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doi: <https://doi.org/10.57709/35541448>

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ACCEPTANCE

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The Dissertation Advisory Committee and the student's Department Chairperson, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty.

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**STRUCTURAL LEADERS: THE INTERSECTION OF SCHOOL PRINCIPALS,
BUSINESS LEADERS, AND SOCIAL NETWORKS**

by

NATEIL DOUANE CARBY

Under the Direction of Yinying Wang, Ed.D.

ABSTRACT

Educational partnerships are a convenient but underutilized tool in school improvement and reform efforts. Grounded in social capital theory and social network theory, this dissertation study explores the perceptions of school principals, business leaders, and community members on how resources are embedded, accessed, and utilized in local educational partnerships. Social network analysis examined the social network structures underlying the relationships between principals, business leaders, and community members in educational partnerships. The sample selection of five secondary schools provides multiple locations for the study. A total of twelve participants within the same school district in the southeastern United States will participate in this study. Data was gathered through interviews, surveys, and a document review and was analyzed according to the three themes of Lin's network theory of social capital: 1) resource embeddedness, 2) resource accessibility, and 3) resource utilization. Interviews and documents were analyzed using constant comparative analysis, and survey data were analyzed using

descriptive statistics and centrality measures. This study is critical because it takes a network approach with educational partnerships and provides practical insight into how school administrators can refine their business outreach and engagement efforts.

INDEX WORDS: Educational partnerships, social capital, community engagement

**STRUCTURAL LEADERS: THE INTERSECTION OF SCHOOL PRINCIPALS,
BUSINESS LEADERS, AND SOCIAL NETWORKS**

by

NATEIL CARBY

A Dissertation

Presented in Partial Fulfillment of Requirements for the

Degree of

Doctor of Education

in

Educational Leadership

in

Department of Educational Policy Studies

in

the College of Education & Human Development

Georgia State University

Atlanta, GA

2023

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DEDICATION

This dissertation is dedicated to my wife, Dedra, for her endless support, encouragement, and sacrifice during this educational journey. It is dedicated to my children, who often centered my purpose and reminded me to find a balance in this work. This dissertation is also dedicated to my grandmother, uncle, and sister for their unfailing love, wisdom, and confidence in me to see this through to the end.

ACKNOWLEDGMENTS

I want to thank Dr. Yinying Wang, my dissertation committee chair, for her guidance, support, and belief in this work. Thank you for being an excellent teacher, an incredible mentor, and an inspiration for my other cohort members and me. Thank you for introducing me to the world of social capital and social networks that served as the engine and catalyst for this dissertation. I would also like to sincerely thank my dissertation committee members, Dr. Will Rumbaugh, and Dr. Robert Hendrick, for their commitment and dedication to my success. To Dr. Susan Ogletree, thank you for your encouragement and practical insight. To Dr. Sheryl Cowart Moss, thank you for your consistent faith, trust, and reassurance in the other members of Cohort IX and me. To Dr. Nicholas Sauers, thank you for challenging us to become better scholars. To all the Educational Policy Studies Department faculty in the College of Education and Human Development at Georgia State University, thank you for your instruction, assistance, and accessibility in helping me grow in my leadership journey.

To my work family, thank you for your flexibility and your understanding. To David and Charlie, thank you for believing in me and advocating for me. To my Cloud IX, Cohort IX members, I could not have done this without you. Thank you all for your warmth, understanding, perseverance, and friendship.

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1 THE PROBLEM

This dissertation study examined the perceptions of school principals, business leaders, and community stakeholders on developing educational partnerships using social networks. This study is critical because it centered on school principals' and business leaders' efficacy of educational partnerships through a social network lens. Since the 1980s, educational partnerships have been considered as one of the engines driving school innovation and reform (Bainer, 1997). Changing family demographics, professional workplace demands, and growing student diversity (Sanders, 2001) forced schools to mobilize educational partnerships to supplement their core academic programs and wrap-around services. Additionally, national policy initiatives, such as the Educational Partnerships Act (1988), the No Child Left Behind Act (2001), and the Every Student Succeeds Act (2016), have all formalized the use of partnerships as instruments of school improvement and reform.

Partnerships between schools and their communities are critical sources of social capital that can be used to support principals in their school reform efforts. In 1988, the Educational Partnerships Act was developed to encourage alliances between public schools or institutions of higher education and the private sector (Danzberger, 1993). In 2001, the reauthorization of the Elementary and Secondary Education Act (ESEA) as No Child Left Behind (NCLB) allowed schools to leverage community-based organizations for before and after-school learning opportunities (2001). Recently, the Every Student Succeeds Act (ESSA) replaced NCLB and required Title I schools to develop programs in partnership with higher education institutions, businesses, nonprofit organizations, community-based organizations, or other public or private entities (2015). These federal mandates justified the need for teachers, administrators, and other stakeholders to cultivate educational partnerships which can be activated through social capital.

Social capital refers to the cognitive, social, and material resources embedded in the direct and indirect relationships with others (Bourdieu, 1986; Coleman, 1988; Lin, 2001). In social capital, cognitive resources refer to shared knowledge or information from network connections about their intent, strategies, or resources (Gnyawali & Madhavan, 2001). For example, in an educational partnership, businesses may share upcoming job opportunities or internship placements with interested school faculty and staff. Social resources refer to the credibility or legitimacy that high-profile businesses can grant to schools. These symbolic “alliances may serve as a source of legitimacy for partnering firms, and that this legacy itself is a strategic resource” (Dacin et al., 2007, p. 170). For example, if Panasonic partners with the engineering department of a local high school, the school and its engineering program gain instant credibility. Material resources refer to financial support, labor, supplies, or facilities exchanged in a network (Bridwell-Mitchell, 2017). An example is when Coca-Cola secures an agreement with a school district to sell Coca-Cola products exclusively. All three resources (cognitive, social, and material) can be embedded in the partnerships between schools and businesses and are accessed through the social relationships among business and school leaders.

Social capital is activated through direct and indirect relationships. Direct and indirect relationships refer to personal friends and family (direct) or associates who are friends of friends (indirect) (Granovetter, 1973). For principals and their social networks, these direct and indirect relationships set the stage for the educational partnerships they can cultivate. Furthermore, “individuals who work to establish partnerships do not have access to the universe of all partnerships. The partnerships entered into depend on opportunities for establishing partnerships” (Bridwell-Mitchell, 2017, p. 1223). For school leaders, the opportunities for establishing partnerships are also found in the formal and informal ties in their organizations. For

school leaders, formal (professional) ties are typically found in organizational charts and hierarchies (Hite et al., 2005). Those with formal positions in a network have official titles, responsibilities, and authority, such as a principal or a local store manager. Individuals with formal leadership titles may have more access to network resources because of the power, authority, and connections granted to that formal position. Principals have teachers, paraprofessionals, assistant principals, and other staff members that they are accountable for. However, they also have parents, superintendents, school board members, and other central office personnel that they are accountable to. Due to the nature of the principalship, school leaders have a considerable number of connections in a school district, and “the more connections, or ties, a leader has to the team members, the more centrally the leader is positioned in the network” (Moolenaar et al., 2010, p. 631).

Conversely, personal or informal network ties are those elected by individual choice (Rigby, 2016). Informal ties are characterized by personal connections instead of formal or professional connections. One can go to these trusted individuals for advice, problem-solving, or innovative strategies (Penuel et al., 2010). Informal ties offer help and assistance when they do not have to. School and business leaders can leverage close relationships to gain information or resources through social contexts or personal obligations (Frank et al., 2004). These relationships may have been initially developed through formal channels (such as a principal and assistant principal relationship). Over time, communication becomes more personal than professional, shifting ties into the informal network (Rigby, 2016). In educational partnerships, informal network ties between schools and businesses are characterized by mutual trust, collegiality, and similar sentiments or behaviors (Penuel et al., 2010).

For schools, educational partnerships can streamline school processes, promote student well-being, and elevate community health and development initiatives (Sanders, 2003). For businesses, partnering with schools can heighten product visibility, improve social status, and elevate corporate imaging (Lickteig, 2004). Especially for businesses seeking a more robust community presence, educational partnerships improve public relations, offer property tax incentives, and invest in the future of the American workforce (Abowitz, 2000). While educational partnerships are generally perceived as beneficial to schools and businesses, there are certain risks, barriers, and disadvantages associated with them as well.

Partnerships can be risky because issues like neglect, power imbalance, purpose ambiguity, or goal misalignment can damage trust and hinder relationships among schools and businesses (Badgett, 2016). Additionally, biased stakeholder beliefs regarding race, class, gender, culture, and language may impair potential partnerships and devolve into deficit assumptions that further impede partnership outreach and development (Auerbach, 2010; Ishimaru, 2014). Practical issues such as lack of time, minimal teacher participation, teacher burnout, and a limited pool of available partners have been cited in the literature as obstacles to partnership (Sanders & Harvey, 2002). For some schools, logistical issues like transportation or geographic isolation are the primary causes of inadequate partnership development (Casto, 2016). For others, political issues such as negative media coverage, public scrutiny, or territorialism contribute to a lack of partnership engagement (Sanders, 2001).

Community engagement indicates principal efficacy, but a principal's success was initially measured by their ability to generate resources to support teachers and school programs (Bradshaw, 2000). Now, with increased accountability, principal success is measured by climate surveys, standardized test results, and school report cards, all of which may indicate a school's

commitment to social justice and stakeholder engagement. These high-stakes accountability measures encourage principals to activate educational partnerships by initiating collaborations, defining the problem, establishing strategies, and structuring the partnership (Bradshaw, 2000). However, inadequate administrative training and experience, conflicting partnership roles, outdated reward systems, reduced professional autonomy, and fears of lost control all inhibit partnership engagement for school principals (Crowson & Boyd, 2001). These barriers to partnerships are offset by principals' beliefs in social justice, cultural proficiency, and democracy (Auerbach, 2010). Thus, despite the obstacles principals face in partnership development, this study examined educational partnership assumptions and explored how school principals used direct and indirect ties in their formal and informal social networks to develop partnerships in their local communities.

Research Questions

The research questions guiding this study revolve around the social capital of business and school leaders and the incongruity of educational partnerships.

1. How did school principals' social network position affect their ability to access business partners in educational partnerships?
2. How did school principals use formal and informal ties in their network structure to cultivate educational partnerships?
3. Was there a misalignment in network motivation between school leaders and business leaders in educational partnership development? If so, to what extent?

Purpose

Business leaders and educational administrators must establish a definitive path to creating or developing educational partnerships. As essential members of their communities, business leaders have a personal stake in the success of their local schools (Badgett, 2016).

However, without prior school district relationships, these leaders lack access to one of the communities most important institutions, the school system (Sanders, 2003). For school administrators, there needs to be more research related to the intersectionality of principals in their roles as both instructional leaders and creators of cultural capital in the community (Crowson & Boyd, 2001). Furthermore, the research literature on connections between business leaders and school principals must be more extensive. Though principals occupy the centralized leadership position within a school (Moolenaar et al., 2010), only some studies explore how administrators leverage that position for partnership engagement. This study addressed that need and investigated how business leaders and school administrators utilized their network positions to establish local educational partnerships.

Significance of the Study

The significance of this study lies in its contribution to the literature on social networks, educational leadership, and business partnerships. Much research is dedicated to school-community partnerships, but only some examine the business partnership model through a social capital lens. Similarly, the literature on social capital is lengthy but becomes sporadic when viewed through an educational leadership framework. Fewer still investigate how figures in formal leadership positions tap into the social capital embedded in their networks to engage in formal or informal business partnerships. The social network analysis prompted educational leaders to note their proximity to the untapped potential of community social, cultural, and economic capital. This case study offered a much-needed business perspective on educational partnerships.

Assumptions and Limitations

There are several limitations related to this study. First, this study is bounded to a single school district south of a central metropolitan area. The school district's demographics are unique to that community, so there is a considerable lack of diversity between school and business participants. Additionally, with only seven participants, there is a considerable lack of a sample size for future researchers to draw generalizations. As stated earlier, there is a considerable lack of research on the role of social capital within the scope of interactions between school leaders and business leaders. Selective memory, telescoping, attribution, and exaggeration are all issues related to participants self-reporting their experiences in a qualitative study.

Furthermore, participant biases limited the data since the participants were required to self-report their social experiences. Lastly, researcher reflexivity is a limitation because a researcher's background and experiences can unfairly shape the direction of the study. A reflexive journal was kept mitigating researcher reflexivity, and the researcher routinely collaborated with his dissertation chair to counter any biased researcher beliefs, values, and assumptions.

Overview of the Study

This dissertation study examined the intersection of principal leadership and business partnerships using interviews, document analysis, and social network analysis. As such, "school business partnership" was the keyword search used in the ERIC (EBSCO) database for the literature review. The initial search led to 302 results. After including "peer-reviewed" in the search criteria, the results were whittled down to 44 options. Additionally, the research topic is limited to business partnerships in the United States. Any articles related to partnerships with

post-secondary institutions, medical institutions, or non-profit organizations were eliminated. Articles deemed eligible for further consideration centered on the perspectives of principals or business leaders in forming educational partnerships or implemented a social network analysis related to educational leadership and business, school, or community partnerships.

The research questions in this study involved the concepts of social capital, network structure, network position, and educational partnerships. Social capital refers to a system of social relations between people in which “the resources of other individuals may be accessed, borrowed, or leveraged” (Daly & Finnegan, 2010, p. 7). Network structure refers to the visual configuration or pattern of relationships within an individual or organizational network (Bridwell-Mitchell, 2017; Rigby, 2016). Network position refers to an individual’s location in a social network. An individual’s network position is determined by “the pattern of incoming (indegree) and outgoing (outdegree) social ties” (Daly et al., 2014, p. 5). Individuals who are highly sought after (high in-degree) or frequently seek advice (high out-degree) occupy central positions in the network.

Network position is essential because “social capital exists where people have an advantage because of their location in a social structure” (Burt, 2004, p. 351). Principals, by way of formalized leadership authority, occupy an advantageous position in their schools’ social networks. Business leaders share a similar advantage because their “connections and access, or a lack thereof, to available resources, presents some structural positions with more or less power and influence than other positions in the social network” (Moolenaar et al., 2010, p. 631). Of interest to the researcher in this study is the access school principals have to business leaders in the community. This study used document analysis, social network analysis, and qualitative

interviews to examine how principals used their formal and informal network positions to develop educational partnerships with business leaders.

The literature demonstrates a disconnect between the motivations and perceptions of educational partnerships among schools and businesses. For both, the connotations of educational partnerships can range from feelings of mutual prosperity to feelings of mutual distrust. While educational partnerships can highlight both institutions in a positive light, obstacles such as proximity and transportation can derail the best intentions (Hands, 2005). For rural schools, partnerships offer role models and financial support to students. However, small businesses and agencies in those communities may not have the desire or capacity to engage in partnering efforts (Bainer, 1997).

Although corporate interests in education may be disingenuous (Abowitz, 2000), businesses typically feel satisfaction when making school contributions, and schools benefit from material donations and early product access (Gross et al., 2015). Noticeably, there is ample literature touting the benefits of educational partnerships, but only some articulate those benefits from the lens of social capital. Mainly from the business perspective, there needs to be more literature reviewing the network intersections of school administrators and established business owners in a local community.

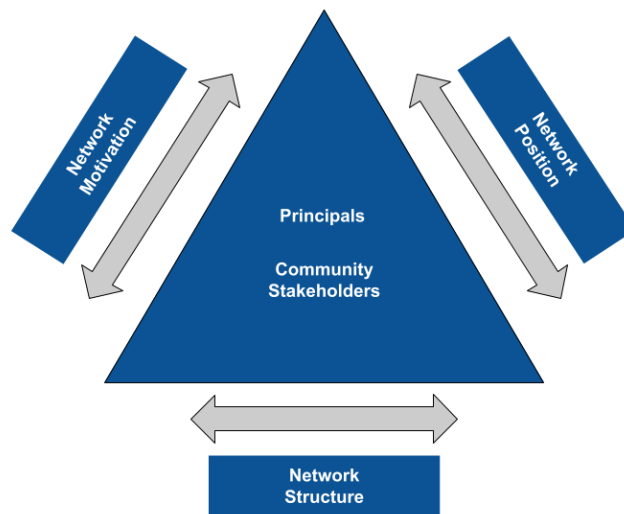
2 REVIEW OF THE LITERATURE

This chapter offers a theoretical framework illustrating the social network principles behind educational partnerships. Following the presentation of the theoretical framework, this chapter presents a brief historical overview of social networks, social capital, and the dominant themes found in educational partnership literature. Network structure, position, and motivation are a few of the dominant themes of the literature surrounding organizational leaders and their direct and indirect ties. Additionally, a thematic analysis of the literature reinforces the significance of this study and demonstrates the need for further research.

