.g., Rotundo & Sackett, 2002), it is not surprising that researchers have explored its link with attachment style. Much of this research has focused on variations in attachment security rather than making fine-grained distinctions among the multiple dimensions of attachment style. For example, a positive relationship has been found between secure attachment and task performance (Neustadt et al., 2011; Ronen & Zuroff, 2017), although the effect has been less reliable when task performance was leader-rated rather than self-rated (e.g., Simmons et al., 2009). In terms of research that has more precisely conceptualized attachment style, there is preliminary evidence for a negative association between anxious and avoidant attachment and job performance (e.g., Kale, 2020; Vîrgă et al., 2019).

To explain how anxious and avoidant attachment styles may impact employee job performance, scholars have focused on intrapsychic explanations, exploring the recurrent cognitive and affective reactions of individuals with different attachment styles. For example, drawing on the job-demands-resources model (Bakker & Demerouti, 2007), Vîrgă et al. (2019) found evidence that burnout is an affective mediator explaining the relationship between anxious (but not avoidant) attachment style and task performance. With respect to a cognitive mechanism, Kale (2020) found support for a negative indirect effect between both anxious and avoidant attachment styles and job performance via general self-efficacy. Investigating the explanatory power of these intrapsychic mechanisms has contributed to understanding the relationship between attachment style and employee performance. However, given that attachment theory is inherently relational in nature, it is surprising that relational mediators have not been considered as a plausible explanation for why and how attachment styles are associated with job performance. To this end, the current research aims to explore whether friendship networks can further our theoretical and empirical understanding of the attachment style-job performance relationship (see the conceptual model in Figure 1).

In sum, the accumulation of the preceding three hypotheses suggests an indirect relationship between attachment style and job performance via employees' friendship networks. Specifically, we posit a negative relationship between attachment avoidance, attachment anxiety, and job performance, mediated by friendship network centrality.

Hypothesis 4: Attachment avoidance will be negatively associated with job performance via friendship network centrality.

Hypothesis 5: Attachment anxiety will be negatively associated with job performance via friendship network centrality.

Study 1

Participants & procedures

Study 1 was designed to test our first two hypotheses, namely that people with avoidant and anxious attachment styles are likely to have fewer friends at work. To do so, we conducted a three-wave social network analysis of a recently formed cohort of MBA students at a leading university in the United Kingdom ($N = 34$). MBA cohorts are commonly employed as a proxy for studying workplace friendship networks (e.g., Brands & Mehra, 2019; Turetsky et al., 2023). Students formed social connections with one another by engaging in a combination of formal study tasks and informal social interactions, mirroring the relationship dynamics in professional settings. Participation in this study was on a voluntary basis. Confidentiality and anonymity were guaranteed. All MBA students agreed to take part in the study. No research interventions were set up to influence the group's natural dynamics. Among the 34 MBA students in our sample, 67% were women, 11 nationalities were represented, and the average age was 32 years (SD = 5.37).

At the start of the MBA programme (Time 0), we collected individual characteristics; namely, we measured attachment styles, personality traits (self-monitoring and extraversion), and demographics (age and gender). Subsequent data collection occurred at one-month intervals. At Times 1, 2, and 3, we used a paper-and-pencil sociometric survey to collect complete network data on friendship. Response rates were 100% at Time 0, 97% at Time 1, 100% at Time 2 and 3.

Measures

Unless specified otherwise, participants were required to rate each scale item using a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). The means, standard deviations, and correlations for the variables in Study 1 are presented in Table 1. Reliability coefficients appear in the diagonal.

Longitudinal friendship networks

We collected longitudinal friendship networks by applying a roster method (Marsden, 1990). The roster method required each participant to look down at an alphabetical list of their fellow MBA students and to place a check next to the names of the people whom they considered a friend. Informal socializing outside the formal work (or study) context is widely used as a behavioural manifestation of workplace friendship (Snijders et al., 2013). Following previous workplace friendship measurement (Mehra et al., 2001; Sasovova et al., 2010), we specified that friends are people with whom participants "have social activities outside the context of the MBA programme, such as having dinner/coffee, going to the movies, going shopping, attending, or playing sports activities, and other social activities in private life." To ensure confidentiality and anonymity, all participants were assigned randomized numbers in the network dataset. At no point were actual names stored or analysed in identifiable form. These procedures were approved by the university's ethics committee.

