**Final Evaluation Report**

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EHRD 689: Network Analysis I/II

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**Introduction**

The proposed study aims to examine how emotional intelligence (EI) contributes to leadership emergence within informal contexts using social network analysis (SNA). Carter et al. (2015) called for a need to investigate the relational aspects of leadership. Given that EI is “the ability to monitor the feelings and emotions of oneself and others, to discriminate between them, and to use this information to guide their thinking and actions” (Salovey & Mayer, 1990, p. 189), individuals with high levels of EI are deemed to be socially competent (e.g., Schutte et al., 2001).

Leadership emergence (LE) is “the process through which an individual becomes influential to relevant others in a manner that involves the implicit or explicit granting of the leader role” (Badura et al., 2022, p. 2070).Contemporary leadership theories focus on perceived leaders without authorized positions even in formal settings (DeRue & Ashford, 2010) and it can be explained because leadership is a social process between members (Chrobot-Mason et al., 2016). Unlike traditional leadership, where authority is predefined (e.g., supervisors), LE in the context of informal environments such as schools arises dynamically as group members interact and adapt to various tasks and challenges.

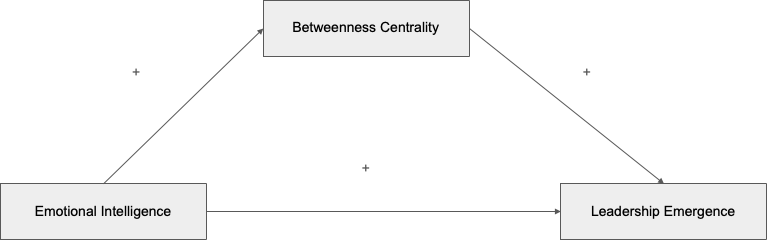
Early research tried to examine individual differences that critically affect leader emergence (Fisher, 1974). Judge et al.’s (2002) meta-analysis of 78 primary studies showed that, except for agreeableness, conscientiousness, emotional stability, extraversion, and openness to experience were predictive in LE. Pescosolido (2002) also proposed that emotional factors are key factors pertaining to LE. The literature in this line, however, exclusively focused on leaders’ attributes rather than their interpersonal relationships. Traditional research design is deemed insufficient to address these questions, thereby calling for further research that could examine the relational patterns observed in emergent leaders. Although a growing body of research investigated emergent leadership from a network perspective, these works primarily examined leaders in formal settings (e.g., managers in organizations; Carter et al., 2015).

A relatively small body of literature has examined how EI shapes interpersonal relationships among network members, thereby facilitating LE. Additionally, few studies have investigated these dynamics within informal contexts, such as non-work settings. Thus, little is known about (a) how EI affects crucial social relationships with members and (b) how these social relationships affect the emergence of leaders.

**Research Purpose and Questions**

To address the void in the literature, the proposed research aims to address the relationship between EI and the emergence of informalleadership from the network approach. EI aids the essential aspects of effective leadership such as better decision-making, improved communication, and collaboration, and aids conflict resolution (Salovey & Mayer, 1990). Studies have shown that leaders with high EI are more adept at fostering a positive work environment, which can lead to enhanced team performance, greater job satisfaction, and lower turnover rates (Dasborough et al., 2022). Therefore, EI enhances the ability to navigate social interactions, allowing individuals to influence others effectively and emerge as leaders within a group (Côté et al., 2010; Emery et al., 2011, 2012). Therefore, the following research questions are posed:

***Research Question:*** *What is the relationship between emotional intelligence, leadership emergence, and centrality in the students’ network?*

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**Figure** **1**. Mediation model

**Literature Review**

We conducted a systematic literature review using the following keywords: *emotional intelligence, leader emergence, network, social network, leadership, perceived leader, and centrality*. The research on leadership is multidisciplinary and spans various domains such as psychology and management (Badura, Galvin, & Lee, 2022). To gather relevant literature, we focused on journals that germain to our research topic; the *Journal of Applied Psychology*, the *Journal of Management*, *the Leadership Quarterly*, and *the Academy of Management*. Our inclusion criteria were: (a) the peer-reviewed articles, dissertations, or book chapters, and (b) each selected work needed to include at least one of the primary keywords (EI, LE, or network) within the abstract. We excluded articles that were not published and are from the conference proceedings. For a deeper search, we added some seminal works in LE and EI during the process above.

**Emotional Intelligence**

EI is defined as the capacity to recognize, understand, manage, and use emotions effectively in oneself and interpersonal relationships. This broad conceptual scope led to three models: specific-ability EI, integrative EI, and mixed-model EI (Mayer et al., 2008).

Specific-ability EI focuses on distinct skills within EI, such as emotional perception, facilitation, understanding, and management. Specific-ability models analyze EI as discrete skills, including accurate identification of emotions in faces or postures, understanding emotions' role in thinking, and the ability to regulate emotions effectively (e.g., Buck 1984, Hall & Bernieri 2001, Rosenthal et al. 1979). Integrative EI, including the Four-Branch Model by Mayer and Salovey (1997), conceptualizes EI as a set of interrelated abilities. The Four-Branch Model breaks down EI into four key areas: perceiving emotions, using emotions to facilitate thought, understanding emotions, and managing emotions. Lastly, mixed-model EI (e.g., Bar-On, 1997) views EI with broader personality traits, including adaptability, self-regard, and stress tolerance. While these models include emotional capabilities, they also add personality traits that may not fit strictly within the EI construct, which has led to debate about their validity as EI measures. The following section provides a review of LE.

