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2021

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**Getting Connected: Minority Group Membership and Implicit Theories of
Portfolios of Social Capital**

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**Getting Connected: Minority Group Membership and Implicit Theories of
Portfolios of Social Capital**

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Dissertation

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

In Partial Fulfilment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas at Austin

August 2021

Dedication

I would like to dedicate this dissertation to my family. First, to my Mom for her endless positivity and for giving me the confidence to know I can accomplish anything in life. Second, to my Dad for having the grit to pursue his Ph.D. and showing me what this career could look like with hard work. Third, to my sister for always providing much-needed encouragement and laughter. Finally, to Sandra, for being by my side throughout this entire academic journey. Through all of the ups and downs, she always being my biggest supporter and believing in me.

Acknowledgements

There are many people I would like to acknowledge. First, I am grateful for Emily Bianchi, my first academic mentor. Without her initial help and guidance, I would not have had the opportunity to pursue my Ph.D. Second, I am forever grateful to David Harrison, my dissertation chair. Not only has Dave provided the intellectual feedback that I needed to become a better scholar, but Dave was also truly a mentor in every sense of the word. He always challenged me to be better yet was always the first to have my back when I faced adversity. Third, I would like to acknowledge Steven Gray for being a supportive academic mentor and someone I could always run ideas by and count on receiving timely feedback. Fourth, I would like to thank Ethan Burriss for being a calming influence through it all and Sekou Bermiss for always having his door open to talk about anything.

I would also like to express my gratitude to both the former and current Ph.D. students in the Management Department at UT-Austin. I would like to thank Suho Han for always helping me keep things in perspective, Natalie Longmire for being my academic “big,” Sae Young Lee, for supporting me as only cohort members can from start to finish, Eugene Pyun, for being someone I could talk to about anything, Ed Shardlow, for providing much needed comic relief and encouragement, Kinde Wubneh, for providing critical feedback when I needed it, and Kendall Yamamoto, Jamie Strassman, and Min Ju Lee, for providing much-needed energy and positivity to our department.

Finally, words cannot express my gratitude for my family. I could not have made it through these past six years without the love and support of my Mom, Dad, Sister, and my fiancé, Sandra. Thank you all for reminding me who I was doing this for.

Abstract

Getting Connected: Minority Group Membership and Implicit Theories of Portfolios of Social Capital

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The University of Texas at Austin, 2021

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Social network theory posits that informal ties provide access to critical resources such as task knowledge, social support, or unique information that are essential for job performance and career success. Central positions in the social network or positions that bridge disconnected circles of individuals have been linked to important individual-level outcomes. Despite the benefits that advantageous positions in social networks have to offer, some individuals experience systematically greater difficulty in obtaining them. Prior investigations have found that individuals in minority groups are often pushed to the periphery of their social networks. Minority group members face unique constraints at the workplace due to the lack of similar others in the social environment. Thus, individuals in minority groups might have different ideas about how to develop and manage their social networks than their majority group counterparts. Overall, this dissertation attempts to understand the implicit theories behind how individuals form their informal ties at the workplace. I identify several parameters of individuals' implicit theories of social networks, and then compare how these parameters differ across individuals

from different identity groups. This dissertation provides an initial psychological account for how these implicit theories lead to an increased or decreased likelihood of tie formation. Overall, I find that minority group members are more likely to hold implicit theory sub-dimensions that center around trust and acceptance. These sub-dimensions act as selectivity filters that lead minority group members to reach out to fewer individuals because such individuals will only look to reach out to those who they believe will be accepting of them. Following a sample of MBA students (N = 195), I find initial support that minority group members have a different mental approach in constructing their overall portfolios of social capital.

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Chapter 1: Introduction

Perhaps more than ever, people read or hear about the importance of developing effective social networks. Whether it is through personal interactions or browsing a bestseller's booklist, individuals are constantly reminded that being well-connected is an important aspect of organizational life. Most individuals find their jobs through their informal networks. According to the annual Sources of Hire report, employee referrals accounted for more than 30 percent of overall hires and 45 percent of internal hires in 2016 (Society for Human Resource Management, 2016). Thus, individuals are likely to have some thoughts about how to form their social networks and which connections are worth having.

Social networks serve as important conduits to resources at the workplace because they provide essential task-related information, knowledge, and support to individual actors (Sparrowe, Liden, Wayne, & Kraimer, 2001). Instrumental (or advice) networks offer individuals the necessary expertise to solve problems, reduce ambiguity about job demands, and central positions in such networks have been strongly linked with higher job performance (Fang et al., 2015). Expressive (or friendship) networks offer individuals social support, expressions of interpersonal affect (Umpress, Labianca, Brass, Kass, & Scholten, 2003) and central positions in these networks have been associated with higher organizational commitment (Morrison, 2002). In sum, both types of social networks provide critical resources that boost both cognitive and affective functioning.

Despite the importance of having such networks at work, certain individuals experience greater difficulty in acquiring central positions in their social networks. Numerous scholarly investigations have found that individuals in racioethnic minority groups are often pushed to the

periphery of their social networks (Ibarra, 1995; Mehra, Kilduff, & Brass, 1998; Mollica, Gray, & Treviño, 2003). Individuals tend to display a natural preference for homophily and seek support from members of their own identity group (McPherson, Smith-Lovin, & Cook, 2001). Yet, this option is not readily available or even possible in organizations for some minority group members. Due to the lack of similar others, minority group members often experience heightened social identity threat and are consequentially pushed toward the periphery of their social network (Mehra et al., 1998). Furthermore, Ibarra (1995) found that minority group members did not derive the same benefits as their majority counterparts even when they shared the same informal ties in a given social network.

Open questions remain about how individuals in different identity groups perceive and react to their social structure. One potential explanation might be that individuals hold different mental models of how to form and maintain their social networks. In attempting to explain structural patterns of social exchange, network scholars have yet to examine how individuals *implicitly* think about managing their social capital in terms of where they should be in a network, which actors they should be connected to, or what considerations they have prior to forming an informal tie. Although there are descriptive (e.g., homophily) and normative (e.g., brokerage) theories of who individuals connect with, there is a lack of systematic understanding in the literature of how individuals think about managing their portfolio of social ties at work.