For each round of social network data collection (Time 1, 2, and 3), answers were coded into a 34 × 34binary adjacency matrix (Wasserman & Faust, 1994). A one in cell (i,j) indicated that person *i* lists person *j* as a friend; a value of 0 indicated no friendship relationship from *i* to *j*. Missing data was coded as "NA". It is worth noting that while the sample size of 34 May seem small for an organizational field study, it is sufficient in the context of longitudinal social network research. This is because the advanced social network model (SAOMs, introduced below) is designed to capture the changes of potential 34 × 33 ties (1122 ties in total) in 3 waves to estimate how actors make decisions in network formation, maintenance, and dissolution of social network ties, influenced by social network structures and individual attributes (Ripley et al., 2023). In other words, the

Table 1. Means, standard deviations, reliabilities, and intercorrelations (study 1).

		M	*SD*	1	2	3	4	5	6	7	8
1	Anxiety	3.12	1.07	(.70)							
2	Avoidance	3.64	1.17	0.16	(.83)						
3	Self-Monitoring	12.1	3.98	−.11	−.31	(.71)					
4	Extraversion	4.44	1.27	.01	−.44**	.36*	(.79)				
5	Gender[a]	.68	.47	.21	−.09	.25	.09				
6	Age	31.9	5.45	.04	.05	−.16	.43*	−.11			
7	Friends time 1	4.88	3.60	.40	−.26	.12	.43*	.21	.18		
8	Friends time 2	8.47	5.57	.20	−.45**	.16	.30	.12	.02	.76**	
9	Friends time 3	8.53	5.39	.10	−.29	.10	.27	−.06	.13	.71**	.80**

$N = 34$. Numbers in parentheses along the diagonal are Cronbach's alphas.
[a]0 = Male, 1 = Female.
*$p < .05$, **$p < .01$.

potential 1122 ties in three waves are the object for analysing the network, not 34 actors. This sample size is similar to previous research that has explored organizational social networks (e.g., Chrobot-Mason et al., 2015).

As friendship nominations are frequently unreciprocated (Vaquera & Kao, 2008), we followed Krackhardt (1990)'s recommendation and only kept reciprocated friendship ties in our analyses as only reciprocated friendship represents the mutual trust and information exchanges. That is, we reported a friendship between two participants only if both parties agreed that it existed (i.e., person *i* selected person *j* as a friend and person *j* also selected person *i* as a friend). In this study, 58% friendship ties at Time 1, 60% friendship ties at Time 2, and 58% friendship ties at Time 3 are reciprocated. Network density, which is defined by the number of times divided by the number of possible ties, was .15 at Time 1 (166 friendship ties), .26 at Time 2 (288 ties), and .26 at Time 3 (290 ties), suggesting that the friendship network got denser as participants got to know each other over time.

Attachment styles

We measured attachment style using the 18-item adult attachment scale by Collins and Read (1990). Attachment anxiety was measured using 6 items. An example item to assess anxiety is "In relationships, I often worry that my partner doesn't really love me". Attachment avoidance was measured using 12 items. An example item to assess avoidance is "I am somewhat uncomfortable being close to others". The Cronbach's alphas of anxiety and avoidance were .70 and .83, respectively.

Control variables

Self-monitoring. As a recent meta-analysis demonstrated that self-monitoring is the strongest predictor of centrality in friendship networks (Fang et al., 2015), we controlled for participants' tendency to modify behaviours to fit different situations, groups and individuals. We measured self-monitoring using Snyder's (1974), pp. 25-item scale. An example item is "I guess I put on a show to impress or entertain people" The Cronbach's alphas of self-monitoring was .71.

Extraversion. We controlled for extraversion, i.e., a personality trait typically characterized by outgoingness, high energy, and/or talkativeness. Indeed, past research showed that extraverts tend to have more friends than introverts (Battistoni & Fronzetti Colladon, 2014; Fang et al., 2015; Selfhout et al., 2010). We measured extraversion using 5-items from the Mini-IPIP, a 20-item scale to measure Big Five Personality Traits (Donnellan et al., 2006). Examples of items to measure extraversion are "I am the life of the party" and "I don't talk a lot" (reversed coded). Cronbach's alphas of extraversion were .79.

Demographics. Finally, we controlled for gender as research suggests that people are more likely to establish friendship relationships with others similar to themselves (Brands & Kilduff, 2014). Gender was coded as 0 for male and 1 for female. We also controlled for age as research showed that friendship network size tends to decrease as age (Wrzus et al., 2013).