**Leadership Emergence**

LE is defined in terms of information processing (Lord et al., 1982) and socio-cognitive processes (Lord & Maher, 1990; Mumford et al., 2008). Both aspects have emphasized the importance of follower’s perceptions in the leader’s emergence. It occurs when an individual in a leaderless group is perceived as a leader based on their exhibited behaviors. According to information-processing theories the individual who fits well with the follower’s idealized image of the prototypical leader emerges as a leader. The information-processing theories of leadership categorization suggest that leadership outcomes are derived from traits associated with, behaviors displayed, and outcomes produced by the leader, as perceived by followers. LE is marked by individuals who display high leadership behavior in the absence of formal authority and are recognized by their peers. (Schneider & Goktepe, 1983). DeRue and Ashford (2010) view leadership through a “relational identity construction process” in which leader emergence is explained through a process of "claiming" and "granting" leader and follower identities. This social process, as they describe, is central to constructing LE. LE is shaped by the structures of social networks.

**The Relationship between EI and LE**

LE is a social process where, through ongoing interactions and time, certain individuals attain leadership roles due to the acceptance and recognition they receive from their group (Côté et al., 2010; Neubert & Taggar, 2004). Extant literature displayed that individuals with specific traits or characteristics (e.g., extroversion) are more likely to emerge as leaders. In line with the concept of EI a large body of literature highlighted the importance of EI as one of the key drivers to fostering LE (e.g., Emery, 2012). For instance, individuals with higher EI are likely to foster environments characterized by cooperation, mutual trust, and commitment (Wolff et al., 2002; Yukl, 2009).

**Social Network Analysis**

SNA is an invaluable tool in leadership studies. The literature mainly focuses on the cognition or behavior of individuals but lacks attention to social networks in LE (Burt et al., 2013). As SNA helps analyze relationships and positions rather than focusing on individuals’ attributes or behaviors (Scott, 2000), SNA provides an opportunity to investigate relational dynamics by mapping and quantifying the interactions within a network. This approach enables researchers to examine leadership as a social process, where influence is embedded in the structure of interpersonal connections rather than just personal attributes (Carter et al., 2015; Scott et al., 2018).

Through SNA, researchers can quantify various aspects of centrality, such as degree, closeness, and betweenness, which provides insights into individuals' different roles in facilitating communication and bridging group divides. Centrality, a fundamental concept in SNA, refers to the extent to which individuals function in a given network (Freeman, 1979). Individuals central in the network (i.e., have high centrality) occupy critical positions through which information flows, granting them unique opportunities to control or monitor information (Brass & Krackhardt, 1999; Kilduff & Brass, 2010; Shaw, 1964), therefore facilitate their leadership (Mullen et al., 1991). “[A]n emerging leader who is perceived to be popular may benefit from a bandwagon effect: people may want to associate with someone perceived to be a rising star” (Balkundi & Kilduff, 2005, p 425).

**Social Network Measures and LE**

Various centralities were measured as a predictors for LE (e.g., betweenness centrality: Kwok et al., 2018; Sutanto et al., 2011; closeness centrality: Sutanto et al., 2011). Betweenness centrality, in particular, measures the extent to which an individual serves as a bridge between different parts of a network. In leadership contexts, betweenness centrality is a strong predictor of LE because it reflects the ability to connect isolated subgroups, manage conflicts, and facilitate communication across the network (Brass, 1984; Neubert & Taggar, 2004).

Those with high betweenness centrality are more likely to be seen as leaders since they possess strategic access to group information and resources, enabling them to act as informal coordinators or problem solvers (Kwok et al., 2018). This bridging role is often associated with increased visibility within the group, allowing individuals to build relationships with a wide range of members. Their unique position helps them gain trust and credibility, as they are perceived as vital for maintaining group cohesion. Research indicates that betweenness centrality also aligns with the concept of distributed leadership, where leadership responsibilities are shared among members rather than concentrated in a single individual (Gronn, 2002). In this distributed model, those with high betweenness centrality can facilitate collaborative problem-solving, aligning team goals, and guiding decision-making processes even without formal authority (Emery, 2012).

High self-monitors excel at observing and interpreting social information, making them adept at gathering and utilizing valuable organizational knowledge related to workplace challenges. Compared to low self-monitors, they are more proficient at recognizing and remembering details about others and detecting individuals' intentions (Berscheid et al., 1976; Jones & Baumeister, 1976). This ability enables them to understand the problems others face and provide relevant solutions. Additionally, high self-monitors actively build reputations as generous exchange partners by offering assistance without expecting direct reciprocity, further enhancing their social standing within organizations (Flynn et al., 2006). These qualities position high self-monitors as central figures in advice-giving networks, as they effectively collect and share critical knowledge that supports their colleagues and fosters organizational collaboration.