Although recent empirical works highlight potentially important antecedents of social networks, none of the existing investigations tackle the question of whether there is an *a priori* thought process that individuals have in general about how to form or maintain their social ties. Additionally, many social network investigations have often failed to look at how networks change and evolve over time (Emirbayer & Goodwin, 1994; Watkins, Simmons, & Umphress,

2019). In particular, little is known about how the psychology of individuals and the surrounding social structure co-evolve longitudinally (Casciaro et al., 2015). Furthermore, little is known about how individuals across identity groups interpret the received wisdom on how to form effective social networks. The longstanding question of whether minority group members stay in less advantageous network positions over time due to structural lockouts, or because they are psychologically inclined to remain unanswered. Organizations today are committing more resources to diversity and inclusion initiatives as part of their overall hiring and retention strategy (Glassdoor Report, 2017). Without a proper understanding of how individuals across different groups might implicitly think about managing their social ties at work, these organizational efforts might be futile, or at worst, counterproductive.

In sum, this dissertation addresses three types of research questions. I first address the *descriptive* question of what the parameters of individuals' implicit theories of social networks are. Although individuals might have some idea of who they should be reaching out to at the workplace, I attempt to provide a higher-definition understanding of what these theories might look like. I then shift to a *comparative* question of whether these parameters differ across individuals of different identity groups. Specifically, I propose that because minority group members face greater challenges in forming effective workplace social networks, they are likely to have more strategic and nuanced implicit theories of managing their social capital. Finally, I offer thoughts on the *normative* question of how these implicit theories might yield unique social capital and tie formation patterns. The practical implications of holding sub-optimal theories of networks are considerable given that social networks are highly predictive of individual effectiveness and eventual career success (Fang et al., 2015; Seibert, Kraimer, & Liden, 2001).

In the following chapters, I review the literature on social networks and develop theory to address the research questions. Chapter 2 presents a literature review of social networks and why minority group members are apt to form disadvantageous networks. In Chapter 3, I describe the qualitative investigation I used to uncover what the implicit theories are of social tie formation and build on extant literature to build theory. I then combine these qualitative findings with extant literature to build theory around these implicit theory dimensions.

In Chapter 4, I describe the instrument validation for my implicit theory measures. Chapter 5 outlines the method and describes the empirical study I conducted at a full-time MBA program to test my hypotheses of how minority group membership and implicit theories of social tie formation yield different returns on social capital. Finally, Chapter 6 discusses a summary of my findings and offers both theoretical and practical implications. I also address the limitations and directions for future research.

Chapter 2: Literature Review

Review of Social Capital

Individuals in organizations draw from different types of capital to achieve success in the workplace and further their career goals. For instance, individuals invest in their *human* capital or their knowledge, skills, and abilities (Coff, 2002) through formal education or professional training. In sociological streams of literature, scholars have predominantly focused their arguments on *social* capital. Many investigations have pointed toward the importance of social capital in explaining important individual-level outcomes including finding jobs (Granovetter, 1973), promotions (Brass, 1984), pay and compensation (Burt, 1997), innovation (Gabbay & Zuckerman, 1998), and career satisfaction (Seibert et al., 2001).

Although social capital shares similarities to other forms of capital, a key distinction of social capital is that it is not about an individual's features, personal traits, or accomplishments (Friedman & Krackhardt, 1997). Social capital differs from other types of capital in that it is contingent on the mutual commitment and cooperation of other actors (Coleman, 1988). That is, actors are not able to control their social capital in the same way that they control their human capital (Kilduff & Tsai, 2003) because social capital requires a level of mutual action from another social actor. Social capital theorists have highlighted how surrounding social connections help explain how individuals achieve performance in addition to a person's abilities or dispositions (Bowler & Brass, 2006).

Three scholars have heavily influenced how social capital has been conceptualized in organizations. Bourdieu (1986) believed that social capital enabled a person to exert power on group resources through "more or less institutionalized relationships of mutual acquaintance or

recognition.” Bourdieu viewed social capital as a property of the individual, and that individuals accrued social capital through investment and could transact social capital for other types of capital such as money. In sum, Bourdieu (1986) recognized that social capital was not purely economic, but that social exchanges could be reduceable to profit. Bourdieu’s primary arguments highlighted how social capital was not equally available to members of different classes, gender, or race.

Coleman (1988), on the other hand, viewed social capital as a public good where the actions of individuals could benefit a collective. Whereas Bourdieu believed social capital was a mechanism that reproduced social inequality, Coleman (1990) defined social capital as “a function of the social structure producing an advantage” and saw social capital as something that often benefitted the larger community. Coleman (1988) posited that there are three different types of social capital—obligations, information, and trust or norms—that facilitate action. In sum, he argued that social capital was a precursor to human capital.

Finally, Putnam (2000) defined social capital as the “features of social organizations, such as networks, norms, and trust that facilitate action and cooperation for mutual benefit.” This definition closely followed Coleman’s belief that social capital is a structural property that facilitates interpersonal cooperation, and that social capital worked mainly through norms of reciprocity. As such, Putnam famously reviewed in his book *Bowling Alone*, that Americans have become increasingly disconnected from their co-workers and neighbors, thus dropping the overall stock of available social capital.

Although many theories and definitions of social capital exist, the consensus among scholars is that the social capital metaphor stems from the social structure within which a focal individual is located (Adler & Kwon, 2002; Kilduff & Tsai, 2003; Lin, 1999). Most scholars

agree that the social structure itself is a kind of capital that creates higher advantages for certain individuals (Burt, 2000). More recently, Adler and Kwon (2002) reviewed the work of social capital in organization studies and defined social capital as the “goodwill” afforded to individuals from others. This goodwill is thought of as the “substance” that makes available important resources that are exchanged at the workplace. In general, social capital can be thought of as the mechanism that explains how a person’s interpersonal ties lead to outcomes such as individual job performance, organizational rewards, or long-term career success.

Mechanisms of Social Capital

Three primary explanations have been offered as to how social capital works and how it enhances outcomes at the individual level (Adler & Kwon, 2002; Sandefur & Laumann, 1998). The first explanation is that social capital facilitates the flow of information. Individuals with access to timely and relevant information are better prepared to take more effective instrumental actions than their counterparts (Sandefur & Laumann, 1998). For instance, Burt (1997) found that managers who had lower network constraint (the degree to which a person’s contacts are redundant) performed better than managers of equivalent skills and experience because they had access to a wider variety of information about upcoming opportunities, or complications and contingencies they might face in their projects. As a result, managers with better and less redundant information tended to be promoted at a higher rate than managers in highly constrained networks (Burt, 1997).