Data analysis: longitudinal network analysis

To test whether anxious and avoidant attachment are negatively related to occupying central positions in friendship networks, we applied longitudinal network analysis using Stochastic Actor-Oriented Models (SAOMs; Snijders, 2009; Snijders et al., 2010). SAOMs examine the evolution of social networks over time by explicitly modelling actors' decisions to create, maintain, or terminate social ties with other actors in the network. Below, we provide a brief overview of how SAOMs operate and refer readers to the work by Snijders et al. (2010) and Ripley et al. (2023) for comprehensive explanations of SAOMs.

SAOMs are designed to model the mechanisms driving changes in an observed network over time. In simple terms, the dependent variable in SAOMs is the observed network, and their purpose is to model the unobserved change processes responsible for driving the evolution of the network between different time points. A key assumption of SAOMs is that the network does not change all at once between two-time measurements; rather, observed changes (such as ties added, maintained, or lost) occur sequentially, in a series of micro-steps (small changes). During each micro-step, one randomly selected actor in the network is given the chance to add, maintain, or dissolve a tie. Actors' decisions to change (or not) their network are based on their "preferences" for specific network configurations.

SAOMs take into account three categories of effects, each potentially responsible for driving network evolution: network effects (e.g., patterns in the surrounding network structure), dyadic effects (e.g., other social relationships such as advice or relational energy), and individual attribute effects (e.g., personality traits and behaviours). We briefly introduce network effects and individual attribute effects here.

Network effects (often referred to as "structural effects" or "endogenous effects") account for the

dependency of ties within the observed network. In other words, structural effects imply that the creation of ties is highly dependent on the presence of other ties. For example, researchers can account for transitivity in network ties, i.e., the tendency for network members to form ties around a triad (e.g., "friends of my friends are my friends"); they also account for the popularity effect, where network members are more likely to send ties to "popular members" – that is, members with a greater number of ties (e.g., in an effort to become more popular in the network). While network effects focus on specific patterns of tie formation, individual attribute effects make it possible to test whether the characteristics of the actors (or nodes) in the network play a role in network evolution.

Two types of individual attribute effects are relevant to our investigation: ego-effects and similarity-effects. Ego-effects allow us to test whether actors who score higher on a particular covariate (e.g., a personality trait, demographic characteristic, or attitude) are more likely to have a greater number of ties over time. For example, Selfhout et al. (2010) used SAOMs to examine the relationship between Big Five personality traits and friendship networks, finding that individuals higher in extraversion are more likely to have more friends over time. Applied to our study, ego-effects allow us to test whether attachment styles are related to higher levels of degree centrality in friendship networks over time. SAOMs also allow modelling similarity-effects, which capture actors' tendency to form relationships with others who are similar to themselves.

Before running our longitudinal network analyses, we needed to ensure that our friendship network could be appropriately modelled using SAOMs. Specifically, SAOMs cannot converge or provide reliable coefficient estimates if changes in the network are too high. We measured stability in the network by calculating the Jaccard index between time points. The Jaccard index computes, between two time points, the percentage of ties maintained compared with the total number of ties that are maintained or changed (Ripley et al., 2023). Lower values on the Jaccard index indicate higher levels of change in the network. In our network, the Jaccard index between Time 1 and Time 2 was 0.40, and 0.48 between Time 2 and Time 3. As both values were above the recommended threshold value of 0.3 (Ripley et al., 2023), we were confident that we could model the evolution of our friendship network

Results

To test the effects of anxious and avoidant attachment on degree centrality in a dynamic friendship network, we ran SAOMs using RSiena 1.3.26, in R version 4.0.2. We adopted a stepwise approach: in model 1, we included network effects and individual attribute effects on anxiety and avoidance; in model 2, we added individual attribute effects on our control variables (namely, on extraversion, self-monitoring, gender and age). Considering that some attachment studies also examined the interactive effects of anxious and avoidant attachments (Geller & Bamberger, 2009; Gruda & Kafetsios, 2020), we tested these interactions in Model 3, as shown in Appendix 1. For each individual attribute, we distinguished between an ego- and similarity-effects. Each model was run using 5,000 iterations to derive stable estimates of standard errors. All models converged well: all convergence statistics were below .1 and the overall maximum convergence ratio was below the recommended maximum of .25 (see Ripley et al., 2023). We performed a time-heterogeneity check (Lospinoso et al., 2011), which revealed that our parameters of interest are time-homogeneous. We also conducted goodness-of-fit tests (for degree distribution and triad census; see Appendix 2) which all indicated an excellent fit with all indicators being far above the threshold of p equal to .05. Results are presented in Table 2.