Advice networks play a crucial role in leadership emergence, as they serve as a mechanism through which individuals gain recognition and influence within organizations (Bono & Anderson, 2005). Advice-seeking behavior typically converges toward senior or recognized members who possess epistemic authority, or the "authority to know," as they provide social approval for decisions and help integrate individual, group, and organizational objectives (Larsson et al., 1998). This process reflects a form of epistemic alignment, where individuals seek guidance from trusted sources to enhance their own knowledge and decision-making legitimacy. The evolution of advice networks is often marked by the Matthew effect, where the reputation of central members continues to grow as they attract more advice-seekers, thereby consolidating their status within the network (Merton, 1968). However, as these central figures face overload, they may delegate some of their epistemic responsibilities to other emerging advisors, redistributing centrality across the network. The central role of advice in leadership is further emphasized by its link to leadership recognition, as individuals central to advice networks are often seen as leaders by their colleagues (Carter et al., 1951; Neubert & Taggar, 2004). These dynamics demonstrate how advice networks facilitate leadership emergence by creating pathways for influence and authority within organizations.

Therefore, we hypothesize the following:

*Hypothesis 1*: Emotional intelligence is positively associated with leadership emergence.

*Hypothesis 2*: Emotional intelligence is positively associated with a centrality position in the network.

*Hypothesis 3*: Centrality in the network is positively associated with leadership emergence.

*Hypothesis 4*: Centrality will mediate the relationship between emotional intelligence and leadership emergence

**Methods**

**Participants and Procedures**

Participants were 32 undergraduate students recruited from a southwestern university. The sample was predominantly female (59.4%).

The present study used a cross-sectional design. We explained the purpose of the study, ensured the voluntary and confidential nature of participation. The self-reports were distributed to participants online. Students were periodically reminded via email to ensure a high response rate. The data was collected from October 2024 to November 2024. We received 25 responses out of 32 students (78% response rates). The final sample was comprised of 25.

**Measures**

***Emotional Intelligence***

Wong and Law’s (2002) 16 items for emotional intelligence were used to operationalize emotional intelligence of participants. The emotional intelligence items instructed participants to indicate their level of emotional intelligence using a 7-point Likert scale (1 = *Strongly disagree*; 7 = *Strongly agree*). An example item is “I have a good sense of why I have certain feelings most of the time”. The internal consistency estimates indicate that the measure is fairly reliable (α = .88).

***Advice Seeking***

A single-item measure by “author name” was used to measure an advice seeking network. Participants were instructed to identify individuals to whom they most frequently turn for advice or assistance. The item is phrased “Who do you turn to most often in this program when you need advice or assistance”.

***Leadership Emergence***

Leadership emergence was operationalized by Kalish and Luria’s (2021) a single-item measure. Participants were instructed to mark individuals to whom they perceived as a leader.

The item is phrased “Whom do you view as a leader in the group?”.

**Analysis**

The analysis used Model 4 from Hayes’ Process (Hayes, 2017) to investigate the mediation effect of various centralities in advice-giving networks on the relationship between emotional intelligence and leadership emergence. This is a simple mediation model where the independent variable (EI) affects the mediator (Centrality) and the mediator, in turn, impacts the dependent variable (LE). The important advantage of this model is its ability to access both the direct and indirect effects simultaneously.

The Model 4 specification is a step-by-step approach in which the path structure contains three main components. The path a shows the impact of the independent variable (emotional intelligence) on the mediators (betweenness, eigenvector, and closeness centrality) in the advice-giving network. Path b shows the effect of the mediators (betweenness, eigenvector, and closeness centrality) on the dependent variable (leadership emergence) while controlling for the independent variable. The third path, path c`, shows the independent variable's direct effect on the dependent variable, controlling for the mediator.

#### The model will be estimated using ordinary least squares regression where the first regression will predict path a and the second regression will predict path b and path c`. Since our sample size is small and the traditional methods for testing indirect effects (e.g., Sobel test) are not reliable for such a case as ours, we applied bootstraping (Preacher & Hayes, 2004). This technique resamples the data with replacement, generating a distribution of the indirect effect and providing bias-corrected confidence intervals for the mediation effect. The indirect effect will be considered significant if the confidence interval does not include zero. Additionally, we will assess the significance of individual paths using t-tests for the coefficients and report the standardized coefficients to compare the relative strength of the effects.

**Results**

Descriptive statistics for the key variables of the advice-giving network are reported in Table 1. Among the surveyed respondents 40.6% are men. For leadership emergence, the mean is 7.44, with a standard deviation of 5.49. The range is from 0.00 to 23.00, indicating a widespread in leadership emergence scores. For emotional intelligence, the mean is 0.03, with a standard deviation of 0.04. The values range from 0.00 to 0.14, suggesting low variability and overall small values. For betweenness centrality, the mean is 0.32, with a standard deviation of 0.25. The range is from 0.00 to 1.00, showing moderate variability in individuals' positions within the network. For eigenvector centrality, the mean is 0.31, with a standard deviation of 0.05. The values range from 0.14 to 0.37, indicating a relatively narrow spread of eigenvector centrality scores. Finally, for closeness centrality, the mean is 7.03, with a standard deviation of 4.87. The values range from 0.00 to 18.00, showing variability in how central individuals are in terms of closeness within the network. Overall, there is variability in the sample responses.