Secondly, having social capital allows an individual to exert influence. The types of social capital discussed by Coleman (norms, obligations, and trust) are theorized to provide bases for influence. For instance, Coleman (1990) gives an example of a doctor who carries a “credit slip” with colleagues she has aided in the past and can influence her colleagues to help her in

return, due to strong norms of reciprocity. In another example, Coleman (1988) demonstrated how some U.S. senators are more influential than others because they have built up a set of obligations from other senators and are better positioned to organize political activity. Burt (1992), on the other hand, highlighted how individuals who connect otherwise disconnected groups of individuals are put in powerful positions of control because they can directly influence how work gets coordinated and resources flow across different groups.

Finally, social capital creates solidarity or strong social norms and beliefs that encourage compliance and reduce the need for formal control (Adler & Kwon, 2002). Ouchi (1980) found that organizations with strong shared norms benefitted not only from lower monitoring costs but also higher commitment from their members. Solidarity was theorized by Bourdieu (1986) to be a key feature for individuals to confirm their standing within a network and reinforce their own identity and recognition. Strong identification with one's own group, or community could be a powerful source of motivation (Portes, 1988). Thus, social networks can determine the level of access to social capital an individual has. I now review the relationship between social capital and social networks below.

Social Capital and Social Networks

A major paradigm in organizational research has focused on the use of social capital by examining how individuals access resources embedded in social networks to gain returns (Lin, 1999). The social network perspective was initially brought to management scholars by sociologists who wanted to understand how employees benefitted from their ties or connections (Kilduff & Tsai, 2003). Social network researchers took relationships, or the set of ties surrounding an individual, as the basic data for analysis (Seibert et al., 2001). A growing body of research stemmed from examining Granovetter's (1973) idea of embeddedness as the central

premise of how structural properties of social networks could explain important outcomes such as career success for individuals (Sparrowe et al., 2001).

Nearly four decades later, social networks research has both theorized and demonstrated empirically that certain social network positions and network patterns do provide individuals social capital which can lead to more positive work-related consequences (e.g., Burt, 1992; Coleman, 1988; Fang et al., 2015). Seibert et al. (2001) further showed that certain social network structures provide individuals with the necessary knowledge and resources to be more successful in their jobs and obtain better career outcomes. Other scholars demonstrated that certain positions within social networks were more likely to lend themselves to benefits (e.g., Burkhardt & Brass, 1990). Thus, one way to think about an individual's potential stock of social capital is that it consists of the pattern of relationships in which he or she is involved and the content of resources available and has access to (Sandefur & Laumann, 1988). In the following, I review different elements (positions, properties, and types) and findings in organizational research about social capital in social networks.

Network positions. A primary means of increasing social capital starts with acquiring central positions in a social network. Structural advantage theories posit that individuals benefit from occupying advantageous network positions that provide access to relevant expertise, social support, or unique sources of information (Brass, 1984; Seibert et al., 2001). However, questions remain about which network position is the most beneficial (Podolny, 2001). The two most commonly studied positions are *degree centrality* and *brokerage* (Fang et al., 2015). Most social network studies investigate how the two positions of degree centrality (e.g., Krackhardt, 1987) and brokerage (measured as betweenness centrality) (e.g., Burt, 1992) account for how individuals accrue advantages and benefits.

Degree centrality is conceptualized as a measure of activity and popularity (Freeman, 1979; Wasserman & Faust, 1994). An actor with a high degree centrality maintains a high level of contact with other network actors. Higher degree centrality is typically associated with higher levels of access and/or possibly influence over others. A central actor occupies a structural position that serves as a source or conduit for larger volumes of resource exchange with other actors. In contrast, a peripheral actor maintains fewer relations than a central actor and is located at the margins of a social network where less social activity takes place.

A commonly used approach in social network inquiries is to measure *in-degree centrality* or how many other actors report ties to a focal individual (Kilduff & Krackhardt, 1994). The more indegree ties an individual has, the more opportunities there are to exert his or her influence, a potential mechanism for boosting one's social capital within the network (Balkundi, Kilduff, & Harrison, 2011). Evidence has shown that individuals with higher in-degree centrality were more likely to achieve higher performance (Baldwin, Beddell, & Johnson, 1997). *Out-degree centrality* refers to how many actors the focal individual knows. The more outdegree ties an individual has, the more opportunities an individual has to reach out to and receive relevant advice and gain access to necessary resources at the workplace (Ibarra, 1993). Thus, degree centrality has been demonstrated to be a significant predictor of individual effectiveness and career success because more central actors have access to resources and information that enhance the likelihood of achieving success at the workplace (Kilduff & Brass, 2010).

Unlike degree centrality, *brokerage* or *betweenness centrality* examines the extent to which an actor is on the pathways connecting other actors within the network (Freeman, 1979). Specifically, *brokerage* refers to a position within a network that connects otherwise untied entities. Building from Granovetter's (1973) work on the strength of weak ties, Burt's (1992)

structural holes theory posited that individuals in positions of brokerage are in particularly advantageous positions because these individuals are not constrained by redundant ties in their information search. High brokerage—which theoretically represents the opposite of network constraint—allows individuals access to unique sources of information and the ability to capitalize on such novel perspectives faster than individuals who do not have this access (Burt, 1992). Particularly, actors who bridge across *structural holes*, or gaps in the social world with no connections (Kilduff & Tsai, 2003), are likely to have high betweenness centrality in their social networks (Brass, 1985). Betweenness centrality is distinct from degree centrality and argues that informational advantages do not necessarily exist because a focal actor is connected to a high number of alters. Instead, proponents of brokerage argue that informational benefits are accrued by occupying positions that are structurally situated amid diverse, nonoverlapping circles.