Theoretical Framework

Figure 1

Model of Social Networks and Educational Partnerships



The theoretical framework of this study, as illustrated in Figure 1, is developed from social network theory. In social network theory, a social network represents the mapping of

individuals or organizations (actors) and their social connections (Rigby, 2016). In this illustration, the actors in a network are dynamic, and their positions may shift according to the dimensions of network structure, motivation, and position. The triangle's three sides represent the overarching variables facilitating educational partnerships, and the framework parallels the pyramid structure of social resources theory. Social resources theory suggests more network advantages for people or organizations in higher positions due to fewer occupants and more resource access (Lin, 1999). In other words, school and business leaders with higher network positions can access a wider variety of educational partnerships than those with lower network positions. However, the motivation and position of actors in a network can be either supported or constrained by the network structure, which is why it forms the foundation of the triangle in the framework.

Network structure refers to a social network's underlying patterns or connections (Balkundi & Harrison, 2006). In this model, network structure refers to the size, density, and reciprocity of actors in a network which is informed by the network literature. Network size refers to the number of actors or nodes in a network. A network's size may enable or constrain actors because a larger network may indicate more partnership opportunities but also more partnership competition. (Bridwell-Mitchell, 2017). Conversely, a smaller network may indicate less diversity but more comfort and openness among peers (Jennings, 2010). Network density is the percentage of activated partnerships out of the total number of possible partnerships. It refers to the level of connectedness between nodes in a network. A dense or closed partnership network implies high trust between actors, making it easier for school and business leaders to exchange resources. (Jennings, 2010). However, an open or sparse network indicates less connectedness and more dependence on key or central figures in the network to serve as bridges or brokers

between disconnected actors (Balkundi & Harrison, 2006). Network reciprocity is the percentage of reciprocal or two-way relationships from the total number of possible network relationships. Reciprocity indicates the level of trust and closeness among actors in a network. All these dimensions help develop the network structure. The structure is the triangle's foundation because a change in a network's size, density, or reciprocity either facilitates or inhibits the capacity to form educational partnerships.

A network's structure is the pattern of connections between actors in a network. The extent of the network's connections will determine the volume of resources that can move throughout it (Balkundi & Harrison, 2006). Individuals becoming more densely embedded in a network become more accessible to a variety of resources and potential partners. In contrast, those more isolated in a network (on the periphery) are less accessible and have more difficulty exchanging resources (Balkundi & Harrison, 2006). This study examined the structure of an educational partnership network and explored whether its size, density, or reciprocity impacted the facilitation of educational partnerships, especially during the COVID-19 pandemic.

Network position is on the right side of the triangle because principals and business leaders have more opportunities to mobilize resources in partnership engagement efforts as they ascend the social ladder. Ascending the social ladder is beneficial because better network positions increase the likelihood of reaching and using better resources and offer opportunities to establish ties with those with better personal and social connections (Lai et al., 1998). However, moving down the right side of the triangle indicates a regression of relational power. Here, individuals may become decentralized in their network positions and lose access to opportunities typically reserved for people at the top of the hierarchy. Therefore, this study used individual

network position and centrality measures to uncover the structures upholding the most central leaders in an educational partnership network in a suburban school district.

Network motivation is on the left side of the triangle, and social capital is utilized in expressive or instrumental actions (Lin, 1999). Simply put, instrumental actions are motivated by career aspirations and expressive actions are motivated by personal reasons. Principals and business leaders are motivated by personal (expressive) or professional (instrumental) desires for educational partnerships. In the conceptual model, I propose that highly motivated people or organizations are more likely to mobilize social capital. Contrarily, people and organizations with low motivation may have ample resources in their surrounding social environment but have little desire to activate them.

Contemporary school improvement efforts require cognitive, social, and material support from community stakeholders to address the issues affecting 21st-century students. According to Krumm & Curry, "Public schools face a responsibility to ameliorate racial and human inequities and to prepare all students for the workforce and/or college" (2017, p.100). However, the current literature regarding stakeholder support from businesses, schools, and community partnerships fails to address the school administrator's role in securing those resources. Moreover, fewer studies examine the social structure and network position of school administrators (Moolenaar et al., 2010) and the role of social capital in developing effective partnerships (Hands, 2005). Savvy "educational leaders must understand how to develop partnerships that will withstand the challenges of a multitude of obstacles" (Krumm & Curry, 2017, p. 101). Unfortunately, few understand the best practices of partnership engagement. This study explores business and school leaders' network connections and the intersectionality of social networks and educational leadership.

Social Networks

Network structure refers to a social network's underlying patterns or informal connections (Balkundi & Harrison, 2006). Social networks are necessary because they focus on the relationships between the entities that comprise them, called actors or nodes (Borgatti et al., 2018). The focus on actors, the structures of their relationships, and the attached social capital they bring to their networks should be mentioned more in educational leadership literature. In the many articles that adopt a network methodology, only some examine the structures surrounding business leaders and school principals as nodes in a network. For business and school leaders, systematically examining underlying networks and structures provides a framework to view organizational change (Daly & Finnegan, 2010).

Rigby (2016) used a qualitative social network approach to explore how first-year principals adopted their beliefs about instructional leadership. Hite et al. (2005) examined the intersectionality of school administrators using a qualitative social network approach to uncover the content and structure of those network relationships. Moolenaar and Slegers (2015) analyzed principal centrality and the structure of the relationships within their schools and their larger school district using a network approach. Mania-Singer (2017) used qualitative network analysis to explain how the central office disseminated knowledge and communication about district-wide school improvement efforts to individual schools. Daly & Finnegan (2011) also utilized a qualitative network analysis methodology to uncover school and central office leaders' knowledge, advice, and innovative network structures in an underperforming school district.

Network position generally refers to whether an actor or node is central. A central network position is a position of power where individuals have the most significant access to informational or material resources (Moolenaar & Slegers, 2015). These central leaders have

disproportionate influence over network resources. Previous research from Balkundi & Kilduff (2006) addressed how central organizational leaders perceived and managed the social relationships within their respective organizations. Friedkin & Slater (1994) analyzed principal centrality and organizational leadership through social network theory and cohesion. Daly & Finnegan (2010) used social capital and social network theory to examine central office leadership's role in educational reform. Moolenaar (2012) focused on the effect of teacher networking and collaboration on educational change and reform.

The cited studies explored the networks surrounding site-based or central office leadership in school reform, innovation, or improvement. Few network studies addressed the intersection of school principals and business leaders in educational partnerships. However, these leadership studies provide the foundation for how researchers can use network measurements to conduct qualitative network analysis, aligning with the methodology for this study. Network analyses examine an individual's network position (centrality) and network structure (size and strength). Fewer network analyses examine the motivation (instrumental or expressive) between ties, but uncovering the motivation behind educational partnerships can be the key to establishing successful educational partnerships.

Social Capital

Social capital is the overarching theory framing social network theory, and several seminal authors and theories are related to social capital. For Pierre Bourdieu, "social capital represents a struggle over resources, and thus an economic and cultural struggle" (Kikuchi & Coleman, 2012, p. 188). Social capital is an economic tool used to uphold and maintain class distinctions within society (Bourdieu, 1986). Bourdieu's approach explores cultural, economic, and social inequality systems, placing his approach outside this study's scope. James Coleman's

definition of social capital is the predominant interpretation in the educational leadership canon. For Coleman, social capital is “a set of resources that inhere in family relations and community social organization” (1990, p. 300). Coleman’s perspective centered on families and communities and credits social capital as a public good in improving society. However, Coleman’s macro-level view of social capital does not align with this study’s intended purpose and goals. This study aims to understand how school and business leaders use social capital at the individual level to establish new partnerships at the organizational level. For this purpose, Nan Lin’s definition of social capital as “resources embedded in a social structure which are accessed and mobilized in purposive actions” (1999, p. 35) has been adopted for this study. Lin’s conceptual definition of social capital emphasizes resource embeddedness, accessibility, and mobilization, which parallels network structure, position, and motivation of social network theory. Both theories are lenses to view the dynamics behind educational partnerships.

While several studies examined the use of social capital among leaders within the same organization, fewer studies considered how social capital is accessed and utilized between leaders of different organizations who held centralized roles in their networks. Unfortunately, since the use of social capital depends on the structure and quality of relationships between actors, social inequalities inevitably occur. Particularly for wealthier communities, “social capital is unequally distributed because some schools are less likely to have partnerships than other schools” (Bridwell-Mitchell, 2017, p. 1245). Furthermore, not all partnerships are beneficial. Partnerships are inherently risky, and alliances could be exploited. External partners can be a negative influence and introduce ideas that conflict with school district messaging leading to confusion and incoherence among staff members (Hatch, 2001). Collaboration is especially vulnerable to volatile environmental or economic changes that can dissolve the partnership at

any time (Gulati, 1995). However, state budget reductions, market competition, and increased accountability measures have encouraged school administrators to build stronger relationships with their community (Bennett et al., 2014) and tap into the social capital embedded in the patterns and relationships amongst their stakeholders.

Partnerships and Network Structure

Education, business, and community leaders increasingly recognize the need to collaborate to ensure students are prepared for a global environment (Aidman & Baray, 2016). Anchoring this desire for educational partnerships is the belief that complex social problems must be addressed through multi-sector collaboration because one sector cannot address the issue independently (Aidman & Baray, 2016). However, a collective agreement on societal issues in education does not necessarily produce educational partnerships. Structural factors such as network size, density, and reciprocity supplement partnership agreements to encourage collaboration between principals, business leaders, and community stakeholders.

Network structure refers to a social network's underlying patterns or informal connections (Balkundi & Harrison, 2006). According to Bridwell-Mitchell (2017), the overall pattern or structure of relationships between schools and other organizations in the partnership network dictates the opportunities schools must engage in partnership collaboration. Schools in dense networks (more partnership connections) might have more direct and indirect access to social capital through their partners. Additionally, schools might further their technical expertise by recruiting and acquiring new educational partnerships (Bridwell-Mitchell, 2017). However, organizations in dense networks may need more partnership capacity due to an overextended staff, scarce resources, and competing organizational demands. Farrell et al. (2019) explored how dense network structures can improve an organization's absorptive capacity to assimilate

external knowledge and resources into its internal processes. Renzulli and Aldrich (2005) addressed density, range, and reciprocity in exploring how business leaders relied on their close ties to allocate limited resources in their partnership network.

In contrast to a dense network is a sparse network, and building those relationships in a network with limited connections may pose a different challenge. Opposite dense social networks characterized by strong ties and elevated levels of trust, schools and businesses in the periphery of the partnership network may feel isolated and more prone to exploitation (Ahuja, 2000). However, an open network characterized by weak ties may benefit a school or business wanting diverse partnerships. School and business leaders interested in cultivating new connections and accessing a wider variety of resources might prefer an open network (Miller, 2011) because they can focus on strategic alliances with a few key individuals and enjoy the benefits of a smaller network without the maintenance of a larger one (Burt, 1992). Gulati (1995) explored how open and closed network structures drove organizational alliances. Gulati et al. (1999) extended the previous research by demonstrating how network centrality, prior partnership experience, and joint third parties improved the likelihood of partnerships between organizations.

Prior relationship experience is associated with network reciprocity and is an essential predictor of tie formation (Rivera et al., 2010). Reciprocity enhances the flow of information, influence, and social credentials and reinforces businesses and educational institutions (Lin, 1999). Reciprocity also indicates the strength between two firms aligned in a partnership, and organizations with stronger ties are better positioned to achieve their goals (Wells et al., 2015). Additionally, Haines et al. (2015) found an underlying theme of reciprocity governing

educational partnerships; “the reciprocal nature of these partnerships meant that the school and its constituents benefitted from all community partnerships and vice versa” (p. 230).

This study is interested in the strategic alliances of schools and businesses with their local chamber of commerce in developing educational partnerships. Chambers of Commerce are networks where business owners and managers socialize, educate, and advocate for the business community (Roessing & El-Jourbagy, 2019). For businesses, membership in the Chamber of Commerce offers legitimacy, recognition, networking opportunities, and inclusion in the membership directory (Roessing & El-Jourbagy, 2019). This is important because, for schools looking to engage in partnerships, the local Chamber of Commerce directory is a great starting point for an initial list of contacts. In this way, the chamber of commerce functions as an intermediary between two potential partners.

When two organizations share common ties, both organizations are suitable and trustworthy for partnership (Gulati & Gargiulo, 1999). Mutual third parties can also provide referrals for partner organizations and encourage trustworthy behavior between firms concerned about maintaining a good image and reputation in the community (Gulati & Gargiulo, 1999). Bacdayan (2002) outlined preferences for the educational activities of business schools, and chamber of commerce members appeared to support technical activities that boosted business profits and grew the most. Wells et al. (2015) explored how the Chamber of Commerce provided local job growth information to the school district and engaged several community partners to improve high school graduation rates. Bennett et al. (2014) detailed how chamber members worked with a local superintendent to build capacity for educational reforms. Intermediary organizations like the Chamber of Commerce are critical in educational partnerships. They occupy the space between at least two other parties and add a distinct value beyond the

individual parties' capacity (Honig, 2004). This is why their engagement in the partnership network is exciting in this study.

Social capital is embedded in our network connections, and embeddedness refers to the wealth, power, and status resources ingrained in those social connections (Lin, 1982). Those resources can be described as network and contact resources. Network resources are defined as "accessible resources and contact resources represent mobilized resources in instrumental actions" (Lin, 1999, p. 36). Viewed from the lens of educational partnerships, resource embeddedness refers to the resources within the partnership structures between schools and businesses. Educational leaders should strategically tap into the vertical and horizontal ties embedded in these structures because authentic relationships will feel more essential and less like "just one more thing I have to do" (Casto, 2016, p. 159). Vertical ties refer to nonlocal partnerships and represent collaborations outside the immediate school community. Horizontal ties refer to local partnerships and represent relationships within the immediate school community (Casto, 2016). School and business leaders should engage with the vertical and horizontal ties surrounding their communities to facilitate educational partnerships structured around family support and human and community development (Casto, 2016).

Organizational change or reform is a necessary ingredient for effective partnerships. Edens & Gilsinan (2005) explored the nuances of organizational attributes within educational partnerships because focusing on preexistent organizational characteristics may uncover an alternative approach to securing educational partnerships. Hands (2005) outlines systems and processes that sustain effective partnerships because social resources are innately embedded in those minor procedural practices that facilitate partnerships. Procedural practices such as "Meetings in person, communication, and a willingness to collaborate were deemed key

elements in the partnership process” (Hands, 2005, p. 72). Structurally, partnership models enable differing levels of social capital, and there are four prominent models in the educational partnership literature: 1) Level of Involvement, 2) Level of Interaction, 3) Level of Impact, and 4) Level of Organization (Bainer, 1997). Educational partnership models exist in a spectrum, “each of the four models seems to describe two or more points which define a continuum of partnering behaviors, rather than one distinct, clearly identifiable partnership model” (1997, p. 149). Partnership models are situational and must be aligned to the unique organizational goals established by both parties in the initial formation of the collaboration. The employment of resources within an educational partnership depends on the structure of the partnership itself, and Sanders (2001) emphasizes that the structures for sustainable partnerships must be grounded in ecology. This ecological view should be expanded to include nontraditional community members that bring additional resources to school systems. Sanders states, “Reliance on business partners may result in schools underutilizing other community partners who also may provide goods and services to their faculties, students, and families” (2001, p. 25).

In summary, access to educational partnerships may be impacted by a network’s structure. A dense network structure may give schools and businesses more access to each other, whereas a sparse network structure may isolate some of the same schools and businesses (Ahuja, 2000). Additionally, isolated school and business leaders may rely on influential network bridges or brokers to facilitate partnerships (Burt, 1992). Relationships with a mutual third party, such as the Chamber of Commerce, can add value and increase the partnership capacity of organizations allied with them (Honig, 2004). However, network relationships between individuals or organizations may house the critical social capital needed to facilitate educational partnerships. Resources embedded in either horizontal (local) or vertical (nonlocal) ties can even be accessed

through formal or informal interactions between school and business leaders (Hands, 2005).

From the original conception of an educational partnership to the standard operating procedures outlining stakeholder engagement, network resources are embedded within those structures every step of the way and help cement the application of social capital in partnership development.

Partnerships and Network Position

Network position or accessibility, according to Lin (1999), refers to an individual's ability to access resources within their social network. In social networks, the measurement of an individual's ability to access other resources in the network is referred to as centrality. Central leaders in a network have more relationships to tap into for resources and are less dependent on any individual (Sparrowe et al., 2001). Situated within the literature of educational partnerships, centrality relates to the school administrator's role in securing business partnerships. Krumm & Curry (2017) reinforce the leaders' role in acquiring business partners "because establishing social ties within and outside the school community is no longer just a 'good idea' for educational leaders to consider. Effective partnerships are essential for meeting student needs and promoting meaningful reform" (p. 102). Bess et al. (2012) conducted a network analysis on a coalition designed to prevent youth violence and found that coalition members collaborated with significantly more members in the network than nonparticipants. The implication from the Bess et al. (2012) study and other similar studies is that individuals or organizations that are members of the local chamber of commerce were more central in the educational partnership network.