**Table 1**

*Descriptive Statistics*

| **Variables** | ***N*** | ***Mean*** | ***Std.*** | ***Min*** | ***Max*** |
| --- | --- | --- | --- | --- | --- |
| Gender | 32 | 7.03 | 4.87 | 0.00 | 18.00 |
| Leadership Emergence | 32 | 7.44 | 5.49 | 0.00 | 23.00 |
| Emotional Intelligence | 32 | 0.03 | 0.04 | 0.00 | 0.14 |
| Betweenness Centrality | 32 | 0.32 | 0.25 | 0.00 | 1.00 |
| Eigen Vector Centrality | 32 | 0.31 | 0.05 | 0.14 | 0.37 |
| Closeness Centrality | 32 | 7.03 | 4.87 | 0.00 | 18.00 |

Table 2 presents Pearson’s correlation matrix with all the important variables used in the analysis. Leadership emergence is positively correlated with eigenvector centrality (*r* = .68) and closeness centrality (*r* = .55), suggesting that individuals with higher leadership emergence are more central in the network. Emotional intelligence has a moderate positive correlation with betweenness centrality (*r* = .32) but weak negative correlations with closeness (*r* = -.39) and eigenvector centrality (*r* = -.11). Betweenness centrality is moderately positively correlated with both eigenvector (*r* = .43) and closeness centrality (*r* = .34). The strongest correlation is between eigenvector and closeness Centrality (*r* = .80), indicating a strong link between these two centrality measures. High correlations among the three centralities (betweenness, eigenvector, and closeness) will not cause multicollinearity in our study because these variables are used in separate models. High correlations are mainly a concern when variables are included in the same model, as they can lead to multicollinearity, which could distort the results.

**Table 2**

*Intercorrelations of focal variables*

|  | **Variables** | **1** | **2** | **3** | **4** | **5** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Leadership Emergence | 1.00 |  |  |  |  |
| 2 | Emotional Intelligence | -.25 | 1.00 |  |  |  |
| 3 | Betweenness Centrality | .15 | .32 | 1.00 |  |  |
| 4 | Eigen Vector Centrality | .68\* | -.11 | .43\* | 1.00 |  |
| 5 | Closeness Centrality | .55\* | -.39\* | .34 | .80\* | 1.00 |

*Note. N = 32; \*p < .05*

**Betweenness Centrality as a Mediator**

The analysis related to betweenness centrality and leadership emergence does not support the hypothesis, as shown in Table 3. Visualization of the network was presented in the appendix. Betweenness centrality measures the degree to which an individual acts as a bridge or intermediary, facilitating information flow, between other members. Hypothesis 1, which suggested a positive association between emotional intelligence and leadership emergence, was not supported, a negative relationship*,* (β *= −*.33*, p > .*05)was found instead. Hypothesis 2, which predicted that emotional intelligence is positively associated with centrality, was not supported. The individuals with higher emotional intelligence are not likely to occupy central positions in the advice-giving networks (β *=* .17*, p >* .05) and do not act as connectors or bridges between different members of the network.

Additionally, Hypothesis 3, Betweenness centrality did not significantly predict Leadership Emergence (β *=* .26*, p >* .05), supporting this hypothesis. Individuals with higher betweenness centrality in the advice-giving network are more likely to be perceived as leaders, allowing them to act as connectors or brokers. Finally, Betweenness centrality(β *=* .08)does not mediate the relationship between Emotional Intelligence and Leadership Emergence as the Bootstrap confidence intervals [-.04, .26]contain zero. Therefore, hypothesis 4 is not supported.

**Table 3**

*Mediation analysis Results of Betweenness centrality*

| **Outcome Variable** | **Predictor** | **Coeff.** | **SE** | **t** | **p-value** | **LLCI** | **ULCI** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Network Centrality (Betweenness) | Emotional Intelligence | 0.17 | 0.18 | 0.94 | 0.07 | -0.19 | 0.68 |
| Leadership Emergence | Emotional Intelligence | -0.33 | 0.18 | -1.80 | 0.08 | -0.71 | 0.04 |
| Leadership Emergence | Network Centrality (Betweenness) | 0.26 | 0.18 | 1.42 | 0.17 | -0.11 | 0.64 |
|  | | | | | | | |
| **Indirect Effects** | | **Effect** | **BootSE** |  |  | **BootLLCI** | **BootULCI** |
| Emotional Intelligence → Centrality → Leadership Emergence | | 0.08 | 0.08 |  |  | -0.04 | 0.26 |

**Eigenvector Centrality as a Mediator**

The analysis provided mixed support for the hypothesis concerning eigenvector centrality, as shown in Table 4. Visualization of the network was presented in appendix. Eigenvector centrality informs us regarding an individual’s influence in a network by considering both the number of connections they have and the importance of those connections. An individual with high eigenvector centrality is connected to other influential individuals which provides them a central position in the network to access information and influence the network dynamics. Hypothesis 1, which posited the positive association between emotional intelligence and leadership emergence, was not supported. On the contrary, the association was negative (β = -.17*, p >* .05)and was not statistically significant. Hypothesis 2 predicted the association of emotional intelligence and the eigenvector centrality. The results showed that emotional intelligence is not a significant predictor of eigenvector centrality (β *= -*.11*, p >* .05), Therefore, in the case of eigenvector centrality, hypothesis 2 was not supported. The relationship between centrality and leadership emergence was positive and statistically significant(β *=* .66*, p <* .05). Thus, hypothesis 3 was supported. Hypothesis 4, which posited the indirect effect of emotional intelligence on leadership emergence through centrality was negative (β *=* -.10). The range of bootstrap confidence intervals contained zero [- .28, .17] and hence not statistically significant. Thus hypothesis 4 was rejected, indicating that centrality does not mediate this relationship.