In addition to informational benefits, brokers are better positioned to control and influence the flow of any resources between two disconnected groups. Brokers are able to serve as the sole intermediary between two disconnected social circles and can leverage their own social capital by selectively dictating what information gets transferred from one circle to another. Overall, brokers who span structural holes have been shown to produce more creative ideas (Ibarra, 1993), resolve work conflicts between groups (Kilduff & Krackhardt, 1994), and coordinate functions between groups (Seibert et al., 2001). Thus, individuals who span structural holes are perceived to be more influential and are consequently better positioned to receive organizational rewards such as higher compensation or earlier promotions (Burt, 1992; Morrison, 2002).

What network position is most beneficial? Podolny (2001) argued that there is both a “pipes” perspective in which information flows to a focal actor but also a “prisms” perspective

that signals informational clues about quality to potential exchange partners. One consequence of brokerage is that it offers a trade-off in which there is high access to nonredundant information, but conveys lower status to other actors (“status leaks”) due to bridging weak ties (Podolny, 2001). More nuanced findings have revealed that the social content that is exchanged plays a large role in what type of centrality is most beneficial. Walker, Kogut, and Shan (1997) found that structural holes were more valuable during the early stages of network formation because the key orienting concepts tend to be more informational. However, as the network becomes better established, stabilized cooperative network relationships become more valuable than brokerage opportunities. Recently, Fang et al. (2015) reviewed and compared the relative effect sizes of degree centrality and brokerage on individual job performance and career success. The authors meta-analytically resolved that degree centrality in instrumental networks was a stronger predictor of job performance (.20) than brokerage (.11). Somewhat surprisingly, degree centrality was also found to be a stronger predictor for career success (.22) than brokerage (.16).

Network properties. Some scholars have argued that social capital is a function of the size of the network and the volume of activity (e.g., Flap & Volker, 2001). Bourdieu (1986) believed that the number of people who were expected to provide support provided some function of the amount of social capital that was available. Whereas some scholars have argued that capital mostly stems from the sheer size of a social network, others have argued that social capital is largely determined by the patterns within the network structure.

Two dominant camps have emerged in theorizing about which network structure generates the greatest amount of social capital. Coleman (1988) argued that having close connections would provide more opportunities, motivations, and ability for individuals to obtain

beneficial outcomes. Burt (1992), on the other hand, argued that individuals obtain greater social capital when placed in loosely connected, or more dispersed networks.

Coleman (1988) and Burt's (1992) competing theories of social capital are related to the concept of network density. *Density* refers to the extent to which individuals' social networks are also comprised of people who are connected to one another (Balkundi & Harrison, 2006). Although the idea of density is related to network centrality, density refers to a network-level concept. Network density is measured by how many connections there are between actors compared to the maximum possible number of connections that could exist; it is inherently related to the overall size of the network (Kilduff & Tsai, 2003). For example, the number of possible ties within a social network increases from 6 to 28 when a group increases from 4 to 8 members. Thus, larger networks tend to be sparser and less dense. That is, larger networks tend to have a smaller percentage of all of the possible relationships within a particular social network are established.

In general, individuals in denser networks where members are predominantly connected to one another tend to share similar attitudes, beliefs, and trust (Hansen, 1999). Gabbay and Zuckerman (1998) found that in applied research where cooperation was more important, individuals in dense networks were more likely to be successful. However, an unintended consequence of dense networks is that members can experience difficulty in accessing new or unique information from others in the organization (Krackhardt & Kilduff, 1999). In research units in which individual contribution and autonomy were more important, scientists in sparser networks were more likely to be successful (Gabbay & Zuckerman, 1998). Additionally, individuals who were embedded in larger, sparse networks were more likely to be promoted when social ties conveyed the content of task advice or strategic information. However,

managers in smaller, dense networks were favored when the content revolved around buy-in or social support (Podolny & Baron, 1997). In sum, network density influences how quickly information can travel between members, but typically at the cost of how much of this information is nonredundant.

Network types. Social network research has identified that multiple types of informal networks often exist and each type serves different purposes within organizations. That is, the benefits and social capital that are provided to the more central actors might depend on the characteristics of the resource exchanged via different types of networks. Specifically, social network theory distinguishes between the *instrumental* network links that arise in the course of one's task-related interactions and *expressive* network relations that go beyond the scope of one's task responsibilities and provide sources of friendship and social support (Ibarra, 1993; Krackhardt, 1994).

Accordingly, network scholars have categorized the content of networks into two different types of networks in the literature (e.g., Ibarra, 1993; Shah, 2000). Instrumental ties (also referred to as *advice* ties) are conceptualized as the actors an individual seeks for inherently task-related issues or job-related input and can be a resource for individuals to reduce ambiguity and uncertainty about their work (Ibarra, 1993). Compared to expressive ties, instrumental ties tend to represent weaker ties and tend to link people who differ in personal characteristics and/or in their positions at the workplace (Laumann, Galaskiewicz, & Marsden, 1978). Degree centrality in instrumental (or advice) networks has been strongly linked to job effectiveness because information and resources also provide bases for power within an organization (Seibert et al., 2001).

Expressive ties (also referred to as *friendship* ties) refer to actors that individuals seek for deeper level concerns that extend beyond job-related information and are associated with higher degrees of intimacy (Shah, 2000). Friendship networks offer emotional support that goes beyond the daily task advice that one can receive from advice connections. Friendship ties represent stronger, more intimate links, and also tend to connect people who are similar on a variety of personal characteristics (Marsden, 1988). Friendship ties are also associated with more frequent interaction (Krackhardt & Porter, 1986; Krackhardt & Brass, 1994). Particularly, individuals with high betweenness centrality in a friendship network tend to achieve higher performance ratings from managers (Mehra et al., 2001).

Meta-analytically, evidence suggests that it is degree centrality within *instrumental* networks that is a stronger predictor of job performance than *expressive* networks. Fang and colleagues (2015) showed that degree centrality in advice networks was a stronger predictor of both job performance ($r = 0.20$) and career success ($r = 0.22$) compared to the effect sizes of degree centrality in friendship networks ($r = .15$ and $.12$ respectively). However, Porter, Keith, Woo, and Allen (2018) meta-analytically reviewed that degree centrality in expressive networks ($r = -.48$) versus instrumental networks ($r = -.17$) was significantly more related to turnover. In sum, both instrumental and expressive ties facilitate performance, but it is mainly (the absence of) expressive ties that lead individuals to leave a firm. I now transition and review the literature on how minority group members face challenges in acquiring advantageous social networks.