At an organizational level, both principals and business leaders occupy a significant position within their social network structure. An advantageous (central) structural position is essential because the connection to available resources presents some structural positions with more or less power and influence than other positions in the network (Moolenaar et al., 2010).

Sparrowe et al. (2001) explored the link between individual centrality and job performance. They found that individuals more active in advice-giving were viewed more favorably by their coworkers. The implication is that those in the partnership network view organizations more active in partnership engagement more favorably. Organizations that are more central in the network are more visible, and that visibility is viewed favorably by others in the partnership network. Daly et al. (2014) confirmed that a leader's centrality correlates to a leader's personality. This finding is relevant to educational partnerships because a leader's disposition towards partnership collaboration is instrumental to the partnership's sustainability (Aidman & Baray, 2016). This study adds to the literature examining the role of business and school leaders' centrality and their use of the network or contact resources to secure new business partnerships because few articles investigate this phenomenon.

Partnerships and Network Motivation

Network motivation is the driving force behind educational partnership engagement for schools and businesses. Educational partnerships are necessary for any school community because no single program has the reach or resources to solve complex and widespread social problems (Bess et al., 2012). Partnerships can be interpreted as community-level interventions for community-level changes (Bess et al., 2012). Schools and businesses use partnerships to satisfy resource needs (Gulati & Gargiulo, 1999). They are public relations tools for greater organizational legitimacy (Bennett & Thompson, 2011). However, collaboration is much more effective when participants are like-minded in their approaches (Bennett et al., 2014). For businesses, educational investment should align with their company philosophy (Gillen et al., 2021). For companies with a strong orientation towards corporate social responsibility, some of their organizational goals reach beyond one organizational mission, so they must collaborate

outside their industry sector to achieve them (Glowacki-Dudka & Murray, 2015). Corporate social responsibility (CSR) is a “commitment to improving community well-being through discretionary business practices and contribution of corporate resources” (Kotler & Lee, 2004, p. 3). Company investments in CSR initiatives have been shown to provide a range of benefits to their stakeholders, such as positive consumer evaluations, increased interpersonal cooperation and job-related effort, and more significant investment in company stock (Bartel, 2001; Sen & Bhattacharya, 2001; Sen et al., 2006). However, despite a company’s good intentions and strong CSR orientation, “the return on CSR investment is anything but guaranteed” (Bhattacharya et al., 2009, p. 258). Often, educational partnerships dissolve because of conflicting organizational interests, mutual distrust, and the misalignment of goals between the school and the business goals (Abowitz, 2000). This study is interested in the motivation of schools and businesses to engage in partnerships and whether central organizations in the partnership network have a stronger orientation towards corporate social responsibility.

Conclusion

Using Lin’s conceptualized definition of social capital and the application of social network theory, we can position educational partnerships against network structure, position, and motivation. In contrast, business and educational leaders stand prominently in the foreground. Abowitz (2000) states, “These relationships between schools and businesses can help organizational leaders on both or all sides to transform or learn from one another and expand the self-interests of all parties involved” (p. 316). From a network perspective, expanding self-interests complements expanding social capital because increasing one’s social capital is inherently selfish. However, in this case, a healthy dose of organizational selfishness can benefit schools and businesses.

3 METHODOLOGY

This study explored the network structures and stakeholder perceptions surrounding educational partnerships. The researcher used a qualitative social network analysis methodology to investigate the network structures and stakeholder perceptions of educational partnerships. Because this study examined educational partnerships in context, a qualitative research design was appropriate. Qualitative research is an exploratory study of a phenomenon in context (Hays & Singh, 2011). It is an applicable model for this study because the findings informed community outreach practices and bridged the gap for educational leaders looking to acquire additional social and cultural capital for their schools.

Conducting a qualitative study in the Merriam tradition allows the researcher to fully explore the interpretations of educational partnerships from business leaders, school principals, and central office personnel as research practitioners. The “how” and “why” of educational partnerships underscore the research methodology of this study and demonstrate why a qualitative approach is appropriate. A dissertation study in the Merriam tradition is suited for this study because her epistemological belief is that “reality is not an objective entity; rather, there are multiple interpretations of reality” (Merriam, 1998, p. 22). Those “multiple interpretations” represent the purpose and significance of this study. Additionally, the Merriam perspective advocates using a theoretical framework to guide the inquiry (Yazan, 2005). It acknowledges that qualitative studies can incorporate quantitative methods (i.e., social network analysis) to convey clarity and applicability to the results (Harrison et al., 2017).

This dissertation study is grounded in social network theory because it helps to visualize and understand where partnership collaboration is and is not occurring (Cross et al., 2002). By focusing on interpersonal relationships, network theory emphasizes the structure and the content

of ties in a network (Balkundi & Harrison, 2006). A tie is a connection in a network between individual nodes or actors, and those connections serve as the conduits for the flow of interpersonal resources (Balkundi & Harrison, 2006). Network theorists believe that those interpersonal resources, or social capital, can be leveraged to benefit the individual nodes in a network, and the accumulation of it can further the collective social capital of the entire network system.

At the systemic level, a network perspective can help us explain how a tightly connected (dense) or loosely connected (sparse) structure can be used to develop educational partnerships. A network's structure is shaped by the pattern of ties connecting individuals in a network (Wang, 2018). A tightly connected network structure indicates high mutual trust, shared knowledge, and partner collaboration (Ahuja, 2000). Alternatively, an open and flexible network structure indicates diversity, variety, and mobility among collaborators in a network (Wanat & Ziegłowsky, 2010). Therefore, a network analysis of educational partnerships at the systemic level describes the level of connectedness amongst partners, the diversity of the embedded social capital, and the level of trust and reciprocity in the partnership network.

At the individual (or node) level, a network perspective can help us discover the most central (or influential) partners in the partnership network. In network theory, centrality refers to the structural importance or prominence of a node in a network (Borgatti et al., 2009), and this study incorporated in-degree centrality (network popularity), out-degree centrality (network activity), and betweenness centrality (network influence). These three centrality measures will reveal the network's most popular, influential, and engaged educational partners. This approach will unveil the structural factors facilitating their central positions in the partnership network and inform principals and business leaders about improving their partnership outreach efforts.

The school principals' and business leaders' social networks were qualitatively measured using a set of interview questions included in Appendix B and Appendix C. To complement the social network data, the researcher utilized a six-item survey via Qualtrics that identifies the type of partnership engagement, the frequency of partner communication, the influence of the partnership, the nature of the partnership, the goals of the partnership, and records the demographic information of each participant. Additionally, the researcher analyzed formal meeting minutes, meeting agendas, school improvement plans, organizational rules or regulations, or any other official or unofficial documentation related to educational partnerships.

Social Network Analysis

A social network analysis was utilized to thoroughly understand the structure and nature of the relationships between business leaders and school administrators. A social network analysis (SNA) is a systemic approach used to quantify and visualize the structure of formal and informal networks (Daly & Finnigan, 2009), which, in this study, characterizes educational partnerships. Using O'Connor and Daniello's (2019) definition, an educational partnership is characterized by "interactions and relationships between a school personnel member and students in a school setting and a community member or organization working towards academic or nonacademic outcomes" (2019, p. 298). In this study, the qualitative approach explored the perceptions of those relationships, and the quantitative approach (SNA) indicated the structures of those very same relationships. The SNA methodology complements the case study because it illustrates the ties between individuals and organizations within a community and determines if those ties (paired with perceptions) influence the creation and development of educational partnerships.

This study is interested in how the relations between principals and business leaders at the individual (node) level translate into established partnerships at the systemic (network) level. Using a social network analysis methodology, the results demonstrated how social networks help develop and cultivate educational partnerships. The extent of the partnership network was measured using a six-item social network survey that analyzed interactions at the network level and the individual (node) level using centrality measures. The social network survey is included in Appendix A.

Network Level Description. Exploring partnerships at the systemic or network level can help us understand the structure of relationships from a big-picture view. In social networks, network structure refers to the pattern of connections among the parties in a network (Balkundi & Harrison, 2006). Relationship patterns are essential to explore because the absence or presence of network connections can either limit or facilitate organizational goals (Daly & Finnigan, 2011). This study analyzed the pattern of network connections, or the structure, by exploring the educational partnership network's size, density, and reciprocity.

Network size refers to the specific number of nodes or actors in a network and expresses the diversity and variability of a network. A larger group can exchange more information, invite more cooperation, and instill a stronger sense of accountability (Sparrowe et al., 2001). If there are more ties in a network, there are more opportunities for individuals or organizations to access newer information (Rigby, 2016). For this study, the network size describes the extent of educational partnerships and indicates the partnership network's breadth.

Density illustrates the interconnectedness of the nodes within the network and can be interpreted as how tightly knit a network is (Daly & Finnigan, 2010). A dense network can mobilize resources faster than a sparse network (Scott, 2000). However, the literature suggests

that densely connected networks contain redundant information and can reduce flexible organizational responses (Burt, 1992). Sparsely connected networks where members rarely interact have been associated with adaptability, innovation, and novel or nonredundant information (Burt, 1992). Networks like that must rely on a few key individuals to liaise with others in the network. This study examined if principals and business leaders fulfill that liaison role in the partnership network.

Reciprocity characterizes the type of relationships in a network. It is defined as the percentage of mutual (or reciprocal) ties in a network and indicates a relationship characterized by trust and stability (Rivera et al., 2010). Generally, a two-node relationship is said to be reciprocal if both parties identify each other in the relationship (Bess et al., 2012). Recent scholarship has shown that actors in a network prefer reciprocal relationships to asymmetrical ones because of the mutual benefits it affords both (Lin, 2001). In this study, reciprocity signals the health of the educational partnership network during the COVID-19 pandemic. It demonstrates organizational commitments to school improvement and corporate social responsibility amid a global health crisis.

Node Level Description. Within a social network, at the individual or node level, a node's position determines the opportunities or constraints it encounters in the network (Borgatti et al., 2009). In formal hierarchical structures, business owners and school principals occupy central authority positions in their organizational networks. These central positions give leaders considerable advantages over those in lower hierarchical positions. Namely, those in centralized leadership roles enjoy more access to information, resources, and support than others in the organization (Adler & Kwon, 2002).

Furthermore, those central leaders have more opportunities to develop new relationships and serve as bridges between disconnected networks (Burt, 1992). These bridging relationships apply to this study because businesses and schools often operate in isolation. This research examines how business leaders and school leaders in formal hierarchical positions bridge their social networks to establish educational partnerships. The researcher used a qualitative study to articulate why those partnerships form and a social network analysis to demonstrate how they form. The theoretical frameworks of social capital theory and social network theory guide the research questions below:

1. How did school principals' social network position affect their ability to access business partners in educational partnerships?
2. How did school principals use formal and informal ties in their network structure to cultivate educational partnerships?
3. Was there a misalignment in network motivation between school leaders and business leaders in educational partnership development? If so, to what extent?

Sample and Participant Selection

The researcher conducted a social network analysis bounded by multiple locations within one school district in the southeastern United States. This school district was selected because of its size, accessibility, and diversity. It includes 24 schools serving approximately 21,000 students with a minority enrollment of 60%. The district is in a suburb 30 minutes south of a central metropolitan area. It is home to several large international companies, which inspired exploring this research topic. The researcher's interest in educational partnerships stems from big-name corporations having disproportionate partnership engagements with non-Title I schools (Bridwell-Mitchell, 2017). Businesses with global brand recognition continuously partnering

with a select few schools while mainly ignoring others in the same school district served as the motivation for this study. Hopefully, the results from this research can offer practical insight into how school leaders can effectively connect with business partners and other stakeholders in the community.

Operational Criteria

Purposeful sampling was used to select study participants. Purposeful sampling requires established and intentional criteria for the sample before data collection (Hays & Singh, 2011).

The criteria for the sample are the following:

- an active K-12 school principalship
- a business leader/owner with an established history of educational outreach
- a committee member of the local chamber of commerce
- a school-district central office personnel member

K-12 school partnerships are the focus of this study because of convenience and accessibility, but also to address the lack of depth in the educational partnership literature related to school principalship and business community engagement. With these established criteria, seven participants were in the sample: three K-12 school principals, three business owners/leaders, and one central-office staff member. Due to staff shortages, a Chamber of Commerce member could not participate in the study.

Additionally, Chamber of Commerce membership and prior partnership history are required for this study because both traits are indicators of social capital embeddedness and accessibility. Membership in the Chamber of Commerce gives these business leaders more opportunities to develop community capital and bridge their social networks to connect with school personnel. Lastly, the Chamber of Commerce and the central office staff members

represent central authority figures in their larger organizations. Both positions add value to this study because they offer a larger systemic perspective of educational partnerships and can clarify how organizational capital is utilized to develop educational partnerships.

Instruments

Validity and Reliability

In this study, the researcher served as the chief data instrument but operated as an insider of the community due to their current employment as a full-time educator in the district. As a full-time professional working towards a doctorate in educational leadership, the researcher must gain more competence in business owners' skills, training, and professional education. To establish the credibility of the findings, the researcher implemented a triangulation of methods and analysis (Denzin, 1978; Patton, 1999). Peer debriefing and member-checking were also used to establish credibility further (Lincoln & Guba, 1985). Lastly, since this is a research study in the Merriam tradition, a thick description (Lincoln & Guba, 1985) was used to establish validity and transferability.

Procedures

Qualitative Data Collection

Artifact collection, semi-structured interviews, and social network data (via surveys) were used to answer the research questions. First, public records, formal meeting minutes or agendas, organizational strategic plans, departmental budgets, or any other official or unofficial documentation related to educational partnership development were analyzed for the document review process. The document review aimed to uncover any educational partnership development processes aligned with the conceptual framework's three dimensions: network structure, position, and motivation. The document review protocol is included in APPENDIX F.

Secondly, the researcher proposes conducting twelve digitally recorded semi-structured interviews with a two-hour time limit using separate interview protocols for each participant. The interview protocols for each participant are included in the appendices. The interviews were recorded on password-protected devices, stored on an external hard drive, and will have restricted access only available to the researcher. The interview questions were developed based on prior research (Badget, 2016; Miller, 2011) and Lin's framework of social capital in the research design.

To answer the first research question and address the issue of network position, the following prompt is included in the interview protocol: "As a principal, who or what has helped you the most in getting connected with schools/businesses?" To answer the second research question and address the issue of network structure, the following prompt is included in the interview protocol: "Which schools or businesses have you partnered with the most? How was this initiated?" To answer the third research question and address the issue of network motivation, the following prompt is included in the interview protocol: "What do you perceive as obstacles or challenges that make it difficult to partner with schools or businesses in the area?" The complete set of interview questions is included in the appendices.

Network Data Collection

The social network analysis (SNA) surveys were administered to research participants via Qualtrics. A free choice survey was used so participants could choose how many answers they could give (Cross et al., 2002). Even though human recall issues can limit open-ended questions, the researcher believes that is the best option to identify network similarities (Borgatti et al., 2018). The SNA survey includes five items that measure the extent, structure, interaction, and influence of each identified educational partnership. The network survey questions were

designed from previous network research (Daly & Finnigan, 2009) and business partnership research (Sanders, 2001).

The Educational Partnership Network. To assess the structure of the partnership network, the following social network prompt was included in the interview protocols for both principals and business leaders: “Which schools or businesses have you partnered with the most?” Network size is assessed by counting how many actors or nodes are in the network. This study determined the network size by how many schools, school principals, businesses, business leaders, and individual community members or organizations were identified in the network surveys or participant interviews. Network density refers to the interconnectedness of the network. It is calculated by the ratio of existing ties in the network to the maximum number of ties in the network (Balkundi & Harrison, 2006). In this study, density would describe how many active partnerships are out of the entire partnership network. This would give a true sense of the level of engagement and collaboration between school principals, business leaders, and other individuals or organizations in the community. Lastly, network reciprocity is addressed: “How was this partnership initiated?” Reciprocity is the percentage of mutual (or reciprocal) relationships in the network and indicates a prior relationship characterized by mutual trust and stability (Rivera et al., 2010). Research shows that organizations with stronger two-way relationships are better positioned to achieve their goals (Wells et al., 2015) and represent a healthy, robust network.

Principals’ Network Position. A social network prompt was included only in the principals’ interview protocol to assess principals’ social network position within the school district. The following question was asked to determine their position in the partnership network: “As a principal, who or what has helped you the most in connecting with businesses?” The

responses to this question indicate the level of district-level support the principals can access and reflect their positions in the partnership network. Additionally, the responses to this question would indicate each principal's degree and betweenness centrality.

Principals' Centrality. The degree centrality reflects how many connections principals have in the educational partnership network. The in-degree centrality (popularity) is calculated by counting how many incoming partnership requests principals receive in the network. The out-degree centrality is calculated by counting how many outgoing partnership requests principals initiate in their partnership outreach efforts. The betweenness centrality is measured as the proportion of times that a principal connects two other individuals or organizations in the network that are disconnected. This reflects how principals use those opportunities to bridge connections between disconnected partners in the community.