**Table 4**

*Mediation analysis Results of Eigen Vector centrality*

| **Outcome Variable** | **Predictor** | **Coeff.** | **SE** | **t** | **p-value** | **LLCI** | **ULCI** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Network Centrality (Eigenvector) | Emotional Intelligence | -0.11 | 0.18 | -0.63 | 0.54 | -0.48 | 0.26 |
| Leadership Emergence | Emotional Intelligence | -0.17 | 0.13 | -1.29 | 0.21 | -0.44 | 0.10 |
| Leadership Emergence | Network Centrality (Eigenvector) | 0.66 | 0.13 | 5.02 | 0.00 | 0.39 | 0.94 |
|  | | | | | | | |
| **Indirect Effects** | | **Effect** | **BootSE** |  |  | **BootLLCI** | **BootULCI** |
| Emotional Intelligence → Centrality → Leadership Emergence | | -0.08 | 0.11 |  |  | -0.28 | 0.17 |

**Closeness Centrality as a Mediator**

The results provided mixed support for the hypothesis related to closeness centrality, as shown in Table 5. Visualization of the network was presented in the appendix. Closeness centrality measures the individual’s prominence within a network and is determined by how close they are (or how quickly they reach) to all other individuals. Hypothesis 1, which predicted a positive association between emotional intelligence and leadership emergence showed a negative and non-significant relationship (β = -.39*, p <* .05) and was not supported. Hypothesis 2, which predicted the positive association (β = -.03*, p* > .05) between emotional intelligence and centrality, was not supported. Hypothesis 3, which posited that the closeness centrality is positively associated with leadership emergence had a significant effect (β = .54*, p* < .05) and therefore, was supported. This means that the individuals who emerged as leaders were close to all and could quickly reach others. Similarly, hypothesis 4, which proposed the mediating role of closeness centrality on the relationship between emotional intelligence, was not supported. The indirect effect was negative and non-significant(β *=* -.20*, p* > .05)*,* suggesting that closeness centrality does not mediate the effect of emotional intelligence on leadership emergence.

**Table 5**

*Mediation analysis Results of Closeness centrality*

| **Outcome Variable** | **Predictor** | **Coeff.** | **SE** | **t** | **p-value** | **LLCI** | **ULCI** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Network Centrality (Closeness) | Emotional Intelligence | -0.39 | 0.17 | -2.32 | 0.03 | -0.73 | -0.05 |
| Leadership Emergence | Emotional Intelligence | -0.04 | 0.17 | -0.22 | 0.83 | -0.38 | 0.31 |
| Leadership Emergence | Network Centrality (Closeness) | 0.54 | 0.14 | 3.97 | 0.00 | 0.26 | 0.81 |
|  | | | | | | | |
| **Indirect Effects** | | **Effect** | **BootSE** |  |  | **BootLLCI** | **BootULCI** |
| Emotional Intelligence → Centrality → Leadership Emergence | | -0.21 | 0.15 |  |  | -0.49 | 0.13 |

Including gender as a covariate in additional analyses revealed no significant changes in the results. This finding reinforces the robustness of the observed relationships between emotional intelligence (EI), network centrality, and leadership emergence, confirming that these associations are not influenced or confounded by gender differences.

**Discussion**

In this study, we examined whether EI influences LE, and the advice-giving network of the students, through network centrality, with a focus on different centrality measures (Betweenness, Eigenvector, and Closeness). EI was not a significant predictor of leadership emergence across all models. EI did not predict betweenness centrality, suggesting emotionally intelligent individuals may not assume bridging roles in advice-giving contexts. Similarly, EI did not predict the eigenvector centrality, indicating that having high EI need not make the individual influence high-status connections. A significant negative relationship was found, implying that emotionally intelligent individuals might adopt selective or deeper relationships over broad, efficient access to others in the network.

Betweenness centrality was not significantly associated with leadership emergence, suggesting that acting as a bridge between groups is less critical for leadership in this context. We found significant associations between the other two centralities (eigenvector and closeness centrality) and the leadership emergence. This suggests that influence and speed to access are important aspects associated with leadership emergence. Finally, the centrality did not mediate the path between EI and LE as none of the centrality measures showed significant results.

**Implications for Science**

This study contributes to the research on relational aspects of LE by integrating EI and SNA to examine the relational dynamics of informal leadership. The findings highlight the nuanced role of network centrality as a mediator between EI and LE. Specifically, the mediating role of betweenness centrality underscores the importance of network positioning in facilitating leadership emergence. This supports the theoretical assertion that leadership is inherently a social process embedded within interpersonal networks, extending beyond individual traits or attributes.