In support of Hypothesis 1, we found a significant and negative estimate for avoidance attachment on the likelihood of having a higher friendship centrality over time (model 1, estimate = –.19, $p < .05$). The effect remained significant and negative after including control variables (model 2, estimate = –.20, $p < .05$). Against Hypothesis 2, we found a significant and positive estimate for anxious attachment on the likelihood of having a higher friendship centrality over time (model 1, estimate = .19, $p < .05$). Again, this effect remained significant after adding control variables (model 2, estimate = .23, $p < .05$).

Supplementary exploratory analyses

Surprised by the positive effect of anxious attachment on friendship centrality over time, we chose to run a set of exploratory SAOMs in an attempt to shed light onto this unexpected result. To do so, we adopted the creation-effect and maintain-effect in SAOMs to discover how anxious attachment and avoidant attachment create new ties (making new friends) and maintain existing ties (maintaining or dissolving existing friendships). Results are presented in Table 3.

In the supplementary analysis, we found a positive and significant creation-effect of anxious attachment on creating new friendship ties (estimate = 4.37, $p < .05$), meaning that as attachment anxiety increased, the likelihood of having friends also increased. We also

Table 2. Stochastic actor-oriented modelling results on reciprocated (i.e., undirected) friendship network (study 1).

		Model 1		Model 2	
Effects		*Estimate*	*SE*	*Estimate*	*SE*
Network effects					
	Outdegree (density)	−1.09**	.24	−1.09**	.23
	Transitivity	.20**	.05	.20**	.05
	Popularity	.01	.03	.01	.03
Individual attribute effects					
	Anxious ego	.19*	.10	.23*	.11
	Anxious similarity	.21	.28	.20	.31
	Avoidant ego	−.19*	.10	−.20*	.12
	Avoidant similarity	.03	.31	−.05	.36
Individual attribute effects (controls)					
	Extraversion ego			.00	.12
	Extraversion similarity			.06	.30
	Self-monitoring ego			.02	.03
	Self-monitoring similarity			.02	.31
	Gender ego			−.26	.26
	Gender similarity			−.08	.15
	Age ego			.02	.03
	Age similarity			.09	.38
Overall maximum convergence ratio		.08		.17	

*$p < .05$, **$p < .01$.

Table 3. Stochastic actor-oriented modelling results - supplementary analysis on creation and maintain effects (study 1).

		Model 1		Model 2	
Effect		*Estimate*	*SE*	*Estimate*	*SE*
Network effects					
	degree (density)	−1.07**	0.27	−1.04**	0.31
	transitive triads	.20**	0.07	.21**	0.07
	degree of alter	0	0.05	0	0.06
Individual attribute effects					
	Anxious maintenance	−3.69†	1.93	−3.98†	2
	Anxious creation	3.97*	1.92	4.37*	2.1
	Anxious similarity	0.31	0.32	0.34	0.35
	Avoidant maintenance	5.98**	2.28	6.31*	2.63
	Avoidant creation	−6.21**	2.22	−6.59*	2.62
	Avoidant similarity	0.25	0.37	0.26	0.43
Individual attribute effects (controls)					
	Self-monitoring ego			0.02	0.04
	Self-monitoring similarity			0.01	0.32
	Extraversion ego			0.01	0.1
	Extraversion similarity			0.16	0.3
	Gender ego			−0.38	0.29
	Gender similarity			−0.09	0.15
	Age ego			0.01	0.02
	Age similarity			0.11	0.39
Overall maximum convergence ratio		0.06		0.19	

$^{\dagger}p < .1$, *$p < .05$, **$p < .01$.

found a negative and significant maintenance-effect of anxious attachment on having friendship ties (estimate = −3.98, $p < .1$), in which ties that already exist were more likely to dissolve if the individual higher in anxiety. On the contrast, avoidant attachment is negatively and significantly related to creating new friendship ties (estimate = −6.59, $p < .05$), but the friendship is more likely to maintain once formed (estimate = 6.31, $p < .05$).