Business Leaders' Network Position. A social network prompt was included only in the business leaders' interview protocol to assess business leaders' social network positions within the school community. The following question was asked to determine their position in the partnership network: "As a business leader, who or what has helped you the most in connecting with schools?" The responses to this question indicate the level of community support (chamber of commerce or the school district) the business leaders have access to and reflect their positions in the partnership network. Additionally, the responses to this question would indicate the degree centrality and betweenness centrality for each business leader.

Business Leaders' Centrality. The degree centrality reflects how many connections business leaders have in the educational partnership network. The in-degree centrality (popularity) is calculated by counting how many incoming partnership requests business leaders receive in the network. The out-degree centrality is calculated by counting how many outgoing

partnership requests business leaders initiate themselves in their partnership outreach efforts. The betweenness centrality is measured as the proportion of times that a business leader connects two other individuals or organizations in the network that are disconnected. This reflects how business leaders use those opportunities to bridge connections between disconnected partners in the community.

Qualitative Data Analysis

Data collection, analysis, and interpretation of the artifacts, interviews, and social network surveys occurred throughout the research process. The constant comparative method was adopted for the qualitative data (artifacts and interviews) (Merriam, 1998). With the constant comparative method, the researcher compares an incident from an interview, field notes, or a document to another incident in the data set. These comparisons lead to categories that are constantly refined and compared to each other. Those categories are further refined and developed into a theory (Merriam, 1998).

For this study, all formal interviews were recorded and transcribed with Microsoft Word and Google Docs. The interviews were compiled into notebooks created for each participant in the study for case-specific analysis. The researcher used both inductive and deductive coding processes. During the deductive coding phase, multiple readings and interpretations of the interviews and artifacts coincided with highlighted phrases and passages aligned with preexisting codes in the literature on social networks, educational partnerships, and the underlying research questions. During the inductive coding phase, recurring incidents or phrases not addressed by the previous literature were coded independently and compared to the remaining codes and themes in the study. The conceptual framework and its network structure, position, and motivation dimensions guided the emergent themes.

Network Data Analysis

The quantitative data (social network surveys) were analyzed using descriptive statistics and centrality measures using NVivo and SocNetV (v3.04). In this study, we focus on business leaders and educational leaders occupying central positions in their organization; therefore, centrality, betweenness, tie strength, size, density, reciprocity, and tie quality would be appropriate for this study. All these measures offer a unique perspective on network positionality and structure and have been cited in previous network literature (Moolenaar et al., 2010).

To analyze network position (centrality), the researcher used degree centrality and betweenness centrality. Degree centrality is simply the number of social relationships in which an individual is involved. However, this study will utilize a directed network, so in-degree (incoming) and out-degree (outgoing) centrality will also be used. In-degree centrality will uncover the partnership network's most popular school leaders and business leaders (Balkundi & Kilduff, 2006). In-degree centrality refers to the business leaders and school leaders that are the most requested and sought after. Out-degree centrality refers to those business leaders and school leaders that are searching for the most network resources. This individual is highly engaged in partnership outreach and motivated to support school reform and improvement efforts.

Betweenness centrality refers to an individual's potential to "broker" new network relationships and control the flow of resources between two isolated actors. Betweenness is calculated by identifying the number of times a node is "in between" two other disconnected nodes in the network. (Moolenaar et al., 2010). This is important to explore because individuals or organizations that serve as a "go-between" or intermediary between others can have disproportionate power and influence in a network. They are in positions of power and control and can direct the type and content of resources that flow between actors (Moolenaar et al., 2010).

Since school principals are typically regarded as the main conduits of information between the district and their schools, they may occupy a more central position in the educational partnership network.

Network structure was analyzed using strength, size, density, reciprocity, and quality indicators. Network size was analyzed by simply counting the number of actors in a network (Woodland & Mazur, 2019). Density, or the interconnectedness of nodes in a network (Balkundi & Harrison, 2006), was indicated as the ratio of existing ties in the network to the maximum number of ties in the network. Network density exists on a range from 0 – 1, and the research indicates that a denser network is a more cohesive network that is more conducive to organizational collaboration (Balkundi & Harrison, 2006). Reciprocity is the percentage of mutual (or reciprocal) relationships in the network and indicates a prior relationship characterized by mutual trust and stability (Rivera et al., 2010).

Lastly, tie quality (expressive or instrumental) was measured in the network survey. Tie strength indicates the intensity of how a tie is considered in a network (Hite et al., 2005) and was analyzed by recording the frequency of the interactions between school principals and business leaders using a six-point Likert scale (yearly, semi-annually, quarterly, monthly, weekly, or daily). An educational partnership with frequent communication can be characterized as a strong tie (4 - 6 points), but if there is infrequent communication (0 - 3 points) in the partnership, it is characterized as a weak tie (Hite et al., 2005). A robust and expressive tie indicates an educational partnership with a prominent level of trust, comfort, and collegiality. Expressive ties represent personal relationships characterized by psychological or behavioral support between network members (Mania-Singer, 2017). Instrumental ties represent a technical relationship between network members (Mania-Singer, 2017). These are work-related relationships

characterized by professional distance. An instrumental tie in an educational partnership network represents a formal relationship between the school principal and the business leader.

Ethical Considerations

The two primary ethical considerations related to this study are the issues of confidentiality and researcher competence. The school district in this study is a small school district located in the suburbs of a central urban area. Due to the inclusion of district personnel data and demographic information, anonymity was difficult to achieve. (Hays & Singh, 2017). The researcher has limited knowledge and training in business operations, so the researcher admittedly has inadequate “training, skills, professional experience, and education to work with a population of interest (business leaders) in some capacity” (Hays & Singh, 2017, p. 88). Additionally, since the researcher is an educator, he lacks entrepreneurial competence. To address these ethical issues related to the study, the researcher will maintain an ongoing informed consent process, discuss any issues sensitive and relevant to the consent process, spend time learning about the sample populations and settings, share power in research design decisions, strike a balance between personalizing and distancing myself from the research and provide adequate protections for participants and third parties concerning confidentiality (Hays & Singh, 2017).

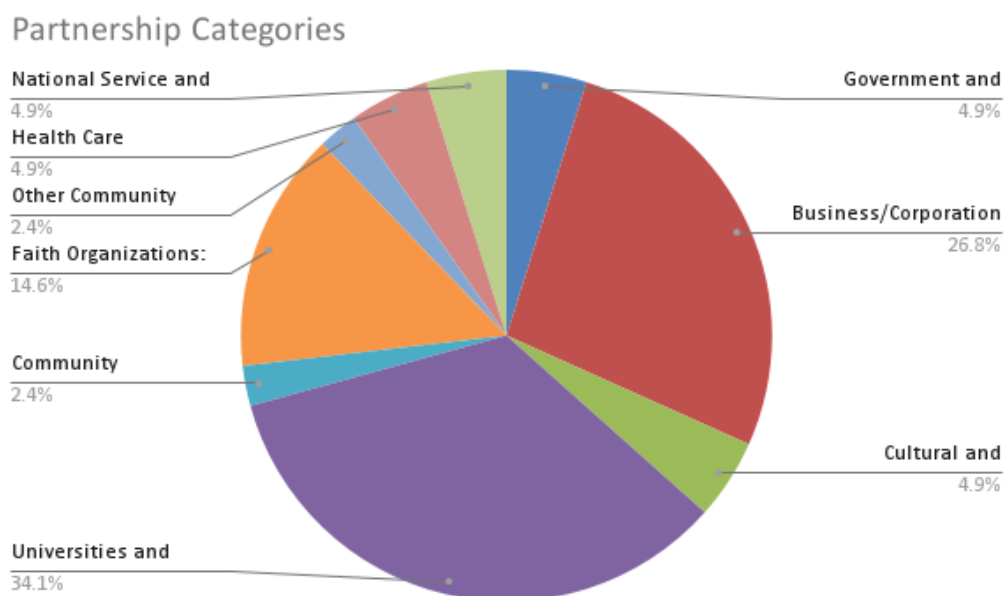
4 RESULTS

Network Characteristics

Interview transcripts and survey results revealed an educational partnership network comprised of approximately 53 community individuals and organizations. Community partners were organized according to their company size (number of employees), partnership category, and appropriate business sector. This information was obtained through public documents, partnership literature, or the researcher's determination. According to Sanders (2001), community partners generally fall into ten significant categories: businesses/corporations; universities and educational institutions; government and military organizations; healthcare organizations; faith organizations; national service and volunteer organizations; senior citizens' organizations; cultural and recreational organizations; other community-based organizations and individuals in the community. Universities and educational institutions made up most of the partnership network (34.1%), followed by businesses/corporations (26.8%) and faith-based organizations (14.6%). The results are summarized in the illustration below.

Figure 2

Top Ten Partnership Categories

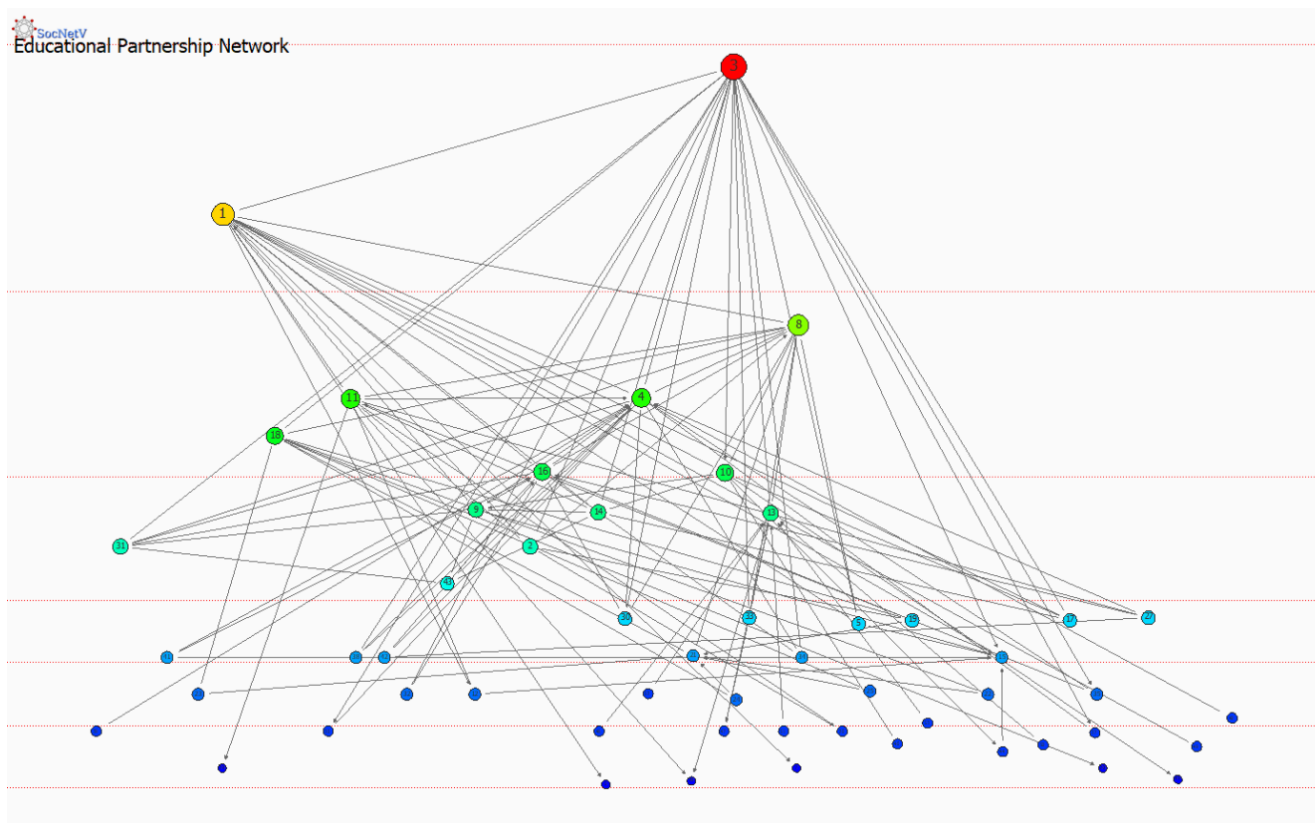


Network Depiction

A visual representation of the whole partnership network is displayed below. This diagram represented the overall structure of the network and was initially created in NVivo. Then the network sociogram was exported as a Pajek file and redesigned in SocNetV (v3.04) for further customization. In the diagram below, the nodes are represented as circles and are sized, leveled, and color-coded according to their degree centrality. The more significant and vibrant nodes (red, yellow, light green) have a higher degree of centrality and are at the network's top. The smaller, duller nodes at the bottom of the network represent those with a lower degree of centrality. Degree centrality refers to a node's number of connections, so the more significant and vibrant nodes represent those individuals or organizations in the partnership network that are the most connected to others.

Figure 3

Educational Partnership Network Sociogram



Network-Level Measures

When conducting network analysis, researchers typically analyze the overall characteristics of the network (measures of cohesion) and the dynamic characteristics of the nodes within the network (measures of centrality) (Woodland & Mazur, 2019). Network size, density, and reciprocity are all indicators of network cohesion and apply to this study of collaboration between school principals and business partners. Network size refers to the number of ties in the network, which in this case is 53. Network density refers to the proportion of existing ties out of the total number of possible ties between actors or nodes in the network (Woodland & Mazur, 2019). Typically, a denser network is more cohesive, and network density can range from 0 (no relationships exist) to 1 (every relationship exists). In this study, the network density was 0.071, meaning that approximately 7% of all ties or relationships have been formed. Lastly, network reciprocity refers to the percentage of mutual (or reciprocal) relationships. In this study, the network reciprocity was 0.745, meaning that approximately 75% of all partnerships in the network were reciprocated. While the network itself may be small (53 nodes) and disconnected (7% density), it is highly reciprocal (75%). It indicates strong trust, mutual respect, and collaboration amongst network collaborators.

Node-Level Measures

Four centrality measures were analyzed for each node: degree centrality, in-degree centrality, out-degree centrality, and betweenness centrality. The results for the top ten individuals and organizations in the partnership network regarding their degree centrality are summarized below.

Table 1*Top Ten Individuals and Organizations with Degree Centrality*

Nodes	Type	Node #	Degree	Degree In	Degree Out	Betweenness
The local school system	Organization	3	19	14	19	752.537
The local area hospital	Organization	4	19	19	7	473.913
The Innovative Partnerships Coordinator (IPC)	Individual	1	16	13	15	492.951
Community Relations Manager (for the hospital)	Individual	16	14	14	8	145.489
The local Chamber of Commerce	Organization	8	13	13	12	535.354
A local elementary school	Organization	13	12	10	7	672.051
A local middle school	Organization	11	11	7	10	297.822
Commemorative Air Force Base	Organization	10	9	6	8	265.149
Principal #1	Individual	18	9	8	9	393.760
A local middle school	Organization	9	8	5	7	38.987

Note. This table illustrates the top ten most connected individuals and organizations (nodes) in the educational partnership network. Degree centrality refers to their overall connectedness in the network. Indegree refers to their popularity. Outdegree refers to their network activity.

Betweenness refers to their level of influence in the network.

According to the results, the most central (or most connected) organization in the partnership network is Node #3, the county's public school system. Following the school system is the county's partnership coordinator, the local chamber of commerce, the local hospital, and the

hospital's community relations manager. Node #4, the local hospital, had the highest in-degree centrality. This means the area hospital is the network's most popular or sought-after organization. Node #3, the local school system, had the highest out-degree centrality. This means that the school system is the most active organization in the network due to its dynamic interactions with other individuals and organizations. The average in-degree and out-degree centrality for the entire network was 3.70, meaning that each organization requested and received partnership invitations from three to four other organizations.

Betweenness centrality refers to how frequently a node lies on the shortest path between other nodes in the network. It describes how often a node serves as a bridge or intermediary connection to other actors in the network. Node #3 (the district public school system) had the highest betweenness centrality, followed by Node #13 (a local elementary school), Node #8 (the local chamber of commerce), and Node #1 (the school district partnership coordinator). The individuals and organizations with high betweenness centrality are highly influential actors in the network that are the main catalysts for partnership and collaboration. As a result of these nodes having high betweenness centrality, they can leverage their network positions and resources to connect with other nodes on the fringes of the network.

Partnership Support for Principals

These results indicated that network position mildly impacted principals' ability to access and develop educational partnerships. School principals represent the top of the organizational hierarchy within their school. Because of their ability to enable or constrain resources, they occupy the most central position in their building (Moolenaar et al., 2010). However, in the more extensive educational partnership network, some principals occupy a lower structural position when placed against the backdrop of the entire school system and the community at large. In this

study, only one school principal (Node #18) was in the top ten of the most central nodes in the partnership network. Additionally, this principal (Node #18) was the youngest, the newest, and the only male principal interviewed. Also of note was that his school (an elementary school) had a 45.6% economically disadvantaged student body, an 81.8% Black and Hispanic population, and a total enrollment of approximately 700 students.