Minority Group Members and Social Networks

An important theoretical distinction to note is the difference between racioethnic/gender minority group members and numerical minority group members. Although white males tend to compose the majority in most organizational settings, there are certain organizational settings in

which whites or men represent the numerical minority. However, the literature finds that white males do not carry the same social stigma of being a “minority” member that racioethnic minorities or women face. According to expectations states theory, beliefs about whites possessing greater competence than racioethnic minorities permeates through members within organizations (Berger & Wagner, 2007; Cohen, 1982). Research has found that men who work in female-dominated settings tend to be pushed up to leadership positions faster than women who work in male-dominated settings due to gender stereotypes and expectations that linger about women’s ability to be effective leaders (Williams, 1992). Male nurses who work in healthcare were also found to have higher status than female nurses despite being the numerical minority (Floge & Merrill, 1986). Thus, even when whites or males represent the numerical minority in a given setting, they do not face the same challenges that racioethnic minorities or women face.

Kanter’s (1977) influential research laid much of the groundwork for understanding the effects of minority status in work environments. Kanter (1977) observed that the “relative numbers of socially and culturally different people in a group are critical in shaping interaction dynamics.” By examining women who were underrepresented in their organizations, Kanter (1977) put forth a theory of tokenism which suggested that individuals whose social category is underrepresented (“tokens”) face negative experiences such as increased visibility and social isolation compared to members of the majority (“dominants”). Through her qualitative observations on skewed gender groups, Kanter found that three particular challenges emerged for women as men, or the “dominants,” developed a heightened sensitivity to the visible minority status of women, or the “tokens.”

First, tokens’ heightened *visibility* created performance pressures that required that tokens either had to overachieve in their roles or seek ways to reduce their exposure. Second, men

became more isolated as the “dominants” and tended to emphasize their own similarities while highlighting differences with “tokens”, creating a *contrast* through which differences relative to tokens became exaggerated. Third, the distortion of the social characteristics of “tokens” according to the “dominant’s” own stereotypical beliefs trapped women into situations in which they were forced into a limited number of work positions and roles. According to Kanter (1977), these challenges made it more difficult for women to secure access to power in organizations.

Around the same time, the structuralist paradigm, or how networks defined the actor’s environment or context for action (Borgatti & Foster, 2003) began to dominate network research (Blau, 1977). Kanter’s (1977) theoretical contributions were quite influential and showed that the structural context could also explain some of the gender inequity of women in high organizational positions. Prior to Kanter’s research, most explanations for gender underrepresentation relied on dispositional attributions of women (For historical viewpoints, see Colella, Hebl, & King, 2017; King, Hebl, George, & Matusik, 2010).

Building from Kanter’s (1977) work, Ibarra’s (e.g., 1992, 1993, 1995) studies investigated the composition and makeup of the personal networks of both women and racioethnic minorities. Ibarra’s work mostly confirmed that racioethnic minorities faced similar challenges to what women faced: both groups are subject to negative stereotypes and generally represent lower-status groups in society. Although prior studies found that minority group members did not receive the same benefits within the same structural positions as their majority counterparts (e.g., Brass, 1985; Lincoln & Miller, 1979), Ibarra was among the first to explore how network choices were the product of the surrounding social structure which helped create or reinforce race and/or gender inequalities. The central thesis of Ibarra’s work was that the organizational context in which networks are embedded produces unique constraints on women

and minority group members, *causing* networks to differ from those of majority counterparts. Structural constraints play a role in how minority group members create and shape their networks, and ultimately end up with poorer outcomes due to suboptimal network configurations.

In the following section, I review the literature on why minority group members are structurally disadvantaged compared to their majority counterparts. I then review how being in a minority group influences the association with network positions, properties, and types for individuals. Along the way, I review how the network elements lead to different outcomes for individuals in a minority group.

Homophily. Arguably, the strongest predictor of informal ties is homophily (Marsden, 1987), or the extent to which someone is connected to others who share the same identity (McPherson et al., 2001). Studies have confirmed powerful homophily effects exist in who individuals consider to be relevant in their social circles (Marsden, 1987) and that individuals are biased favorably toward those of the same race (Hinds, Carley, Krackhardt, & Wholey, 2000). Strong homophily effects on race and ethnicity were found to influence a wide array of relationships (e.g., marriage, friendship, work), and individuals who were more structurally similar to one another were more likely to have issue-related interpersonal communication (Kossinets & Watts, 2009; Lazarsfeld & Merton, 1954; Marsden, 1988; McPherson et al., 2001).

Homophily is rampant in most social interactions. Homophily effects are so powerful that they even persist in settings in which active social interactions with diverse others are encouraged. In a study of networking behaviors at a mixer, Ingram and Morris (2007) found that participants were much more likely to engage with groups in which there were individuals of the same race even though many of the individuals indicated in a pre-party survey that their goal was to meet and interact with strangers.

Scholars have long observed the uneven distribution of members of social groups across jobs and ranks in organizations and have argued that homophily persists because social homogeneity leads to predictability and trust (Kleinbaum, Stuart, & Tushman, 2013; Ridgeway, 1997). According to theory and evidence, two distinct mechanisms promote homophily: choice or induced homophily (McPherson & Smith-Lovin, 1987). *Choice* homophily suggests that individuals display a natural preference for homophily (McPherson et al., 2001) and tend to seek support with members of their own identity group due to similarity-attraction theory (Byrne, 1971). That is, individuals actively seek out homophilous others because of their underlying psychological preferences to interact with others who are like themselves (Kleinbaum et al., 2013). On the other hand, *induced* homophily suggests that because similar individuals often share similar interests or backgrounds, they select or sort themselves into similar situations in the same workplaces, colleges, or neighborhoods with homophilous others. Therefore, homophily is still observed even if people did not directly choose their interaction partners (McPherson & Smith-Lovin, 1987). According to induced homophily, homogenous interests and backgrounds can serve to result in structurally induced homophily.

The long-standing debate of how much discretion (choice homophily) individuals have in choosing their social partner or whether these differential opportunities to associate (induced homophily) are what determine social partners continues today. Nevertheless, minority group members face two significant structural constraints at the workplace in forming effective relationships (Ibarra, 1993; Mehra et al., 1998). First, the overall demography of a social structure is an important constraint on the exercise of any individual preference (Blau, 1977; McPherson & Smith-Lovin, 1987) and the demography of the average American corporation is such that homophilous ties are less available for women or racioethnic minorities (Ibarra, 1993).