Our supplementary analyses used actual social network data echo findings by Gillath et al. (2017) who found, using self-reported scales for measuring network management skills, that anxious attachment was positively related to initiation and dissolution of new friendship ties. In the context of a three-month freshly formed group of MBA participants, it looks like anxious participants had a greater tendency to initiate ties rather than dissolving them, resulting in anxious having more friends.

Study 2

Study 2 aims not only to replicate the findings of Study 1 in an organizational context but also to extend our

model to include job performance as an outcome of having friends at work (Hypothesis 3). Specifically, we explore the indirect effects of attachment style on workplace job performance via friendship network centrality (Hypotheses 4 and 5).

Participants & procedures

We collected data from a small IT company based in China in 2021. All employees ($N = 52$), excluding the board of directors (since they don't participate in the daily social activities), were invited to participate in an online survey. Employees were informed that their responses would be confidential, made anonymous, and used for research purposes only. They were also informed that they could withdraw from the study at any time. Out of the 52 employees, 38 agreed to take part in the study (response rate = 73%, which is above the recommended response rate threshold of 70%; Borgatti et al., 2006). Within our final sample, 38 employees came from 5 departments, with 11% holding positions as department leaders. 47% were women. The average tenure was 4 years (SD = 3.43), and average age was 31 years (SD = 6.37).

We followed the same procedures as in Study 1 to ensure participant confidentiality and anonymity. The data collection was conducted independently by the research team, and no network data was accessible to the company or its managers.

Measures

We used the same scales as in Study 1 to measure attachment style as well as control variables (self-monitoring, extraversion). We used a back-translation approach (Brislin, 1970) to translate scales into Mandarin. A 7-point Likert scale (1 = strongly disagree to 7 = strongly agree) was used to assess items. We also included two attention checks which all participants passed.

Friendship network

We collected a complete cross-sectional friendship network among employees using a roster method (Marsden, 1990). Answers were coded into a 38 × 38binary adjacency matrix. A one in cell (i,j) indicated that person *i* lists person *j* as a friend; a value of 0 indicated no friendship relationship from *i* to *j*. As in Study 1, only reciprocated friendship ties were kept as a measure of friendship among employees (59% friendship ties are reciprocated). A visualization of the intra-organizational friendship network is represented in Figure 2. Friendship centrality on the reciprocated network was calculated using UCINET 6.347 (Borgatti et al., 2002). We used the measure of degree centrality (Freeman, 2002) to represent the number of friends an individual has in the organization. The higher the degree centrality score of an individual, the more friends the individual has.

Job performance

Thanks to the support of the company's human resource department, we had access to formal job performance evaluations. As part of their monthly responsibilities, department leaders assign performance scores to each employee in their department. Job performance is rated on 1-item 5-point Likert scale, from scale of 1 (low performance) to 5 (very good performance). We obtained job performance data rated one month after the network data collection.

Results

Table 4 presents the means, standard deviations, correlations, and reliability coefficients for the variables in Study 2. Among the main variables, the correlation

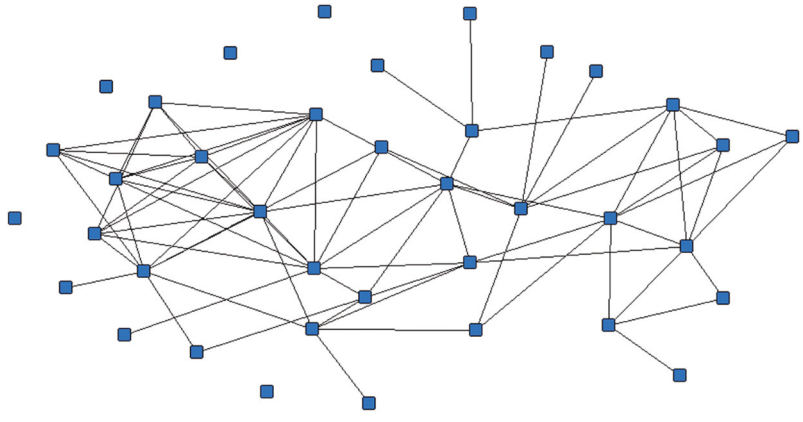

Figure 2. Reciprocated friendship network among employees in study 2.

Table 4. Means, standard deviations, reliabilities, and intercorrelations (study 2).