The lack of significant mediation effects for eigenvector and closeness centralities suggests that not all types of network centrality contribute equally to leadership emergence. These findings refine theoretical perspectives on the relational mechanisms of leadership by emphasizing the strategic importance of individuals who bridge disparate groups (betweenness centrality) rather than those merely connected to influential peers or proximal to others in the network. This underscores the need for future leadership theories to incorporate diverse network metrics and account for situational and contextual factors that shape the emergence of informal leaders. Additionally, the negative direct relationship between EI and LE challenges the conventional understanding of EI as universally beneficial for leadership. This counterintuitive finding calls for a deeper exploration of contextual moderators, such as group dynamics or task characteristics, that may influence the effectiveness of EI in leadership contexts.

**Implications for Practice**

For practitioners, the study underscores the critical role of social network structures in identifying and developing informal leaders. Organizations and educational institutions should prioritize interventions that enhance individuals' abilities to build and maintain bridging relationships within their networks. Leadership development programs should incorporate training on EI alongside strategies to foster effective communication and collaboration across subgroups, as these skills can help individuals occupy central positions that facilitate LE.

The findings also suggest that relying solely on EI to identify potential leaders may be insufficient. Practitioners should consider a more holistic approach that includes assessing an individual’s network positioning and their ability to influence and connect with others across the network. Tools such as network mapping and analysis can be invaluable for identifying potential emergent leaders who may not hold formal authority but occupy critical roles within informal networks.

Finally, the nuanced role of different centrality measures in predicting LE highlights the need for tailored leadership interventions. For example, individuals with high betweenness centrality may benefit from targeted training in conflict resolution and strategic communication to maximize their effectiveness as network bridges. By leveraging the interplay between EI and network dynamics, organizations can more effectively nurture emergent leadership within informal contexts.

**Limitations and suggestions for future research**

One significant limitation of this study is the relatively small sample size, with only 25 responses, which restricts the robustness and generalizability of the findings. For complex analyses like conditional process analysis (i.e. Hypothesis 4), a limited number of responses reduces statistical power, potentially affecting the reliability of the results and limiting the ability to detect nuanced relationships between variables. This constraint may hinder the study’s capacity to provide a comprehensive understanding of the intricate dynamics between EI, advice networks, and LE.

Additionally, the research relies on cross-sectional data collected within a single organization, which limits its scope and applicability to broader contexts. Cross-sectional data capture only a snapshot in time, preventing insights into how advice networks and leadership roles evolve dynamically over time. Moreover, focusing on a single organization narrows the study’s external validity, as the findings may not generalize to other organizations with different structures, cultures, or demographic compositions. These factors collectively constrain the interpretability and application of the study’s conclusions.

Based on these limitations, future research should further consider these factors. Expanding the study to include a larger and more diverse population would enhance the generalizability of the findings. Analyzing data from participants with varied backgrounds across multiple organizations would improve the robustness of the results and provide insights into how factors such as organizational culture in the program, demographic diversity, and context influence the interplay between EI, advice networks, and LE. Incorporating control variables (e.g., GPA or socioeconomic status) would further strengthen the analysis by isolating the specific effects of EI and network measures, offering a more nuanced understanding of leadership processes in diverse settings.

Also, future research would adopt longitudinal designs to examine how advice networks and LE evolve over time. Longitudinal studies would allow researchers to track changes in network structures, the role of EI, and leadership dynamics, providing a richer understanding of temporal patterns and causal relationships. This approach would also address the limitations of cross-sectional data by enabling the study of developmental trajectories and changes in organizational contexts over extended periods.

**Conclusion**

The study highlights the significant role of EI in shaping advice networks and facilitating informal LE within organizations. By demonstrating how high-EI individuals leverage their abilities to collect and share knowledge, the research underscores the relational foundation of leadership. The findings contribute to the growing body of literature that views leadership as a dynamic and social process, rather than solely a trait-based phenomenon (Judge et al., 2002). Addressing the study's limitations and pursuing future research directions will enhance the understanding of how advice networks and EI intersect to influence leadership processes across diverse organizational contexts. This understanding has practical implications for designing leadership development programs that emphasize emotional and relational skills.