In other words, women and racioethnic minorities typically have a much smaller set of "similar others" from whom to develop professional relationships based on identity-group homophily (Kanter, 1977).

Secondly, women and racioethnic minorities are often excluded by members of the majority group. Network scholars have found that men tend to have more homophilous networks than women, particularly in situations in which they represent a strong majority (Ibarra, 1992; Brass, 1985). This pattern is also consistent across race with members of the numerical majority and minority (Ibarra, 1995; Lincoln & Miller 1979). Evidence from these studies suggests that individuals form far fewer cross-race ties within organizations—based on availability—showing how strongly individuals prefer to connect with similar others (Blau, 1977; Lincoln & Miller, 1979).

Minority group members and network positions. Due to general preferences for homophily, studies have found that members of numerically underrepresented groups are more likely to be structurally marginal in their informal networks (Lincoln & Miller, 1979; Mehra et al., 1998; Tsui & O'Reilly, 1989). Although some of the literature refers to "minority" status as being few in numbers, other studies have suggested that being in a minority status is associated with a level of social stigma (e.g., Steele & Aronson 1995). Kanter (1977) observed that dominants tended to avoid friendship with tokens because tokens were often viewed through negative stereotypes.

Ibarra (1993, 1995) similarly argued and found that the general human tendency toward race and sex homophily works to reduce the centrality of members from minority groups. Particularly, as the salience of the demographic differences rose, minority members were more likely to be pushed to the periphery of their networks (Mehra et al., 1998). Structural marginality

has critical implications for individuals because such individuals have fewer sources to reach out to for work-related advice, timely information, or social support than more central members.

However, one potential benefit of being structurally peripheral is possibly having more opportunities to connect with unique *external* sources (Ancona & Caldwell, 1992) and to span structural holes. Although minority group members might be at a disadvantage to achieve degree centrality, they could potentially have a better opportunity at betweenness centrality because they are more likely to have ties in dispersed social circles (Harrison, Harrison, & Shaffer, 2018). However, a recent line of research has suggested that women and minority group members might not find brokerage positions to be appealing.

Brands and Mehra (2019) found that women were more likely to construe brokerage positions as threatening due to gender stereotypes associated with such positions. Broker networks exhibit stereotypically masculine traits (e.g., seeking authority); thus, women who were perceived to occupy brokerage positions often incurred reputational penalties (Brands & Kilduff, 2013). In addition to gender-stereotypical beliefs, brokerage positions can also feel threatening for racioethnic minorities because positions that bridge two disconnected groups can further accentuate an individual's "otherness" or "outsiderness" instead of signaling that one is in a position of informational advantage (Brands, Rattan, & Ibarra, 2017). Thus, women and individuals in minority groups might implicitly find brokerage positions to be undesirable, and not as advantageous as they have shown to be in social networks research (Burt, 2002).

In addition to evidence suggesting women and racioethnic minorities are more likely to find brokerage positions unappealing, other empirical investigations have revealed that brokerage positions do not offer the same benefits or advantages for members in underrepresented groups. Brass (1985) found that women were perceived to be less influential

than men when occupying brokerage positions. Burt (1998) also found that women did not receive the benefits (e.g., earlier promotions) than men did in their brokerage positions. Xiao and Tsui (2007) found that Chinese individuals did not derive the same informational benefits as white counterparts in western culture. Thus, evidence from the extant literature shows that minority group members do not derive the theorized benefits of brokerage at the same rate as their majority counterparts.

Minority group members and network properties. Other investigations have found that minority group members are more likely to be involved in weaker, sparser networks in organizations because they lack homophilous ties within their units (Tsui & O'Reilly, 1989). Due to cross-sex and cross-race ties tending to be weaker than homophilous relationships, minority group members are more likely to find themselves in sparse networks that are higher on maximal coverage of information, but reciprocally low on social support (Ibarra, 1995). By default, having sparse networks implies that minority group members are less likely to find themselves in dense networks that provide advantages of greater psychosocial support. There are several undesirable outcomes for minority group members being situated in sparse networks. Because minority group members are often forced to reach out across different social circles to find similar others, Seidel, Polzer, and Stewart (2000) found that they end up with fewer strong ties within one focal organization, and ultimately, less successful salary negotiations. James (2000) found that black managers in the financial services industry perceived having less social capital in terms of strong-tie network members and social support. In sum, minority group members are more likely to end up feeling less supported than their majority counterparts because they lack dense networks.

Instead, minority group members' social networks are more likely to consist of weak ties, given that women and racioethnic minorities have to seek out predominantly cross-sex or cross-race network relationships. However, research has suggested that weak ties are less useful for individuals in "insecure positions" or who lack legitimacy (Burt, 1992; Granovetter, 1983). In a study of corporate managers, Burt (1992) found that networks pervasive with weak ties were most advantageous for male managers and least advantageous for female managers, who only reaped the benefits when they held a strong tie to a "strategic partner" or sponsor. As relative "outsiders" to organizational social circles, women need stronger network relationships with strategic partners to provide evidence or cues of their legitimacy as key players (Burt, 1998).

Evidence also suggests that the "strength of weak ties" argument does not apply uniformly for all individuals (Granovetter, 1973). The presence of weak ties may instead trigger bias and stereotyping, and signal cues of misfit for women and racioethnic minorities (Ibarra, 1995). Overall, the state of the literature reveals that not only do women and minority group members pay the price for not having dense networks, but they also do not necessarily reap the benefits of having sparse networks either.

Minority group members and network types. In her analysis of middle managers in Fortune 500 companies, Ibarra (1995) found that women and racioethnic minorities were more likely to have homophilous friendship ties, but heterophilous advice ties than their majority counterparts. This suggests that minority group members often have broader network range (diversity contained in a network), yet, minority group members are unlikely to benefit from this range due to the fact that other minority group members are likely to be located in lower echelons of organizations, and their heterophilous advice contacts are less likely to provide them with adequate support (Ibarra, 1993).