		M	*SD*	1	2	3	4	5	6	7	8	9
1	Anxiety	3.89	1.19	(.89)								
2	Avoidance	3.89	1.19	−.31	(.90)							
3	Self-Monitoring	13.13	3.41	−.19	−.16	(.76)						
4	Extraversion	4.03	.85	.40*	−.42**	.21	(.71)					
5	Gender[a]	.47	.51	−.05	.28	−.19	−.03					
6	Age	30.87	6.37	.00	.13	−.14	.05	.28				
7	Tenure	4.19	3.43	−.04	.28	−.12	−.12	.21	−.08			
8	Team Leader[b]	.11	.31	.13	−.07	−.12	−.01	.02	.43**	−.28		
9	Friendship Degree[c]	4.32	3.39	.27	−.54**	.32*	.34*	−.29	−.09	−.15	−.01	
10	Job Performance	3.05	1.39	−.26	−.45**	.36*	.04	−.34*	.13	−.26	.11	.58**

$N = 38$. Numbers in parentheses along the diagonal are Cronbach's alphas.
[a]0 = Male, 1 = Female.
[b]0 = Follower, 1 = Team Leader.
[c]Number of reciprocated friendship relationships.
*$p < .05$, **$p < .01$

results show that attachment avoidant was negatively related to friendship degree centrality ($r = -.54$, $p < .01$) and job performance ($r = -.45$, $p < .01$). There was no significant correlation between anxious attachment and friendship degree centrality ($r = .27$, $p > .05$) nor with job performance ($r = -.26$, $p > .05$). Friendship degree centrality was found to have positive correlation with job performance ($r = .58$, $p < .01$).

To test our mediation hypotheses (Hypotheses 4 & 5), we ran a mediation model (Model 4) in Hayes' (2013) PROCESS macro (V4.0) for SPSS to calculate bias-corrected bootstrapped confidence intervals for indirect effects. As in Study 1, self-monitoring, extraversion, age, and gender were included as control variables. Additionally, we also controlled for tenure and formal leadership position ("0" = follower; "1" = leader) as previous research showed that individuals with higher formal positions and longer tenures are more likely to have friends and exhibit higher job performance in the workplace (e.g., Lincoln & Miller, 1979). The results are shown in Table 5.

Results from the Model 1 echo what were found in the longitudinal statistical network models in Study 1. A significant and negative association was found between avoidance and friendship degree centrality (β = −.40, $p < .05$), hence supporting Hypothesis 1. We failed to find support for Hypothesis 2: the effect of anxious attachment on friendship degree centrality was positive yet not significant (β = .18, $p > .05$). The Model 2 shows friendship degree centrality was significant and positive associated with job performance (β = .51, $p < .01$). Thus, Hypothesis 3 was supported. The bootstrap estimate results also showed that the indirect effect of attachment avoidant on job performance via

Table 5. Standardized mediated regression analysis results (study 2).

Steps: DV	Predictor	β	SE	t	*p*	95% CI lower	95% CI upper	R^2
Step 1:	**Anxiety**	.18	.49	1.07	.29	−.48	1.51	.40*
Friendship Centrality	**Avoidance**	−.40*	.50	−2.31	.03	−2.16	−.13	
	Self-Monitoring	.26	.16	1.64	.11	−.07	.59	
	Extraversion	.04	.71	.25	.80	−1.27	1.63	
	Gender	−.14	1.07	−.89	.38	−3.14	1.24	
	Age	.06	.09	.34	.74	−.16	.22	
	Tenure	.03	.16	.16	.88	−.30	.35	
	Formal Position	−.04	1.86	−.26	.80	−4.28	3.32	
Step 2:	**Anxiety**	−.43**	.15	−3.41	.00	−.81	−.20	69**
Job Performance	**Avoidance**	−.33*	.16	−2.37	.03	−.71	−.05	
	Self-Monitoring	.09	.05	.75	.46	−.06	.14	
	Extraversion	−.15	.21	−1.14	.26	−.68	.19	
	Gender	−.18	.32	−1.52	.14	−1.16	.17	
	Age	.28*	.03	2.25	.03	.01	.12	
	Tenure	−.05	.05	−.47	.64	−.12	.07	
	Formal Position	.02	.56	.20	.85	−1.03	1.25	
	Friendship Centrality	.51**	.06	3.77	.00	.10	.32	
Completely standardized indirect effect(s)		Effect	BootSE	BootLLCI	BootULCI			
Anxiety – Job Performance		.09	.10	−.10	.29			
Avoidance – Job Performance		−.20	.10	−.38	−.01			