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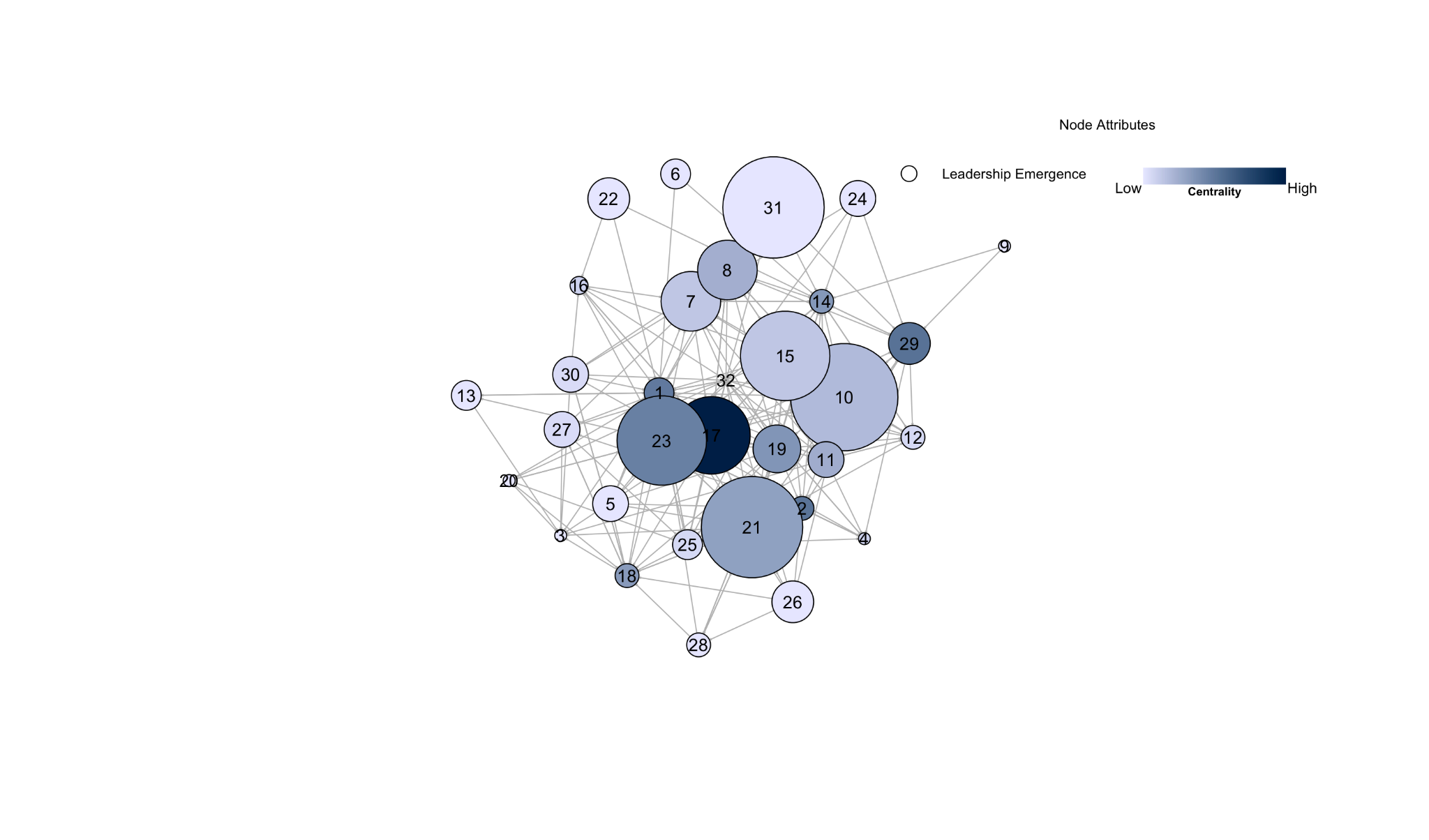
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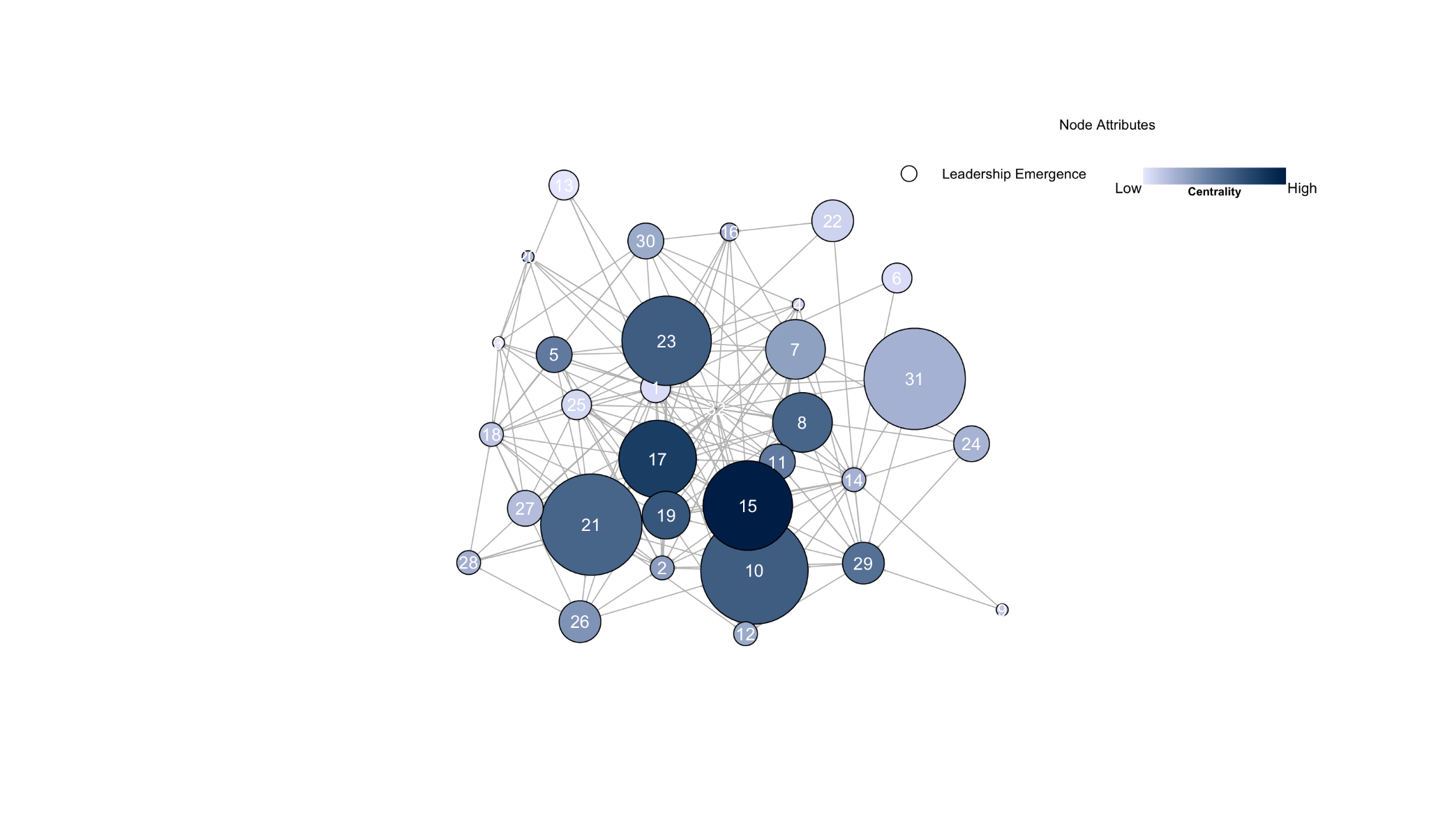
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**Appendix: Network for Centralities**