One explanation for why women and minority members do not extract as much social capital from their networks is because they lack multiplex ties—or ties that encompass both advice and friendship—which are considered to represent stronger ties (Granovetter, 1973). In general, influence and persuasion are most easily exercised in these ties (Methot, LePine, Podsakoff, & Christian, 2016). Because women and racioethnic minorities are likely to have a different set of individuals in their friendship networks and advice networks, they face stiffer challenges in trying to exert influence in their overall network.

Mollica et al. (2003) found that minority group members were even more likely than their majority counterparts to have homophilous friendship networks. Research on work-related ties suggests homophilous relationships provide greater social support from co-workers and greater personal attraction and identification. Similarity increases ease of communication which fosters relationships of trust and reciprocity (Kanter, 1977).

Although homophilous networks can strengthen the norms of group enforcement, there is some debate as to whether homophilous networks are beneficial overall. For one, homophilous networks lack disparate sources of information. Huckfeldt and Sprague (1988) found that minority group members were more likely to turn inward and seek homophilous ties to avoid disagreeable information, but often at the expense of having less complete knowledge. DeFour and Hirsch (1990) found that black students who interacted only with other black students also reported higher levels of stress. Although homophilous networks provide room for connection, they can also prove to be flawed because they do not incorporate new perspectives, and can be stressors for underrepresented group members if they provide routine avenues for complaints and the disadvantages they constantly have to face (Toegel, Anand, & Kilduff, 2007).

Overall, the literature finds that minority group members experience strong homophily effects and are more likely to be relegated to peripheral positions, have sparser network configurations, and have fewer multiplex ties. Although the literature has identified a few mechanisms of how individuals in underrepresented groups can overcome their structural constraints, questions remain about whether minority group members are able to identify these strategies. Although connecting to highly central others is a way for minority group members or women to overcome their stereotypes (Burt, 1998; Kilduff & Krackhardt, 1994), it is unclear whether minority group members will be better or worse than their majority counterparts in identifying who the central actors are. Krackhardt (1990) found that people are generally bad at recognizing who the central figures in a social network are.

A second assumption that has been overlooked in the literature is whether individuals in underrepresented groups are after the same instrumental goals and are concerned with moving up in the chain of command at the same rate as their majority counterparts. Other sociological studies have discussed the “ethnic mobility trap,” or the tendency for minority group members to consider their ethnic group and whether to move against it for an opportunity to climb the social ladder (Li, 1977). How does this orientation alter the network configurations for minority group members? Burt (1992) himself noted that “for the future, we expect rising interest in dispositional variables related to motivation, given the relative absence of research on whether people with different motivations enact different types of networks. Social network research has long operated on the principle that motivation and opportunity can be treated ‘as one and the same.’”

Psychological Antecedents and Social Networks

In the past decade, organizational research has shifted course and has taken a more interdisciplinary view of social networks. More recently, scholars have called for more studies that integrate psychological factors on how networks are formed (Kilduff, Tsai, Hanke, 2006). Questions include “to what extent do individual people construct and shape the social networks in which they are embedded?” (Tasseli & Kilduff, 2015). Pushing against the structuralist paradigm, Tasseli and Kilduff (2015) argued that there should be a bigger debate “between those who view the underpinnings of individuals’ network behaviors from a largely psychological perspective and those who view the network patterns by which individuals are constituted from a largely sociological perspective.” Prior networks literature has largely either controlled for or assumed away individual differences (Burt, 1998).

Recently, an emerging theme in the literature has been an examination of the microfoundations of social networks. Specifically, this view holds that individuals actively create, shape, and interpret their networks, and research in this area has examined how individual-level antecedents predict network formation (Tasseli & Kilduff, 2015). I review some of the work that has been done on personality, motivation, and cognition below.

Personality. Scholars have examined how certain personality features predict whether individuals would occupy certain structural positions in their social networks. The personality variable of predominant interest has been self-monitoring. A pair of studies have found that high self-monitors occupied betweenness positions in instrumental networks at a higher rate than low self-monitors (Mehra et al., 2001; Oh & Kilduff, 2008). Flynn, Reagans, Amanatullah, & Ames (2006) found that individuals high on self-monitoring tended to pursue social status by giving more help and advice to others than they solicited.

Fang et al. (2015) meta-analytically found that all of the “Big Five” personality dimensions lagged behind self-monitoring as predictors of both degree centrality and brokerage in instrumental and expressive networks. The authors also found that the effects of most of the personality variables were mediated by an individual’s centrality in both instrumental and expressive networks in predicting job performance. Klein, Lim, Saltz, and Mayer (2004) reported that low neuroticism predicted centrality in both advice and friendship networks five months later in a national service program. In sum, the collective evidence from these studies suggests that certain personality features (e.g., self-monitoring and neuroticism) are predictive of certain network positions.

In a study of team performance, Balkundi, Kilduff, and Harrison (2011) examined whether the temporal relationship between leader charisma and leader centrality. Specifically, the authors were interested to see whether leaders’ charisma would subsequently result in network centrality, or whether they were more likely to be seen as charismatic due to their network centrality. The authors found more support for a centrality-to-charisma model. That is, team leaders who are central in advice networks tend to become *seen* as charismatic by their subordinates which inspires and facilitates team performance.

Attitudes. Few empirical investigations have directly examined whether certain job attitudes lead to certain network positions. Consequentially, there is limited empirical evidence that suggests employees’ network positions are related to their job attitudes. In a review of the literature, Brass (2012) found the relationship between network centrality and job satisfaction was equivocal at best.

Most of the investigations that have simultaneously examined attitudes with network positions have generally been interested in predicting other outcomes such as turnover. For

instance, Mossholder, Settoon, and Henagan (2005) did not find a relationship between network centrality and job satisfaction but found that centrality was negatively related to turnover. In a recent meta-analysis, Porter, Woo, Allen, and Keith (2019) conducted a meta-analysis and found that job satisfaction was more related to centrality in the friendship network ($r = .12$) than in the advice network ($r = .05$).

Motivation. Recently, scholars have adopted perspectives from motivational psychology to explain how individuals form their networks. Kuwabara et al. (2018) recently examined how individuals' lay beliefs about networking influenced their tie composition. The authors argued that depending on whether an individual has a fixed or growth mindset of social relations, individuals can end up with either more homophilous or heterophilous networks. Wichmann, Carter, and Kaufmann (2015) argued that individuals who are more affectively committed would be more likely to engage in organizational citizenship behaviors (OCBs), which would indirectly lead to acquiring more central positions in their organizational networks.