N = 38. =Standardized Coefficients; Results are based on 5,000 bootstrap samples.
*$p < .05$, **$p < .01$.

friendship degree centrality was significant (Effect = −.20; LL = −.38, UL = −.01), hence supporting Hypothesis 4, friendship degree centrality mediated the relationship between attachment avoidant and job performance. On the other hand, no indirect effects were found between anxious attachment and workplace job performance via friendship degree centrality (Effect = .09; LL = −.10, UL = .29). As such, no support was found for Hypothesis 5. Additionally, we found both anxious attachment ($\beta = -.43$, $p < 0.05$) and avoidant attachment ($\beta = -.33$, $p < 0.01$) had significant and negative direct effects on job performance.

Discussion

This paper contributes to our understanding of how attachment styles shape the development and outcomes of workplace relationships. Building on prior calls by Harms (2011) and Yip et al. (2018) to investigate attachment styles as interpersonal patterns within organizational settings, we adopted a social network lens to examine how attachment anxiety and avoidance influence the development and maintenance of workplace friendships. Using a complete network approach in two distinct social settings – a newly formed MBA cohort and a small IT company – we found evidence that individuals high in attachment avoidance are less likely to initiate friendships with colleagues. This reluctance appears to carry significant performance-related costs, suggesting that avoidance-related detachment may hinder access to workplace support and resources. Moreover, our findings complement those of Gillath et al. (2017), revealing a complex picture: individuals with high attachment anxiety tend to form numerous workplace friendships, but those connections are often short-lived. In contrast, those high in avoidance form fewer but more stable friendships. This pattern underscores the nuanced ways in which insecure attachment orientations shape relationship dynamics in the workplace. By integrating attachment theory with social network analysis, our research contributes a novel perspective that connects individual psychological traits with patterns of social integration and, ultimately, job performance.

Theoretical implications

Our findings contribute to attachment theory by extending it beyond dyadic relational quality (e.g., Harms, 2011; Maslyn et al., 2017; Richards & Hackett, 2012) to examine how attachment orientations shape broader social engagement at work. Individuals high in attachment avoidance were consistently less likely to initiate workplace friendships, effectively limiting their embeddedness in social networks. This disengagement appears to carry important performance implications, as limited access to relational support may hinder task execution, information flow, and emotional resilience. These findings underscore the value of considering workplace relationships not just as isolated dyads, but as embedded within broader social systems (Cross & Parker, 2004).

Notably, our results regarding attachment anxiety revealed a more complex pattern. Contrary to our a priori expectations, anxious individuals tended to have more workplace friends – particularly in the longitudinal MBA cohort – though these relationships often proved unstable over time. This aligns with prior work by Gillath et al. (2017), which suggests that anxious individuals seek connection but may also experience relational volatility due to insecurity and heightened sensitivity to rejection. Our study adds to this literature by offering stronger evidence through sociocentric, longitudinal network data, showing that while anxiously attached individuals appear socially engaged, their relational instability may limit the longer-term benefits of their connections.

By integrating attachment theory with social network analysis, we offer new insights into how internal psychological dispositions manifest in external social structures. Prior research has examined traits such as extraversion and self-monitoring in shaping network centrality (Fang et al., 2015; Mehra et al., 2001), and our findings complement this work by demonstrating that attachment styles similarly predict social positioning. Importantly, we move beyond egocentric measures (e.g., Gillath et al., 2017) to use sociocentric data that map the actual structure of workplace networks. This methodological contribution is significant: it provides a more objective account of how attachment patterns translate into observable relational behaviours and positions within an organizational system.

Our study also informs the growing literature on the micro-foundations of organizational networks (e.g., Kilduff & Lee, 2020; Kleinbaum et al., 2015; Tasselli & Kilduff, 2021; Tasselli et al., 2015), emphasizing how enduring psychological tendencies influence social integration. Individuals high in avoidance may self-exclude from the kinds of informal connections that facilitate collaboration, trust, and knowledge sharing. This relational distance can prevent them from benefiting from the structural advantages typically associated with high network centrality (Brass, 1984). As such, our findings suggest that attachment styles are not only psychological traits but also relational dispositions that shape access to social capital in the workplace.