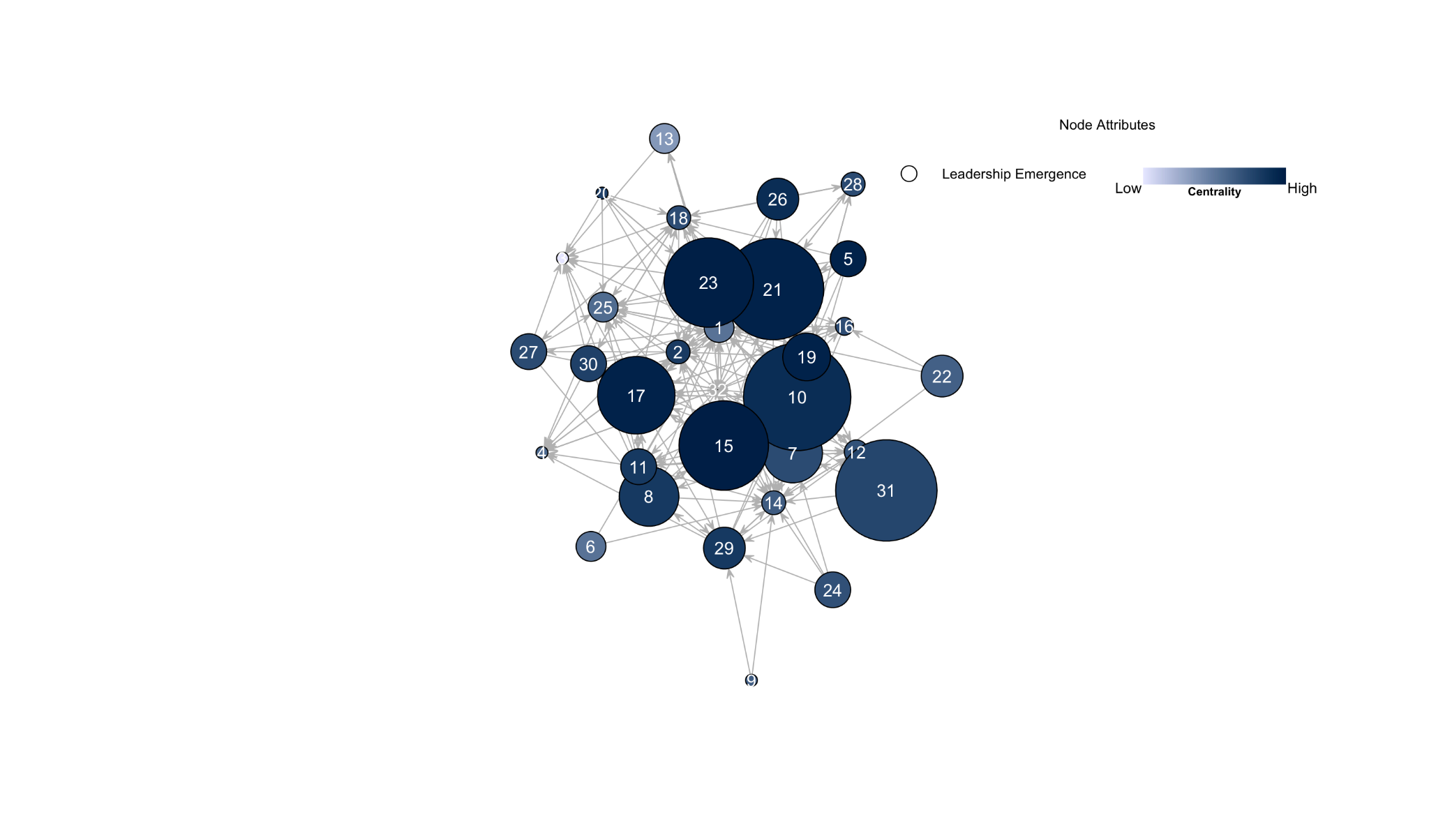
**Betweenness Centrality**

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**Eigenvector Centrality**

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**Closeness Centrality**

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