Organizational Support. In response to RQ1, the network position of school principals had a moderate effect on their ability to develop educational partnerships. To evaluate the network position of school principals, the following interview question was asked: *As a principal, who or what has helped you the most in getting connected with businesses?* Principal #1(Node #18) referenced the central office personnel of the school district, his teachers, parents, and PTO representatives as the central support systems for his partnership development. For him, county personnel have been instrumental in his partnership recruitment efforts. They connected him to several notable stakeholders and provided various platforms and opportunities to strengthen his community visibility.

Additionally, he mentioned that a local civic association was a crucial connection to school board representatives and other prominent community members. The school-level Parent Teacher Organization (PTO) was cited as another resource for connecting with businesses; as families with entrepreneurship experience joined the PTO, the school network expanded with newly acquired business resources. Lastly, the school itself is a resource for partnership connections. From the teachers to the assistant principal, the collective knowledge of the people in the building formed a natural bridge to other businesses in the community.

Staff-Level Support. Principal #2 also referenced parents and teachers as critical sources of partnership development. Not only are parents a significant connection to businesses, but for

Principal #2, they also function as referral systems for other parents, businesses, and organizations in the community. Principal #2 cited academic programming as essential to her partnership outreach efforts. Schools that offer a specific curriculum or program market themselves to the surrounding community as desirable schools to do business with. Parents of children involved in these programs also promote its benefits through word of mouth or contact referrals. For Principal #2, the onsite teachers who teach, coach, or mentor in these distinct programs are significant pieces of partnership engagement. Teachers offer the most support in connecting with people because teachers do much of the outreach. Teachers are motivated to collaborate with partners to enhance or enrich what they do in the classroom, club, or group. Moreover, these teacher-initiated recruitment attempts (if successful) add industry-specific expertise to the educational partnership network.

Community Support. Principal #3 referenced the school's PTO President and local churches in her response but also indicated the inconsistency of her PTO support due to staff turnover or ineffective leadership. Traditionally, PTO Presidents serve one-year terms, so much transition is associated with the position. However, despite the turnover, they are great at connecting schools with other businesses because they have friends embedded within the community. Unfortunately, not all PTO Presidents are alike. Some PTO Presidents may have damaged relationships, limited friends, or even enemies in the community, which diminishes their ability to secure educational partnerships.

Furthermore, PTO Presidents need good working relationships with their principals for the PTOs (Parent Teacher Organization) to function effectively. Regrettably, for Principal #3, one previous PTO President needed help to delegate tasks and wanted to do everything herself, which the principal did anyway. The following PTO President was unsuccessful, so a string of

ineffective leadership with the PTO undermined any partner recruitment efforts led by the principal or her other staff members. Fortunately, Principal #3 succeeded with the local churches she works with to offer her partnership connections. She had a tremendous personal connection with the local church pastor and used that personal relationship to facilitate a partnership between her school and his church.

In summary, principals need organizational, staff, and community-level support to develop partnerships successfully. For highly central principals, organizational support comes from the school district's central office or influential civic organizations in the community. Staff-level support primarily comes from in-house teachers and staff who want to extend or enrich their curriculum by inviting industry expertise into the classroom. Furthermore, schools with distinct academic or nonacademic programs can use the program as a recruitment tool for industry partnerships. Lastly, community-level support for partnerships comes from individual stakeholders in the community, which are often found in the school's PTO. The school's PTO works in concert with but also apart from school principals, so they occupy a unique position in the educational partnership network for school principals. The PTO can strengthen or weaken partnership outreach efforts, which speaks to the cursory influence of a principal's network position. Successful educational partnerships have less to do with the individual principal's network position and more with the network connections of their staff and school personnel. In a sense, businesses and organizations are partnering with individual schools instead of individual school principals. Principal #1 (the most central principal) was the only one who attributed his partnership success to active community engagement.

The superintendent told me to call the commissioner, and the commissioner told me to come to this association, and the next thing you know, things opened up where I had

business partners from my school council because I recruited people from that association and just being open to attending events that are welcome to you... I think being visible in the community really lends itself to helping you to build those business partnerships because it comes from people just seeing you out in the community.

Additionally, Principal #1 had the highest indegree centrality (he was the most popular), the highest outdegree centrality (he was the most active), and the highest betweenness centrality (he was the most influential). While schools do not necessarily need highly central leaders for successful partnership outreach, a highly central leader will elevate their school profile due to their active community engagement and visibility, making their schools more desirable for partnership. However, his experience is not the only experience for principals in this study. The other two principals leaned heavily on their school faculty and staff to establish partnerships because they lacked the time, capacity, or opportunity to engage in community public relations.

Partnership Support for Business Leaders

Unlike the findings for school principals, our results demonstrated that the network positions of business leaders impacted their ability to secure educational partnerships. For businesses, their organizational purpose goes beyond generating profits for their shareholders. It includes a range of benefits and activities (such as educational outreach) that its stakeholders value (Bhattacharya et al., 2009). As such, their organizational mission and vision are more significant than any one person, and as staple members of the community, businesses have a personal stake in the success of their local schools (Badgett, 2016). However, central business leaders have more connections to community members and have more opportunities to promote their organizational mission. As school stakeholders become aware of businesses with organizational missions that mirror their own, they initiate educational partnerships.

Unfortunately, noncentral business leaders are inhibited from translating their organizational mission into partnerships because schools may need to be aware of their corporate mission. Because of limited opportunities to engage with educational stakeholders, these peripheral business leaders must rely on prominent individuals or organizations in the network to communicate their organizational mission and facilitate partnerships. The findings are the partnership support systems for businesses or organizations in the educational partnership network.

The Chamber of Commerce. Of the three business leaders interviewed, only Business Leader #1 (Node #16) was in the top ten of the most central nodes in the partnership network. Interestingly, her employer was the second-most central organization in the partnership network, and her official job title was Community Relations Manager. The company she worked for was the local hospital representing the county's largest employer, employing over 2000 workers and admitting approximately 18,000 patients (about the seating capacity of Madison Square Garden) a year. However, when asked about receiving support in getting connected to schools, she did not mention other hospital leaders in the organizational hierarchy. She first mentioned the local chamber of commerce. For Business Leader #1, the Chamber of Commerce has done an excellent job of engaging the school system and making the school system available to the business community. They are an excellent conduit for businesses and routinely keep her updated with the school system's priorities while balancing the chamber's organizational goals.

Along with the support from the chamber of commerce, she mentioned two staff members from the school district's central office: the Career, Technical, and Agricultural Education (CTAE) Director and the Coordinator of Innovative Partnerships. The CTAE Director oversees work-based learning for the school district, and the Innovative Partnerships Coordinator

is the school district's liaison to the business community. For Business Leader #1, the Innovative Partnerships Coordinator (IPC) brings immeasurable value to the educational partnership network. Since strategic partnerships are her primary responsibility, the IPC has an incredible ability to understand what she can get from the business community and how that can positively impact the students in the school system. Additionally, an engaged CTAE Director connects the school system to the business community. CTAE students hope to gain industry-specific skills to compete more in the global marketplace. The CTAE Director has the pulse on what credentials and qualifications businesses seek in future employees. Business Leader #1 depends on the school system's CTAE department to provide a steady stream of prospective employees for a hospital looking to train and recruit future workers.

School-Level Support. Business Leader #2 mentioned school-level representatives as the most supportive component of partnership engagement. For her, representatives from the schools themselves have been most influential in connecting her organization, and those school-level representatives are not necessarily the schools' principals. According to Business Leader #2, if somebody from the school is not asking for her executive presence, expertise, or assistance, she does not know that she needs to be at a specific place at a specific time. Business Leader #2 is a mid-level manager in the manufacturing industry and is less central in the partnership network than Business Leader #1. She has limited interactions with the chamber of commerce and the school board, so her pathways to school partnerships occur through school-initiated requests or by referral through coworkers. Usually, she works with elementary, middle, and high-school students on one-off events developed through mutual leadership on both ends (the school and the company). However, Business Leader #2 is also an active alum of her undergraduate university. She has access to other mentorship opportunities through her alum network for high-school

students interested in engineering pathways. However, the partnerships are facilitated through the university instead of her company or the local school system.

District Level Support. Business Leader #3 is a 100% volunteer, non-profit board member. He follows the most responsive opportunities, not those demonstrating the most need. Business Leader #3 mentioned the Innovative Partnerships Coordinator (IPC) as the only resource he uses to get his organization connected with schools. He and the IPC have an authentic relationship outside of the school system, and the IPC typically helps him access the most appropriate teacher to connect with the school system at large. For Business Leader #3, his efforts at other school systems need a single point of contact who understands how his organizational mission can support their educational mission. The mission for Business Leader #3 is tied to aviation careers, so his primary focus is on high schools with an aviation pathway. The IPC has consistently shown up as a responsive ally to Business Leader #3, so he continues doing business with her instead of establishing new relationships elsewhere. Unfortunately, every school with an aviation program is not a partner because his preexisting relationship with the IPC makes it easier to access schools through her. After all, they each understand the rules of engagement.

In summary, business leaders need either an individual (i.e., the Innovative Partnerships Coordinator) or an institutional (i.e., Chamber of Commerce) liaison to the educational partnership network, mainly if their job duties and responsibilities do not involve brokering new industry connections. Businesses operate in isolation, but a broker in the network can access those isolates and connect them to more central individuals or organizations in the network. Of note, the most central business leader (Business Leader #1) referenced several sources of network support for educational partnerships, whereas the two other business leaders had only

one reference point. Subsequently, Business Leader #1 (Node #16) had the highest indegree centrality, outdegree centrality, and betweenness centrality. Business leaders with a lower centrality must rely on one or two prominent nodes in the network to facilitate partnerships. This finding supports the notion in network literature that central leaders in an organization have more access to other resources and have more influence or power in the network due to their structural advantage (Wasserman & Faust, 1994).

The Innovative Partnerships Coordinator

The literature is sparse regarding the role of an Innovative Partnerships Coordinator (IPC), but in various scholarly works, the role is synonymous with a boundary spanner. The boundary spanner manages the internal constituency within the organization and represents the organization in a community of other organizations (Balkundi & Kilduff, 2006). In the educational leadership literature, the boundary spanner works among the central office, the schools, and the community partners to initiate new relationships and enable policy implementation (Honig, 2006). In this study, the role of the Innovative Partnerships Coordinator is to reach out to businesses and community organizations, and be the conduit, if those organizations try to contact the school system. Additionally, the goal of the IPC is to create an industry connection and understand the goals and needs of each partner organization. Once organizational goals and needs are identified, the IPC plugs the business into the appropriate person, school, or teacher within the school system, which might make a good partnership.

The IPC is a bridge builder. Bridge builders know how to connect like-minded people across organizations and connect them to innovative ideas and practices (Goldring & Sims, 2005). Out of all the study participants, the IPC had the highest outdegree centrality and the highest betweenness centrality. Those results demonstrate the power and influence of the IPC in

partnership development and the extent of her activities and engagement efforts in the educational partnership network. In response to RQ1, the IPC mentioned an advisory group of educators, business leaders, and other community members for a statewide scholarship program as the structure offering the most support in partnership development. For the IPC, the advisory board is supportive in any capacity, especially in fundraising. Advisory board members will return to their sphere of reference and make introductions or suggest somebody who might be a good contact. They represent a grand coalition of community members to use as a connection to all diverse types of resources that are needed for the program.

The IPC represents the intersection of the school district and the business community. Boundary spanners invariably have duties and responsibilities for at least two organizations (Honig, 2006). The duality of her community presence led to her having the highest individual centrality in the network. Also of note is that the IPC formerly served as the President of the local Chamber of Commerce for ten years, so she continually relies on those previous relationships to establish new ties with the school system. As the Chamber CEO, she built partnerships and relationships between businesses, community organizations, local elected officials, and public-facing organizations. When she retired from the chamber, the school district recruited her to come and fulfill the role of the IPC. Her previous and current relationship with the Chamber of Commerce has a direct influence on the school district's ability to develop educational partnerships because as school districts face policy demands that exceed their traditional capacity, they call on intermediary organizations like the Chamber of Commerce to help with policy implementation or resource allocation (Honig, 2004).

Motivation and Educational Partnerships

Active community engagement is central to strengthening the educational system and enhancing or supporting student learning outcomes (Krumm & Curry, 2017). For businesses, engagement through educational partnerships offers ways to address issues related to an ill-equipped future workforce and inadequate school funding (Hoff, 2002). Furthermore, businesses oriented toward corporate social responsibility prioritize building solid relationships with local schools (Bennett et al., 2014). However, partnerships dissolve because of limited program evaluation, overreliance on critical roles, and an inability to navigate cultural and communication barriers (Bennett et al., 2014). These barriers to entry of educational partnerships led to RQ3, which asked, “*What do you perceive as obstacles or challenges that make it difficult to partner with schools or businesses in the area?*” The answers to this question are summarized below and led to the researchers uncovering the motivation of entities entering and staying engaged with educational partnerships.

Principals’ Motivations

Prior Partnership History. According to the results, school principals are motivated to engage in educational partnerships with businesses based on the resources they provide, their preexisting network relationships, and the community engagement goals outlined in their school improvement plans. Principal #1 mentioned that it is easier to collaborate with businesses that initiate partnerships because they have prior histories of partnership activity with his school. Businesses and organizations with an ardent desire or initiative to partner with schools are an easier collaboration for principals who lack the time and resources to cultivate new network relationships. This is especially true for businesses with preexisting relationships with school principals. For Principal #1, previous administrations formerly partnered with local churches, so

he just continued those relationships already established in the community. As a newer principal with limited guidance on navigating external partnerships, he relied on the school's history with its community stakeholders to steer his partnership outreach efforts.

School Improvement. Stakeholder engagement is an essential component of every principal's school improvement plan, but Principal #1 used the basis of school improvement to strategically expand his school's partnership network. He collaborated with his assistant principal to intentionally tap into the businesses of the families who attended his school. Families attending his school are already invested in its success, so leveraging their business expertise brings them new customers and involves them in crucial school processes and events, indicators of school improvement. Parent engagement was integral to Principal #1's school improvement plan that cited low parental involvement as a root cause of inadequate school climate and culture. However, time was a significant inhibitor of his partnership engagement efforts. Principals must be very intentional with how much time they put into building relationships with different partners. Principals are pulled in multiple ways. They are focused on instruction, their teachers, student achievement, and their families, so they need to dedicate additional time to focus specifically on stakeholders, which they often do not have.

Academic Enrichment. Principal #2 mentioned that schools initiate partnerships due to the industry expertise businesses offer as an extension of the school's core academic subjects. Principal #2 shared instances where the outreach for the partnership began with the school itself. It usually came from a specialty or a subject area that businesses can bring as a benefit to their students or to the school itself. At her school, she offers an embedded STEAM (Science, Technology, Engineering, Arts, and Mathematics) curriculum to a select cohort of students in grades 6 – 8. Due to the program's emphasis on technology, arts, and engineering, many

outgoing partnership requests involved businesses with competencies in those areas. As a result, most of her active partnerships were cultivated through the STEAM program by her STEAM teachers. However, like Principal #1, Principal #2 used the mandate for stakeholder engagement to expand her partnership network by including the parents of students in the STEAM program who work in STEAM careers. These parents supported the STEAM program by donating supplies, judging competitions, volunteering as guest speakers, and mentoring students with expressed interests in the STEAM industry. For Principal #2, her primary interest in partnerships lies in her desire to enhance her academic programs, strengthen her STEAM initiatives, and engage her stakeholders as an extension of the school improvement plan.

Meeting Student Needs. COVID-19 has centered on students' social, behavioral, and mental needs for the past three years. Fortunately, for all three principals, local churches and religious organizations increased their partnership with schools despite rigid social distancing mandates and COVID-19 protocols. For Principal #2, churches played a massive role in partnerships with schools without a noticeable decrease in partner interaction or engagement. Principal #3 echoed similar statements of sustained collaboration with local churches. Churches were instrumental in donating supplies connected to students' needs. COVID-19 heightened student equity issues, and churches responded to the crisis by contributing ample student supplies and resources. Church partnerships even thrived at the elementary level, and they usually attended to and provided for all the students' needs.

Churches responding to communities in crisis speak to the service orientation of religious organizations and the bridging capabilities of faith-based leaders. According to social capital theory, bridging networks are characterized by diverse ties and resource heterogeneity, which can facilitate access to better resources and better outcomes for disadvantaged group members

(Lin, 2000). Principal #3 leveraged her connection to a local church pastor to address the needs of her underserved student population. She contacted him to feed Hispanic families at her school during COVID; he had people from his church help and assist.