Finally, this research contributes to the literature on job performance by clarifying how attachment styles

influence work outcomes through relational mechanisms. While much of the existing literature has emphasized intrapsychic processes – such as emotion regulation and cognitive appraisal (e.g., Kale, 2020; Vîrgă et al., 2019) – our work highlights the role of social positioning. Consistent with recent findings that link attachment styles to leader-member exchange quality and performance (Lee et al., 2024), we show that broader friendship networks also matter. The inability of avoidantly attached individuals to embed themselves in these networks may result in limited access to informal feedback, assistance, and emotional support – resources that are often critical for high performance.

In sum, our research demonstrates that attachment styles have far-reaching implications beyond dyadic interactions, shaping the structure of individuals' workplace networks and influencing their capacity to perform. By bridging attachment theory with social network analysis and performance outcomes, we provide a more holistic view of how psychological dispositions unfold within organizational contexts.

Limitations & future research

While our research presents notable strengths, it is also important to acknowledge its limitations. Despite conducting two studies in different settings with complete networks, the sample size for each study was relatively small. Clearly, replicating our studies with larger intra-organizational networks would be beneficial. Additionally, although we collected time-separated data in both studies, we are unable to draw strong causal inferences from our findings. As with any survey data, there is the potential for endogeneity bias to influence our results.

While our findings underscore the benefits of friendship centrality for job performance, it is essential to recognize that workplace friendships may also involve potential downsides. Prior research has shown that maintaining multiple or emotionally intense friendships at work can lead to inter-role conflict, emotional exhaustion, and resource depletion (Fasbender & Drury, 2022; Fasbender et al., 2023; Methot et al., 2016). For example, friendships may create conflicting demands between the social and professional roles individuals occupy, leading to psychological strain. Pillemer and Rothbard (2018) further highlight that the inherent loyalty and disclosure norms embedded in workplace friendships can blur role boundaries and increase the risk of perceived favouritism or relational strain. While our focus was on the structural aspect of friendships (i.e., centrality), future research should consider integrating tie-strength and closeness into network-based models. This would provide a more nuanced understanding of how attachment styles may not only foster centrality but also shape how individuals experience and manage the potential costs of workplace friendships.

In this paper, we focus on the direct relationship between attachment style and friendship degree centrality, but we encourage future studies to explore moderating factors in this relationship. For instance, researchers might examine the role of political skills in moderating the relationship between attachment style and degree centrality. Political skill is defined as "the ability to effectively understand others at work, and to use such knowledge to influence others to act in ways that enhance one's personal and/or organizational objectives" (Ahearn et al., 2004, p. 311). Political skills have been linked to individuals' central positions within social networks (Plouffe & Grégoire, 2011). Since political skills involve an accurate understanding of the advantages of occupying key positions in a network (Ferris et al., 2005), we contend that politically skilled avoidant and anxious individuals are more likely to form friendships at work. Research exploring how people with insecure attachment develop high political skills to enhance their networking abilities would offer both theoretical insights and practical implications.

Finally, an intriguing question remains in the microfoundations of networks literature: Does occupying specific network structural positions affect individuals' attachment style? For example, could someone who becomes popular (e.g., central) in a friendship network reduce their anxious attachment over time? Longitudinal research suggests that attachment styles can change over time (Zhang & Labouvie-Vief, 2004). Our research focused on the effect of attachment style on network formation, but we did not examine whether networks, in turn, influence attachment style. SAOMs, the analytical approach used in Study 1, allow researchers to model the co-evolution of networks and individual attributes, making it possible to study the impact of network characteristics on attachment style over time. We welcome future empirical research on the co-evolution of networks and attachment in the workplace (Tasselli & Kilduff, 2021).

Conclusion

Despite the prominence of attachment theory in psychological and social sciences, no research had examined the role of attachment styles in the formation of intra-organizational networks. The current research bridges this gap and contributes to our understanding of the microfoundation of social networks by investigating how, after controlling for self-

monitoring and extraversion, attachment styles are related to the formation of friendship networks at work. In bringing the individual back in (Kilduff & Krackhardt, 1994), including his or her attachment style, we lead the way for future investigation on attachment style and intra-organizational network research. As we believe that attachment style represents a personality approach that seizes important research possibilities within the social network research programme (Kilduff & Lee, 2020), we hope to inspire future research on attachment and intra-organizational networks.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

The data that support the findings of this study are available from the corresponding author, Zexi (Flavia) Li, zl333@exeter.ac.uk, upon reasonable request.

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