COVID-19 Implications. In the past three years, the COVID-19 pandemic has severely impacted the ability of principals to engage their stakeholders with fidelity. During the initial outbreak in the Spring of 2020, COVID was the biggest obstacle to partnerships, mainly because people could not come into the school buildings. Social distancing measures and various COVID-19 protocols restricted school personnel from leaving the building to establish community relationships. Principal #2 acknowledged losing some partnerships because of the pandemic. She had some opportunities that were in development, but they eventually fell through because she could not schedule partner visits. For Principal #2, the lack of partner engagement was also a prohibitor in school branding and promotion.

Compounding the COVID issue was the economic issue of employee turnover. Several partnerships failed due to their success hinging on one person, and if that person left, the partnership wholly dissolved. If the partnership did not dissolve entirely, each organization's level of engagement or interaction was reduced. Principal #3 mentioned how a major restaurant chain replaced its popular spirit night program with gift bags and promotional materials. Before COVID-19, the spirit night was a celebrated semi-annual school fundraiser, but due to pandemic protocols and reduced organizational capacity, it devolved into a singular act of charitable giving. All the principals interviewed feel like they have yet to fully recoup all their former partnership alliances since the emergence of COVID-19. They have had ebbs and flows in relationships with partners because sometimes they are hugely connected to specific individuals in those positions, as opposed to the larger organizations. Principal #2 elaborated:

Sometimes you will get a good connection, and once that person leaves, it interferes with the collaboration that you have with the school. It is best to try to bridge that wider relationship within that organization, if possible. As opposed to with one person who is responsible for everything that you do with that partner.

Because the COVID-19 pandemic disrupted the supply chain, school districts tried to leverage their educational partnerships to supplement any budgetary or proprietary shortages they may have faced. COVID-19 forced some school principals to adjust their expectations of stakeholder engagement and allow for a more flexible model that accounted for staffing changes and reduced organizational capacity. However, for Principal #1, COVID-19 forced him to embrace more stakeholder engagement instead of less. According to him, the pandemic created an influx of people wanting to support schools. For many community members, the time away from schools spurred their desire to get back into the schools and provide support and assistance to the schools' most vulnerable population: the students.

Obstacles for School Principals. While Principal #3 experienced successful collaborations with churches and small businesses, she expressed frustration with coordinating elementary schools partnering with larger businesses or corporations. From her perspective, most businesses want to partner with older middle and high school students because they better understand the academic content. Kindergarteners can cook and do little things with the cafeteria staff, which is not conducive to a business partnership. For Principal #3, most organizations cannot accommodate 125 little kindergarten students on a field trip. She alluded to the preferences of industry partners to engage with secondary students because of a more appropriate curriculum and their commitment to work-based learning and workforce development. Elementary school partnerships need to make sense for corporate outreach efforts.

Partnership Competition. Since elementary schools outnumber middle and high schools in the county, schools compete for the same partnerships. Once COVID-19 is accounted for, businesses are at capacity. From the business perspective, business leaders must be selective if fourteen elementary schools request partnerships instead of five middle or five high schools. Industry selectivity can leave some schools on the losing end of educational partnerships, particularly at the elementary level. Also, if several schools are clustered together and close to a neighboring business, an increased level of selectivity may occur there too. In any case, schools facing challenges in partnership development can rely on the school district's Innovative Partnerships Director to facilitate those relationships. As stated, the IPC's role is to bridge the gap between school and business leaders and create connections where both parties have mutually aligned goals. However, all schools do not feel supported by the IPC.

Lack of Support. While Principal #2 (a middle school principal) could lean on the IPC for assistance with industry partnerships, Principal #3 felt unsupported by the IPC and the district central office in partnership development because of perceived deference to the needs of secondary schools. Principal #3 specifically identified a need for more partnership support for elementary school principals but also raised the issue of unclear partnership expectations. For Principal #3, businesses that donate gift cards or other items do not constitute an educational partnership. In a true partnership, students can learn from business, and everyone can grow in that manner, either as educators or as students. Principal #3 referenced how the concept of assembly lines is embedded in fifth-grade social studies standards. If she partnered with a neighboring production factory, her teachers could schedule field trips to see how it operates, and the students could gain exposure, knowledge, and skill from the business. Unfortunately, she does not have a business that partners with her to offer anything substantial to the students. It is

always a give-back or a charitable donation. In her eyes, it is not a true partnership. However, this may be the reality for businesses that COVID-19 has impacted. They cannot return to their pre-COVID partnership engagement efforts, so they have scaled back their community outreach initiatives' quality, quantity, and intensity.

Business Leaders' Motivations

Workforce Development. For Business Leader #1, educational partnerships are guided by work-based learning and workforce development initiatives. As the Community Relations Manager at the local hospital, her primary roles and responsibilities are to manage, oversee and develop community partnerships for the communities she serves. Not only does she create healthcare partnerships with organizations that help in the social determinants of health for the community, but also business partnerships, partnerships with the school system, and civic partnerships with elected officials and civic leaders in the community. Her roles within the organization, and the overarching mission of the hospital itself, demand that she has a more considerable responsibility to the community's constituents. As part of their 2022 Community Health Needs Assessment, one of the organizational priorities of the hospital is to "ensure affordable access to health, mental, and dental care." For Business Leader #1, this can be achieved by a commitment to training future healthcare workers by providing "health professions education to students to further build the workforce" (2022 Community Health Needs Assessment).

The pandemic raised the collective awareness of community health, and local hospitals and healthcare organizations led the charge in advocating for student health and safety. For some organizations, the motivation to partner with schools is embedded in the organizational mission, vision, and the services they provide. For Business Leader #1, the school system continued to be

a key partner for the hospital for many reasons—one, just for the health and wellbeing of the students. Additionally, the school system and the hospital are the number one and number two largest employers in the county. Hence, their decisions have significant implications for the rest of the community. However, for Business Leader #1, the biggest goal for the partnership with the school system is the workforce development initiatives that are part of her oversight and what she does in her position.

It is more impactful and advantageous for the local hospital to partner with the entire school district instead of individual schools. The pandemic challenged them to shift their delivery model to accommodate more schools and students, which is why a system-wide approach to partnerships makes sense. In one instance of a system-wide partnership, the hospital organized a vaccine initiative for all the teachers at all the schools. This program reinforced the hospital's position as a pillar in the community and emphasized that they are a resource for all schools, not just some schools. Business Leader #1 underscored that she does not choose individual schools to partner with because she wants to serve all of them equally. If she picks one, she must choose them all. She tries to support the school system uniformly and for that to then trickle down to the individual schools. However, the trickle-down approach to partnership seems to work for community-embedded individuals like Business Leader #1, who serve on various committees, boards, and organizations in the surrounding area. Because of her presence on those committees, she has timely access to school system-related information and anyone else on the committee. Central figures like Business Leader #1 have opportunities to be early adopters of information. In contrast, other business leaders not as central in the partnership network rely on sporadic individual relationships to navigate educational partnerships.

Company Culture. Business Leader #2, an Advanced Quality Engineering Manager in the manufacturing industry, relied on recommendations from her coworkers to coax her into student mentorship. She noticed that several of her coworkers were already participants in the school system's scholarship program as mentors, and they recommended her to be a mentor as well. That is how she initially mentored middle school and high school students. For Business Leader #2, the company culture fully embraced staff furthering their education, engaging in youth mentorship, and recruiting diverse talent. According to her company's 2021 Sustainability Report, the philosophy of employee engagement outside of work is rooted in community service:

We also reached out to our local communities, helping them to become more vibrant places to live and work. With...sites around the world, we have remarkable opportunities to support what matters most to our employees. We encourage local involvement, believing that doing so creates healthy, sustainable communities.

This organization also allocated funds to support local community initiatives. They donated approximately "\$9 million in charitable contributions around the world, with 75% supporting health and human services; 20% targeted to education; and the remaining 5% given to civic, cultural, and other organizations" (2021 Sustainability Report, p. 24). For Business Leader #2, the partnership with the school district is a natural extension of her organization's orientation towards corporate social responsibility. In her organization, company performance and shareholder value are driven by environmental, social, and governance actions that improve the quality of life and the environment (2021,) which is central to the company's mission and vision.

Mission and Vision Alignment. Business Leader #3 is a management consulting entrepreneur and a Commemorative Air Force (CAF) regional board member. For him, the motivation to engage in educational partnerships is aligned with the organizational mission of the

CAF. The Commemorative Air Force is a flying museum and aviation organization oriented towards two missions. The first is to *Educate, Inspire, and Honor*. The CAF is a patriotic service organization, but its' primary mission is to inspire the next generation of pilots, mechanics, and citizens. In that regard, the target audience is K-12 schools with aviation pathways. CAF members also work with high school and middle school history teachers to support them in their teaching of World War II history. This finding supports Principal #3's assertion that there is a preference for organizations to collaborate with secondary schools (grades 6 – 12) instead of primary schools (grades K-5). In secondary schools, the emphasis on college and career readiness, graduation pathways, and workforce development is a natural fit for specialized industry collaborations like the CAF. However, those collaborations are contingent upon central leaders that can broker responsive connections between organizations.

According to Business Leader #3, it took him several years to understand how to work with schools as a nonprofit organization. For him, accessing a decision-maker who made it efficient for the CAF to work with multiple schools across the school system was always challenging. Like many organizations, he had some success working with one or two schools because there were one or two passionate teachers he connected with. However, he understood that for his organization to succeed, he needed to connect with all schools to deliver the mission efficiently. Analogous to Business Leader #1, Business Leader #3 saw a system-wide partnership with the entire school district as more practical than a few sporadic partnerships with individual schools. He wanted to increase the effect size of his organizational mission and impact more students; however, he was less central to the educational partnership network than Business Leader #1. Because Business Leader #3 was disconnected from other partners in the network, he

exclusively relied on the school district's Innovative Partnership Coordinator (IPC) to facilitate those partnerships.

Inconsistent Network Access. A genuine willingness to engage with schools does not necessarily translate into successful partnerships with schools, and for Business Leader #2, conflicting expectations and communication barriers often disrupt partnership activities. According to Business Leader #2, people's different expectations of working together are the most tricky, challenging part of the collaboration, in addition to clarity and open communication about how you plan to work with each other. Whereas Business Leader #1 relied on the school district's IPC to connect her organization to different schools, Business Leader #2 relied on individual connections within the company to facilitate educational partnerships. There was no top-down approach or single point of contact within the company to endorse the partnerships, leading to inconsistency in partnership success. Each employee had to find their access point for school partnerships. That often came from peer recommendations or individual school requests if an employee was a parent or connected to a particular school. Business Leader #2 shared:

If there is not a point of contact to be leading it, then it is very hard to get involved in the community even though there are so many different schools... So, if there is a point of contact, it is very easy to work together. If there is not, then there is a lack of leadership there, and, you know, people might drop the ball working with each other. People might have great ideas and have programs to work together, but there is just not somebody in place to make it happen.

For Business Leader #2, partnerships failed due to a lack of communication, a lack of leadership, and a lack of purpose. For individual business leaders in the partnership network, the absence of

a central authority figure facilitating partnership activities is a critical miscalculation for both parties.

Dependence on Central Leaders. While every middle and high school in the state teaches World War II history, not all are aware of the resources the CAF provides. For Business Leader #3, because he solely relied on the IPC or a few schools with an aviation pathway for network connections, the only partnerships available to him existed already. Business Leader #3 had challenges forging new partnerships and expressed frustration with establishing new connections, especially if schools needed to be more responsive or aware of his organizational mission. As a 100% volunteer organization, new partnership opportunities boiled down to how much time was available in that outreach effort. He followed the teachers and opportunities that were the most responsive, and as a nonprofit organization, he built on successes rather than trying to solve every problem. In other words, he leaned heavily on his preexisting relationships when new opportunities fizzled out. As an organization on the network's periphery, Business Leader #3 not only depends on the IPC to connect him to appropriate schools but also on her to communicate the CAF mission, vision, and benefits to potential allies in the network. However, because of the nature of IPC's job and the number of partners she is accountable to, she might not consistently articulate the mission with fidelity, especially if aviation careers or World War II history is not a current priority for the school district.

Conflicting Organizational Priorities. As alluded to earlier, noncentral business leaders and organizations depend on an individual (the IPC) or an organizational (Chamber of Commerce) liaison to function as a bridge between partners. Where the IPC may need to catch up in supporting organizations on the periphery, membership in the Chamber of Commerce may give organizations the promotional boost they need to raise their network profile. However,

chamber membership only sometimes translates into organizational benefits. Business Leader #3 considered whether a continued chamber membership was worthwhile for his organization. He shared that he has had limited experience facilitating access to educational partners with the Chamber of Commerce. As an active board member of a nonprofit organization, he is trying to understand how to leverage the chamber membership to be more effective. Even though the Chamber of Commerce is active, given limited time, he wants to ensure he invests his time in events that support the mission instead of supporting unrelated ribbon-cutting ceremonies.

The organizational priorities of the Chamber of Commerce can run counter to the organizational priorities of individual businesses and organizations. In those cases, business leaders cannot utilize chamber membership as a gateway to effective educational partnerships. The chamber represents 15-18% of the total employers in their footprint, but business leaders must be innovative about where they put their time. For Business Leader #3, he understands businesses have minimal volunteer hours available. If that time supporting the chamber event does not support the mission, leaders need to understand that and understand what the tradeoff is. Since they are not getting paid for it, volunteers are not realtors who might get a sale from a relationship they develop. “We are a nonprofit, so we are about the mission. Our currency is time.”

Summary

In summary, school and business leaders’ motivation to facilitate educational partnerships is grounded in collective community advancement. Principals rely on educational partners to supplement limited school resources, enhance academic curriculum, and engage with community stakeholders in alignment with school improvement and reform initiatives. Central principals in the partnership network are highly visible in the community and strategically

engage with influential stakeholders and public-facing organizations to acquire new partners. Principals with lower network centrality can leverage their prominent academic or nonacademic programs to entice industry collaborations. However, school leaders without a signature program can call on central office leadership or their local chamber of commerce to facilitate educational partnerships.

Unfortunately, school leaders need help in partnership development. Secondary school partnerships (grades 6-12) are preferred to primary school partnerships (grades K-12) because the nature of the middle and high school is more suited to career readiness and workforce development. Industry partners are more likely to work with older students because their skills, abilities, and curriculum content are more applicable to their current professional practice. Additionally, due to school administrators' overwhelming priorities, they routinely rely on their staff, parent-teacher organizations (PTOs), and community stakeholders to initiate educational partnerships. However, limited time, diminished organizational capacity, and ineffective leadership can all impair partnership development efforts. Furthermore, complications due to the COVID-19 pandemic and various social distancing protocols have reduced industry collaborations with K-12 institutions.

Despite the complexities brought on by the pandemic, some organizations maintained or even furthered their community engagement efforts with schools. Businesses and organizations with service-oriented missions, visions, and value statements continued to engage in outreach initiatives that successfully delivered their mission to students, teachers, and community stakeholders. Organizations committed to corporate social responsibility understood the need to pivot during a pandemic and increase shareholder value by collaborating with K-12 institutions to promote community viability and sustainability. Additionally, businesses looked to invest in

school districts to train and recruit a talented workforce, ensuring that students enter the marketplace with skills and abilities to make them globally competitive. However, from the business perspective, educational partnerships can be disrupted by conflicting organizational priorities, inaccessible network connections, and limited organizational capacity to manage the collaboration.

Businesses operate in isolation, and isolated businesses must rely on prominently connected individuals or organizations in the network to facilitate partnerships. In this study, the school district's central office employed an Innovative Partnerships Coordinator (IPC) as a liaison to the business community to connect schools to industry partners. However, according to the principals, the IPC was not equitable in supporting every school's community outreach design. Because the IPC's role is tied to work-based learning programs, student internships, and scholarship initiatives, the bulk of her time is perceived to be spent at secondary schools instead of primary schools, so elementary school principals feel unsupported by the district in their partnership development efforts. Additionally, the IPC has limited interactions with mid-level managers or entry-level workers in businesses, so some employees would not know whom to refer to if they wanted to get involved with the local school system.

The local chamber of commerce was seen as another community resource businesses could rely on as a liaison to the K-12 school community. Unfortunately, the chamber of commerce has its own organizational goals and objectives, which may contradict the missions and visions of businesses seeking school partnerships. Furthermore, school principals do not frequently interact with chamber members, so they may be unaware of the chamber's mission, vision, or organizational priorities when they engage them for partnership opportunities. For businesses, chamber membership does not automatically elevate a business' network profile, so

business leaders must decide if an alliance with the chamber of commerce will result in their desired partnership results. The Chamber of Commerce and the school district's Innovative Partnership Coordinator are dynamic resources available to school leaders and business leaders to facilitate educational partnerships. However, altruism and a desire for partnership cannot guarantee its success.

5 DISCUSSION

Summary of Findings

This study's findings support that social network position impacts a principal's ability to access educational partners. Principal social network position was determined by their in-degree centrality (network popularity), their out-degree centrality (network activity), and their betweenness centrality (network influence), and the results indicate that for both school and business leaders, network popularity, activity, and influence all affect their ability to develop educational partnerships. Secondly, this study's findings confirm that principals rely on formal and informal network channels to facilitate educational partnerships. Formal network resources such as the school district's central office, local civic organizations, and the county chamber of commerce were all used to access educational partners and informal familial or collegial network relationships. Lastly, the findings of this study demonstrate that the motivation for school leaders and business leaders to enter educational partnerships is misaligned. While initially, both parties may desire collaboration for different purposes, a globally disruptive event like COVID-19 forced organizations to consolidate resources and establish partnerships for similar reasons. A thorough discussion of the findings and their implications is discussed in the following sections. The three research questions all consider different aspects of educational partnerships. They offer school principals and business leaders insight into how they can use the formal and informal ties in their networks to develop effective collaborations. The conceptual framework contributes a theoretical lens to view partnership activities and places the findings against similar work in the area.

Network Position

Principal Centrality. First, through the lens of network position, we discovered that organizational centrality is more significant for educational partnerships than individual centrality. In other words, the reputation or appeal of the school itself is more impactful in developing educational partnerships than the principal leading it. According to the social network results, Principal #1 was the only principal in the network's top ten most central nodes, whereas three of the top ten most central nodes belong to individual schools. Secondly, two of the three most central schools in the partnership network have signature academic programs that are unique and distinct to their school. This supports the notion of Principal #2, who stated that most of her school partnerships had been realized through her STEAM program by her STEAM teachers.

Special school programs, effective teachers and staff, and relevant academic standards can elevate the organizational centrality of a school beyond the reach of the individual school principal. Firms partner with firms instead of individuals, and the distinction is more pronounced for schools with a strong community reputation and an orientation toward workforce readiness. Furthermore, two of the three most central schools in the network are middle schools, which corroborates Principal #3 that industry collaborators prefer to work with secondary schools instead of primary schools because of the emphasis on workforce development and more applicable academic standards.

However, this does not account for the centralized position of Principal #1. Principal #1 was continually active and visible in his school community. He attended school board meetings, visited local church services with his staff, and engaged with various civic groups in his community. He regularly interacted with central office personnel, school board members, and

Chamber of Commerce representatives in formal and informal settings. He was the youngest and the only male principal in this study. However, he was still the only principal in the top ten of the most central nodes in the partnership network. From a network perspective, Principal #1 was embedded in several smaller networks that comprised the more extensive educational partnership network. His involvement with various stakeholders in the community raised his network profile and, by proxy, magnified his school's presence in the network. Due to his network affiliations, Principal #1 had the highest in-degree centrality (popularity), out-degree centrality (engagement), and betweenness centrality (influence) out of all the principals interviewed.

Furthermore, his affable personality likely influenced his network position. While principal personality traits were not considered for this study, school leader disposition has been shown to impact individual centrality. Extraverted leaders are more likely to be sought for and seek advice (Daly et al., 2014). His visibility in the community paid huge dividends because he was the most popular, influential, and active principal in the partnership network and leveraged that social capital to benefit the teachers and students in his community.

Business Leader Centrality. Like the findings for school principals, the organizational centrality of a business is more impactful to partnership development than the individual centrality of the leader representing it. School principals, faculty, staff, or even a school's parent-teacher organization are unlikely to know the founder/CEO of a global conglomerate. On a smaller scale, students are even less likely to know the names and faces of the leadership teams behind popular businesses. In a school ecosystem, most people recognize brands, not the individuals behind the brands. This is supported by the social network findings that list two businesses in the top ten most central nodes and only one business leader. As a result, business leaders mostly rely on the strength of their brand recognition (organizational centrality) to

facilitate partnerships with schools. However, to supplement brand recognition, active community engagement can raise the profile of a business in the educational partnership network. This centralized business leader is active on several interdisciplinary panels/committees. She strategically interacts with school board members, chamber of commerce members, and other local departments, programs, and authorities to strengthen her community footprint.

However, partnerships do not require highly centralized leaders to be impactful. Highly centralized leaders might overextend themselves in the pursuit of multiple partnerships. Especially in a post-COVID economy, lean businesses and organizations must maximize their time with partnerships by focusing on those relationships that align with their organizational mission or increase their shareholder value. Business Leader #3 advocated system-wide partnerships with school systems instead of piecemeal or ad-hoc partnerships with individual schools. Peripheral businesses in the partnership network may not have a direct connection to individual schools, and as a result, they default to partner with the school district itself.

The geographical proximity to limited schools or even the proximity to negatively perceived schools may encourage businesses to seek out a central partnership with the school system, which may allocate those business resources to a more favorable school in the community. Furthermore, the prominence and prestige of the school district may be more familiar to businesses in the community instead of individual schools, which speaks to the effect and the extent of institutional reputation in a community. Also, a district-wide partnership with the entire school system may be more practical for businesses without neighboring schools.

Summary. Individual centrality is less consequential for business leaders than for school principals. Principals assume the public face of their schools, but for business leaders, the brand

is the public face. Leaders come and go for businesses, but the brand remains, and partnerships are much more contingent on the brand's strength than the leader promoting it. Future research may consider how negatively perceived schools or branded businesses facilitate educational partnerships in a post-COVID educational environment.

Formal and Informal Network Ties

Principal Ties. School principals used formal and informal network connections to connect with educational partners. In the school system, principals have access to everyone under their supervision (faculty, staff, and fellow administrators) and those on the organizational hierarchy above them (central office personnel). In this study, principals explicitly referred to using their teachers, school leadership team, PTO members, school district's Innovative Partnership Coordinator, Superintendent's Office, and individual school board members as resources for partnership development. Outside the school system, principals referred to the local chamber of commerce, nonprofit groups and organizations, and personal family and friends as intermediary connections to business partners. Taken together, most of these are professional resources instead of personal ones. In other words, principals mostly rely on formal network channels to establish educational partnerships instead of their informal network channels. Ethically, it is sensible for principals to use professional means of acquiring partnerships because they do not want to do anything that might be interpreted as inappropriate.

Business Leader Ties. Business leaders also used formal and informal channels to connect with schools, often through formal methods. Business leaders mentioned school board members, the Innovative Partnerships Coordinator, the CTAE Director, the office of the Superintendent, teachers, parents, and college alumni associations as resources to facilitate school partnerships. The Innovative Partnerships Coordinator (IPC) was consistently named as a resource business

leaders relied on to connect with schools and was especially helpful for schools with lower centrality. The abundance of formal partnership channels indicates an open network structure characterized by a few central leaders and organizations. Central school leaders and business leaders in the same school district coexist in other community contexts and use those formal or informal settings to strengthen their network ties. Contrarily, peripheral school principals or business leaders must rely on an individual (the Innovative Partnerships Director) or organizational (the chamber of commerce) liaison to facilitate an educational partnership due to their lack of network connections.

Summary. Business Leader #3 asserted that an active chamber of commerce membership requires relationship maintenance. The chamber's potential network connections may be unavailable if those relationships are not maintained. Unfortunately, ties to a network liaison do not necessarily translate into educational partnerships. Prominent levels of trust and reciprocity characterize effective social networks, and while the school district in this study was a moderate size, the in-network relationships were highly reciprocal. This confirms the strong institutional reputation of the school system because the benefits of collaborating with the school district far outweighed the costs and discouraged any damaging partnership behaviors from business leaders.

Partnership Misalignment

According to the results, there needs to be more alignment between schools and businesses in their motivation to pursue partnerships. Schools primarily enter partnerships to support student needs, and the COVID-19 pandemic dramatically illustrated this necessity. Community institutions responded to the challenge and quickly mobilized resources to support students and their families. Schools also activated educational partnerships to address the parent engagement

mandate prevalent in many of their school improvement plans. When No Child Left Behind (NCLB) was reauthorized as the Every Student Succeeds Act (2016), schools had a legislative requirement to engage with parents and community stakeholders as a component of school reform. Lastly, schools look for businesses to strengthen their academic programs or bolster workforce development initiatives. This is especially true for elementary schools that vastly outnumber middle and high schools but do not emphasize career readiness, work-based learning, or global competitiveness, which is often promoted in secondary schools.

Unfortunately, for school leaders, businesses are not moved by school priorities. Student needs, school improvement, or academic enrichment mean little to businesses driven by maximum profit incentives. None of the business leaders interviewed mentioned school reform as a motivating force for educational partnerships. The most popular reason for businesses entering partnerships is workforce development. Businesses are very motivated to recruit, train, and retain a talented workforce, and school leaders must reconcile business needs with the needs of their schools.

Additionally, businesses must have the organizational capacity to contribute to school programs, the connections to facilitate partnerships, and a corporate mission or vision oriented towards community service to strengthen collaborations with schools. For businesses with core values and beliefs grounded in corporate social responsibility, the organizational mission endures regardless of who, where, or how it is received. Despite a global pandemic and a slew of disruptive COVID-19 protocols, Business Leader #3 said, “Our mission does not change just because you cannot visit the facility. Just because you cannot take a field trip, our mission remains the same.”

Theoretical Implications

This study is grounded in social network theory, a theoretical lens explaining social capital. Social network theory is a framework that examines the patterns and complexities underneath the surface of our social interactions. It is the science behind whom we are connected to in our formal and informal relationships and attempts to explain how information, communication, or resources are exchanged between actors in a social network. This study adds to our understanding of social networks or social capital by demonstrating that formal roles, titles, and responsibilities have little to do with why businesses engage with schools. A formal leadership title may increase partnership access but not increase partnership success. This is supported by Balkundi and Kilduff (2006), who found that an overreliance on formal authority roles may isolate leaders from innovative ideas and novel collaborations. In this study, school principals and business leaders were the principal actors in a network designed for educational partnerships. The research questions guiding this study involved the constructs of network position, structure, and motivation and explored how they each impacted the facilitation of educational partnerships. The results indicated that 1) network position is more significant for school principals than it is for business leaders, 2) an open network structure characterized by many formal ties can lead to highly reciprocal relationships, and 3) firms are motivated to partner for different reasons but a disruptive network event (like COVID-19) can unite organizations and consolidate partner resources under a common purpose.

The implications are that leaders and the organizations they are connected to within a network may elicit different responses from other network actors. Node-level characteristics such as in-degree centrality, out-degree centrality, and betweenness centrality are as relevant for organizations as for individuals. This is especially true for constructs like reputation, where the reputation of an organization's leader may be perceived in the network differently from the

organization's reputation. A great principal can lead an underperforming school, and an exceptional business can have poor leadership. While the two are related, they are also quite different, and adopting an organizational perspective through a node-level analysis can uncover relevant insights for a research team.

Secondly, network density is not a necessary ingredient for network reciprocity. This study recorded the network density as 0.071, but its reciprocity was 0.745. Previous research indicated that dense networks characterized by elevated levels of trust are highly reciprocal (Renzulli & Aldrich, 2005). However, in this study, a small, open network structure comprised of a few central leaders and mainly formal relationships was also highly reciprocal. Lastly, network motivation is dynamic. At any given time, an individual or organization may shift its desire to be a part of the partnership network, but the written results of a study only capture a moment in time. This is supported by Coburn et al. (2013,) who found that actors' motivation for collaboration may evolve due to various organizational and environmental conditions. Future research may consider a longitudinal social network analysis of educational partnerships to add to the descriptive works detailing network motivation.

Practical Implications

This study was written explicitly for K-12 practitioners focused on school improvement or school reform initiatives centered on stakeholder engagement. Additionally, this study was written for altruistic business leaders who work for organizations that believe in corporate social responsibility. The results of this study revealed several practical strategies that practitioners could use to aid in developing educational partnerships. School leaders have three main takeaways: 1) get more active in the community, 2) increase the prestige of their current academic or nonacademic programs and 3) develop an in-house stakeholder outreach team.

Principal #1 was the only school principal in the top ten of the most central nodes in the network. Principal #1 routinely interacted with school board members, chamber of commerce officials, and other influential community members. Highly central principals are also highly visible, so K-12 administrators must find ways to be accessible and noticeable in various community events. Visibility and engagement are indicators of leadership accessibility; without accessible leaders, partnerships flounder (Aidman & Baray, 2016). Secondly, school leaders must amplify their current programs' successes to increase awareness and desirability of their programs. School practitioners must find ways to craft compelling narratives of their schools so industry partners can find them, learn about them through the appropriate channels, and seek collaboration opportunities. Lastly, for school principals who need more resources or availability for public engagements, their school faculty, staff, and parent-teacher organization (PTO) are all capable agents for partnership development. Administrators should distribute leadership and assemble a team dedicated to community engagement to address any stakeholder commitments in their school improvement plans.

Several key outcomes are gleaned from this study's results for business leaders. Leaders need to: 1) strategically interact with school-district personnel, 2) align with the local Chamber of Commerce, and 3) develop a company culture that supports community outreach. Businesses need better organizational awareness of schools' operations, so leaders must strategically ingrain themselves in the K-12 community. Attending school board meetings, sponsoring community activities, and serving on various civic panels or organizational committees can help business leaders learn the lay of the land and the pulse of the school system. Business Leader #1 was the only Business Leader in the top ten of the most central nodes in the partnership network and was involved in many community organizations. Her district embeddedness raised her network

profile and made her one of the county's most popular and influential business leaders. Secondly, businesses may be isolated from schools or may not have the appropriate infrastructure to successfully engage with a public audience, so they may need to lean on an individual (school district representative) or an organizational (the Chamber of Commerce) liaison to collaborate with K-12 institutions. These liaisons speak the language of the school and may be better suited to facilitate educational partnerships than the business leaders themselves. Lastly, businesses may want to instill a company culture that celebrates employees for community engagement. Leaders modeling core values demonstrating corporate social responsibility speak volumes to employees harboring internal desires to serve their community. Business leaders would do well to leverage that resource into positive public relations for the organization.

Policy Implications

Social network literature is sparse regarding public policy and educational partnerships. As stated previously, public schools are legally required to engage with their community stakeholders through the Every Student Succeeds Act (2016). This federal legislation mandates that schools plan “effective parent and family involvement activities to improve student academic achievement and school performance, which may include meaningful consultation with employers, business leaders, and philanthropic organizations, or individuals with expertise in effectively engaging parents and family members in education” (2016). Schools are required by law to plan family and involvement activities that may include business leaders without any clear guidance on how they can successfully implement them. School districts need to strategically plan for opportunities for administrators to interact with community stakeholders in various settings and allow networking opportunities for all of those in attendance. The school district pays for an annual Chamber of Commerce membership, but all school leaders do not

attend the membership meetings. One recommendation would be to rotate school leaders to attend monthly chamber meetings and report back to each other during monthly administrative council meetings. A second recommendation would be for all school leaders to join a committee in a local civic organization to maintain visibility and accessibility in the community. A third recommendation would be to offer professional development to school leaders led by the Innovative Partnerships Coordinator or a comparable district representative on how to successfully engage with the business community. Policies that reinforce collaborative relationships among school principals, central office staff, and stakeholders from the business community should be considered. Separating school principals from supportive central office personnel may indicate organizational structures that divide instead of connecting administrators to the district office (Daly & Finnigan, 2010).

Limitations

There are several limitations related to this study. First, this study is bounded to a single school district south of a central metropolitan area. The school district's demographics are unique to that community, so there is a notable lack of diversity among school and business participants. Additionally, with only seven participants, there is a considerable lack of a sample size for future researchers to draw generalizations. Furthermore, all research participants did not complete the social network survey questions, so the research team had to proceed with incomplete network information. Due to partial network data, inferences based on the structure of partnerships may be limited. Without the full survey context, this study misses the complexity of tie-formation processes related to the outcomes described in the results. The size of the partnership network is another limitation. With only 53 nodes in the network and the majority

comprised of educational institutions, this study lacks the depth and breadth of similar studies in the educational partnership literature.

Suggestions for Further Research

More research is needed on the effect of boundary-spanning individuals and their impact on facilitating educational partnerships. Social network theory and this study suggest that boundary-spanning individuals (the IPC in this case) in education have a high degree and betweenness centrality. This means they have disproportionate connectivity and influence in the network. Also, they have no pressures or accountability demands required of other central office personnel. Future research can investigate the effectiveness of boundary-spanning individuals under accountability metrics comparable to other central office staff in leadership positions.

Corporate social responsibility centers altruistic business leaders in the educational partnership landscape. However, future research may consider how businesses with negative societal connotations interact with K-12 institutions. For example, if a newly developed Walmart displaced a cherished local convenience store, would it succeed in establishing partnerships with local schools? If a coal refinery or a nuclear power plant wanted to sponsor a school-related athletic event, would school leaders accept the charitable donation? Future research can investigate the morality and ethics of educational partnerships through an equity or social justice lens. Notably, future studies can explore how business executives mobilize resources to support public education despite a negative perception of their business or organization.

Business leaders' interest in workforce development initiatives warrants further investigation. Since businesses mostly rely on an individual or organizational liaison to the school system to establish educational partnerships, future research may consider the role of the school district's Career, Technical, and Agricultural (CTAE) or Career and Technical Education

(CTE) Director in the facilitation of partnerships. The goal of any CTAE/CTE program is to provide experiences for high school students that may influence their career path by providing more explicit connections to fields of employment than other high school courses (Leu & Arbeit, 2020). The charge of any director of a CTAE/CTE program is to design these college and career experiences for students with the business community's help, but this is absent from the network literature. Future research can explore how CTAE/CTE directors leverage their formal or informal networks to develop effective college and career-ready experiences for secondary students in a school system.

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APPENDICES

APPENDIX A

Social Network Survey Questions

1. To whom have you contacted to establish an educational partnership? (List as contacts as you can) (*accessibility*)
 - a. Business/School Name
 - b. Contact Person
 - c. Role

2. Please check the boxes that accurately describe the type of involvement you sought from each organization (select all that apply) (*embeddedness*)
 - a. Student-Centered: (*activities include those that provide direct services or goods to students, for example, student awards and incentives, scholarships, tutoring, and mentoring programs, and job shadowing and other career-focused activities*)
 - b. Family-Centered: (*activities such as parenting workshops, GED and other adult education classes, parent/family incentives and awards, family counseling, and family fun and learning nights*)
 - c. School-Centered: (*activities that benefit the school as a whole, such as beautification projects or the donation of school equipment and materials or activities that benefit the faculty, such as staff development and classroom assistance*)
 - d. Community-Centered: (*activities that have a primary focus on the community and its citizens, for example, charitable outreach, art and science exhibits, and community revitalization and beautification projects*)

3. For each partner listed, please describe how often you interact with them and how influential they are with your business/school operations. (*utilization*)
 - a. Interaction: (6-point Likert scale)
 - i. Yearly, semi-annually, quarterly, monthly, weekly, or daily
 - b. Influence: (5-point Likert scale)
 - i. 1) No influence 2) Limited influence 3) Moderate influence 4) Important Influence 5) Very important influence
4. Please check the boxes that accurately describe the relationship between you and the main contact person of the business/school (*embeddedness*)
 - a. Professional: (*you would consider this contact an acquaintance*)
 - b. Personal: (*you would consider this contact a friend*)
5. Please indicate the goal of this partnership
 - a. Academic outcomes: (ex: Student learning/achievement or skill development)
 - b. Non-academic outcomes: (ex: health, nutrition, safety, college, and career readiness)

APPENDIX B**PRINCIPAL INTERVIEW PROTOCOL**

Interviewer Script: *Hello, my name is Nateil Carby, and I am pursuing my doctoral degree in educational leadership at Georgia State University. Thank you for agreeing to participate in this study and offering your time. The purpose of my study is to explore how principals leverage their social capital to develop educational partnerships. I want you to feel comfortable sharing your experiences and thoughts about educational partnerships. I have an informed consent form for you which we will review prior to your signature. At any time, participants may withdraw from the study. This study has received IRB approval from Fayette County Public Schools and Georgia State University. During this study, I will be interviewing you and one educational partner whom you have identified. Because I want to gather your exact words and intent from our conversation, I would like to audio-record our conversation during the interview with your approval. Later, you will be asked to review the transcript for any clarifications. Additionally, I will administer a survey to gather data concerning your social networks. To gain a holistic picture of your educational partnership practices, I will also review several documents related to this study, for example, mission and vision statements, School Improvement Plans, Accountability Reports, and meeting agendas and presentations.*

Do you have any questions before we begin?

Answer the participant's questions and begin with question 1:

At the end of the interview, close with a sincere thank you, indicating when you anticipate having transcripts available.

Interview Questions	Conceptual Framework Alignment	Research Question Alignment
1. Tell me about yourself.		Interview entrance Background knowledge about the participant
2. In the past three years, which businesses have you partnered with the most? How and why were those partnerships initiated?	Resource embeddedness; Resource mobilization; Network motivation; Network structure;	RQ1: How can school leaders use social capital to mobilize businesses in educational partnerships?
3. What do you perceive as obstacles or challenges that make it difficult to partner with businesses?	Resource accessibility; Resource embeddedness; Network structure;	RQ3: Was there a misalignment between school leaders and business leaders in educational partnership development? If so, to what extent?
4. What are some businesses in your community? Have you partnered with them? Why or why not?	Resource embeddedness; Resource accessibility; Network motivation; Network structure	RQ1: How can school leaders use social capital to mobilize businesses in educational partnerships?
5. As a principal, who or what has supported you or inhibited you the most in getting connected with businesses? Please explain	Resource mobilization; Resource accessibility; Network position; Network structure	RQ2: How did a principal's social network position affect their ability to access business partners in educational partnerships?
6. What opportunities are available to you to engage or interact with businesses?	Resource embeddedness; Resource accessibility; Network position; Network structure	RQ2: How did a principal's social network position affect their ability to access business partners in educational partnerships?
7. Can you describe the role of the chamber of commerce in the development of your educational partnerships? The Board of Education?	Resource embeddedness; Resource accessibility; Network motivation; Network structure	RQ3: Was there a misalignment between school leaders and business leaders in educational partnership development? If so, to what extent?
8. Has a business ever reached out to you to initiate	Resource embeddedness; Resource accessibility;	RQ3: Was there a misalignment between school

an educational partnership? If so, please describe that experience	Network motivation; Network structure	leaders and business leaders in educational partnership development? If so, to what extent?
9. How have you developed or maintained educational partnerships since the emergence of COVID-19?	Resource mobilization; Network structure; Network position	RQ1: How can school leaders use social capital to mobilize businesses in educational partnerships?

APPENDIX C

BUSINESS LEADER INTERVIEW PROTOCOL

Interviewer Script: *Hello, my name is Nateil Carby, and I am pursuing my doctoral degree in educational leadership at Georgia State University. Thank you for agreeing to participate in this study and offering your time. The purpose of my study is to explore how principals and business leaders leverage their social capital to develop educational partnerships. I want you to feel comfortable sharing your experiences and thoughts about educational partnerships. I have an informed consent form for you which we will review prior to your signature. At any time, participants may withdraw from the study. This study has received IRB (Institutional Review Board) approval from Fayette County Public Schools and Georgia State University. During this study, I will be interviewing you and five other educational partners who have been identified. Because I want to gather your exact words and intent from our conversation, I would like to audio-record our conversation during the interview with your approval. Later, you will be asked to review the transcript for any clarifications.*

Additionally, I will administer a survey to gather data concerning your social networks. To gain a holistic picture of your educational partnership practices, I will also review several documents related to this study, for example, mission and vision statements, Accountability Reports, and meeting agendas and presentations.

Do you have any questions before we begin?

Answer the participant's questions and begin with question 1:

At the end of the interview, close with a sincere thank you, indicating when you anticipate having transcripts available.

Interview Questions	Conceptual Framework Alignment	Research Question Alignment
1. Tell me about yourself.		Interview entrance Background knowledge about the participant
2. In the past three years, which schools have you partnered with the most? How and why were those partnerships initiated?	Resource embeddedness; Resource mobilization; Network motivation; Network structure;	RQ1: How can school leaders use social capital to mobilize businesses in educational partnerships?
3. What do you perceive as obstacles or challenges that make it difficult to partner with schools?	Resource accessibility; Resource embeddedness; Network structure;	RQ3: Was there a misalignment between school leaders and business leaders in educational partnership development? If so, to what extent?
4. What are some schools in your community? Have you partnered with them? Why or why not?	Resource embeddedness; Resource accessibility; Network motivation; Network structure	RQ1: How can school leaders use social capital to mobilize businesses in educational partnerships?
5. As a business leader, who or what has supported you or inhibited you the most in getting connected with schools? Please explain	Resource mobilization; Resource accessibility; Network position; Network structure	RQ2: How did a principal's social network position affect their ability to access business partners in educational partnerships?
6. What opportunities are available to you to engage or interact with school leaders?	Resource embeddedness; Resource accessibility; Network position; Network structure	RQ2: How did a principal's social network position affect their ability to access business partners in educational partnerships?
7. Can you describe the role of the chamber of commerce in the development of your educational partnerships? The Board of Education?	Resource embeddedness; Resource accessibility; Network motivation; Network structure	RQ3: Was there a misalignment between school leaders and business leaders in educational partnership development? If so, to what extent?

8. Has a school ever reached out to you to initiate an educational partnership? If so, please describe that experience	Resource embeddedness; Resource accessibility; Network motivation; Network structure	RQ3: Was there a misalignment between school leaders and business leaders in educational partnership development? If so, to what extent?
9. How have you developed or maintained educational partnerships since the emergence of COVID-19?	Resource mobilization; Network structure; Network position	RQ1: How can school leaders use social capital to mobilize businesses in educational partnerships?

APPENDIX D**CHAMBER OF COMMERCE MEMBER INTERVIEW PROTOCOL**

Interviewer Script: *Hello, my name is Nateil Carby, and I am pursuing my doctoral degree in educational leadership at Georgia State University. Thank you for agreeing to participate in this study and offering your time. The purpose of my study is to explore how principals and business leaders leverage their social capital to develop educational partnerships. I want you to feel comfortable sharing your experiences and thoughts about educational partnerships. I have an informed consent form for you which we will review prior to your signature. At any time, participants may withdraw from the study. This study has received IRB approval from Fayette County Public Schools and Georgia State University. During this study, I will be interviewing you and five other Chamber of Commerce members who have been identified. Because I want to gather your exact words and intent from our conversation, I would like to audio-record our conversation during the interview with your approval. Later, you will be asked to review the transcript for any clarifications.*

Additionally, I will administer a survey to gather data concerning your social networks. To gain a holistic picture of your educational partnership practices, I will also review several documents related to this study, for example, mission and vision statements, Accountability Reports, and meeting agendas and presentations.

Do you have any questions before we begin?

Answer the participant's questions and begin with question 1:

At the end of the interview, close with a sincere thank you, indicating when you anticipate having transcripts available.

Interview Questions	Conceptual Framework Alignment	Research Question Alignment
1. Tell me about yourself.		Interview entrance Background knowledge about the participant
2. In the past three years, which businesses have you partnered with the most? How and why were those partnerships initiated?	Resource embeddedness; Resource mobilization; Network motivation; Network structure;	RQ1: How did a principal's social network position affect their ability to access business partners in educational partnerships?
3. What do you perceive as obstacles or challenges that make it difficult to partner with businesses?	Resource accessibility; Resource embeddedness; Network structure;	RQ3: Was there a misalignment between school leaders and business leaders in educational partnership development? If so, to what extent?
4. As the Innovative Partnerships Coordinator, who or what has supported you or inhibited you the most in getting connected with schools? Please explain	Resource mobilization; Resource accessibility; Network position; Network structure	RQ2: How did school principals use formal and informal ties in their network structure to cultivate educational partnerships?
5. What opportunities are available to you to engage or interact with school principals? Business leaders?	Resource embeddedness; Resource accessibility; Network position; Network structure	RQ2: How did school principals use formal and informal ties in their network structure to cultivate educational partnerships?
6. Can you describe the role of the chamber of commerce in the development of educational partnerships? The Board of Education?	Resource embeddedness; Resource accessibility; Network motivation; Network structure	RQ3: Was there a misalignment between school leaders and business leaders in educational partnership development? If so, to what extent?
7. Has a school ever reached out to you to initiate an educational partnership? If so, please describe that experience	Resource embeddedness; Resource accessibility; Network motivation; Network structure	RQ3: Was there a misalignment between school leaders and business leaders in educational partnership development? If so, to what extent?

8. How have you developed or maintained educational partnerships since the emergence of COVID-19?	Resource mobilization; Network structure; Network position	RQ1: How can school leaders use social capital to mobilize businesses in educational partnerships?
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APPENDIX E**INNOVATIVE PARTNERSHIPS COORDINATOR INTERVIEW PROTOCOL**

Interviewer Script: *Hello, my name is Nateil Carby, and I am pursuing my doctoral degree in educational leadership at Georgia State University. Thank you for agreeing to participate in this study and offering your time. The purpose of my study is to explore how principals and business leaders leverage their social capital to develop educational partnerships. I want you to feel comfortable sharing your experiences and thoughts about educational partnerships. I have an informed consent form for you which we will review prior to your signature. At any time, participants may withdraw from the study. This study has received IRB approval from Fayette County Public Schools and Georgia State University. During this study, I will be interviewing you and five educational partners who have been identified. Because I want to gather your exact words and intent from our conversation, I would like to audio-record our conversation during the interview with your approval. Later, you will be asked to review the transcript for any clarifications.*

Additionally, I will administer a survey to gather data concerning your social networks. To gain a holistic picture of your educational partnership practices, I will also review several documents related to this study, for example, mission and vision statements, Strategic Plans, Accountability Reports, and meeting agendas and presentations.

Do you have any questions before we begin?

Answer the participant's questions and begin with question 1:

At the end of the interview, close with a sincere thank you, indicating when you anticipate having transcripts available.

Interview Questions	Conceptual Framework Alignment	Research Question Alignment
1. Tell me about yourself.		Interview entrance Background knowledge about the participant
2. In the past three years, which schools have you partnered with the most? How and why were those partnerships initiated?	Resource embeddedness; Resource mobilization; Network motivation; Network structure;	RQ1: How can school leaders use social capital to mobilize businesses in educational partnerships?
3. What do you perceive as obstacles or challenges that make it difficult to partner with schools?	Resource accessibility; Resource embeddedness; Network structure;	RQ3: Was there a misalignment between school leaders and business leaders in educational partnership development? If so, to what extent?
4. What are some schools in your community? Have you partnered with them? Why or why not?	Resource embeddedness; Resource accessibility; Network motivation; Network structure	RQ1: How can school leaders use social capital to mobilize businesses in educational partnerships?
5. As a business leader, who or what has supported you or inhibited you the most in getting connected with schools? Please explain	Resource mobilization; Resource accessibility; Network position; Network structure	RQ2: How did a principal's social network position affect their ability to access business partners in educational partnerships?
6. What opportunities are available to you to engage or interact with school leaders?	Resource embeddedness; Resource accessibility; Network position; Network structure	RQ2: How did a principal's social network position affect their ability to access business partners in educational partnerships?
7. Can you describe the role of the chamber of commerce in the development of your educational partnerships? The Board of Education?	Resource embeddedness; Resource accessibility; Network motivation; Network structure	RQ3: Was there a misalignment between school leaders and business leaders in educational partnership development? If so, to what extent?
8. Has a school ever reached out to you to initiate an	Resource embeddedness; Resource accessibility;	RQ3: Was there a misalignment between school

educational partnership? If so, please describe that experience	Network motivation; Network structure	leaders and business leaders in educational partnership development? If so, to what extent?
9. How have you developed or maintained educational partnerships since the emergence of COVID-19?	Resource mobilization; Network structure; Network position	RQ1: How can school leaders use social capital to mobilize businesses in educational partnerships?

APPENDIX F

REVIEW OF DOCUMENTS

Document	Conceptual Framework Alignment	Research Question Alignment
Organizational Mission and Vision Statement	Resource embeddedness; Network motivation;	RQ3: Where is the misalignment between school leaders and business leaders in educational partnership development?
Organizational Strategic Plan (School Improvement Plan)	Resource mobilization; Network position; Network structure	RQ2: How does a principal's network position affect their ability to access business partners in educational partnerships?
Meeting Minutes/Agendas	Resource accessibility; Resource mobilization; Network structure; Network position	RQ1: How can business/school leaders use social capital to mobilize businesses in educational partnerships?
Departmental Budgets	Resource embeddedness; Resource mobilization; Network mobilization;	RQ3: Where is the misalignment between school leaders and business leaders in educational partnership development?

APPENDIX G

Construct Definitions

Educational Partnerships

Educational Partnerships was defined as a partnership “involving interactions and relationships between a school personnel member (typically a teacher, administrator, or staff member) and/or students in a school setting and a community member or organization working towards academic or nonacademic outcomes” (O’Connor & Daniello, 2019, p. 298).

Social Capital

Social Capital is defined as resources embedded in one’s social networks, resources that can be accessed or mobilized through ties in the networks (Lin, 2001). Nan Lin’s definition of social capital was adopted in this study

Network Position

Network Position was defined as a position of power in a social network where individuals have the most significant access to informational or material resources (Moolenaar & Slegers, 2015). Both formal and informal networks were included in this study.

Resource Embeddedness

Resource Embeddedness refers to the valued resources ingrained within our social relationships represented by wealth, power, and status (Lin, 1982).

Resource Accessibility

Resource accessibility refers to individuals' ability to utilize social resources based on their network position. It is the extent to which a pool of resources is available (Lin, 2005).

Resource Mobilization

Resource mobilization is the intentional use of social resources by individuals within a social network (Lin, 1999). This is the actual use of a specific social tie and its resources for a particular purpose.