Cognition. Scholarly work on how individuals keep track of and cognitively make sense of their own social network connections has also been of recent scholarly interest. Cognition about the social network is often seen as the first step to what the actualized network will eventually look like. Janacik and Larrick (2005) found that individuals who have developed cognitive schemas were able to pick up on brokerage opportunities faster than individuals without such experience. Shea and Fitzsimons (2016) found that goal pursuit (instrumental versus affiliative) affected how people cognitively activated their social networks. Smith et al. (2012) additionally found that individuals with low status were more likely to activate smaller subsets of their networks and that individuals who were under more status threat were more likely to inaccurately predict networks.

Summary

Theories of social structure have shown that people benefit from occupying advantageous positions (degree centrality and brokerage) in their informal networks (Fang et al., 2015). Yet, decades of social network research have highlighted the role of visible demographic cues on how informal networks are formed and maintained (Kanter, 1977; Ibarra, 1995). Numerous studies have found that racioethnic minorities tend to be marginalized in their informal networks—that is, have disadvantageous positions (e.g., Ibarra, 1995; Mehra et al., 1998; Mollica et al., 2003)—and are left out from acquiring social capital that is critical for success (e.g., Burt, 1992).

Thus, minority group members face unique challenges in acquiring advantageous positions in the workplace, due in part to the lack of similar others. Although these empirical works highlight potentially important antecedents of social networks, they do not tackle the question of whether there is an *a priori* thought process that individuals have in general about how to form or maintain their social networks. Furthermore, no studies have taken a dedicated deep dive into understanding how individual minority group members might *differ* in their approach to developing their informal networks. Without a proper understanding of how individuals across different groups might implicitly think about managing their social ties at work, these psychological antecedents are at best, partial explanations for the variance in network positions and configurations. The aim and purpose of this dissertation are to explore and uncover the parameters of a broader implicit theory of social networks. In the subsequent chapters, I will build on the literature review in this current chapter. In Chapter 3, I qualitatively explore what individuals' implicit theories of social tie formation are and whether racioethnic minorities are likely to hold different theories than their majority counterparts. In Chapter 4, I develop a theory based on both the literature review and qualitative data in this chapter that

addresses my overarching research question on how these implicit theories impact eventual social tie formation.

Chapter 3: Qualitative Exploration and Theoretical Development

Building and acquiring social capital has major implications for how effective individuals can be at the workplace. On one hand, instrumental ties can provide an individual the necessary resources, expertise, and information which can lead to improved task performance (e.g., Brass, 1985). On the other hand, having expressive ties provides a level of social support that can lead to an individual feeling more secure or satisfied (e.g., Morrison, 2002). Meta-analytic evidence has confirmed that occupying central or brokerage (structurally advantageous) network positions contributes to job performance (Fang et al., 2015) and job satisfaction (Porter et al., 2019). With tasks becoming more interdependent in most organizational settings, it has become increasingly important for employees to have informal social networks that allow them to thrive in the workplace.

Much of the focus of social networks research has largely focused on how the social structure imposes *itself* on individuals (see Chapter 2). That is, investigations using a social network approach have typically examined what happens to individuals based on their position (e.g., degree centrality, betweenness centrality) within their informal networks (Casciaro et al., 2015). However, this perspective overlooks a potentially meaningful alternative on how individuals reciprocally *think about and process* how to form their informal workplace networks given possible structural constraints. Indeed, Kilduff et al. (2006) note that such research has neglected the actors' agency, or how social networks are constituted by an individual's *psychology*. Given the importance of social capital and developing effective networks, it is reasonable to expect that individuals have some implicit ideas or theories on how to build and develop their own personal connections.

More recently, organizational research has begun to explore different types of psychological antecedents of social network formation. Although psychological features such as affect, cognition, goal pursuit, personality traits, motivational orientation, and status differences (See Chapter 2) have been examined, there is surprisingly little work that explores the *a priori* mental models individuals hold on how to form their social networks. The existing research that does highlight the cognitive dimensions leading up to social network formation has generally focused on the *accuracy* of individuals when it comes to predicting who is actually connected to whom within a given network (Brands, 2013; Janicik & Larrick, 2005; Kilduff & Krackhardt, 1994; Smith et al., 2012). That is, although cognitive research on social networks touches on perceptual acuity, it does not reveal the thought process individuals go through prior to establishing a relationship at the workplace. There is little work that shows how individuals think about how to build their own social networks, and what the dimensions of these *implicit theories* might be. In the next section, I will briefly review the literature on implicit theories and discuss how they might be pertinent to explore in understanding social network formation.

Implicit Theories of Social Tie Formation

Implicit theories refer to taken-for-granted beliefs that individuals hold internally (Levy, Chiu, & Hong, 2006). These “general rules of thumb,” serve as schema-like structures that guide individuals’ future behavior and responses. Individuals develop their own set of personal rules or implicit theories based on repeated experiences of social interactions (Anderson & Lindsay, 1998). As with scientific theories, implicit theories also infer causality in that individuals form expectations and make *a priori* predictions about outcomes prior to engaging in the behavior. Implicit theories allow individuals to orient themselves and decide on an action by comparing new stimuli with previously encountered stimuli (Chiu, Dweck, Tong, & Fu, 1997). Thus,

implicit theories serve as important baseline guiding principles by reducing the cognitive overload that individuals encounter when confronted with unfamiliar situations. Furthermore, implicit theories tend to be enduring even in the face of falsifying evidence. (Anderson & Lindsay, 1998).

Implicit theories have contributed to the scholarly understanding of organizational phenomena. For instance, Detert and Edmonson (2011) found that individuals hold several implicit theories on whether it is appropriate to voice issues at the workplace. Implicit theories about their boss, themselves (e.g., age, tenure, career consequences), and the content of the voice itself (e.g., needing solid data) guided individuals in their ultimate decision on whether to speak up or not. Thus, there is evidence to suggest that implicit theories add to prior explanations of employee voice that previously emphasized environmental features or dispositional characteristics of individuals.

Similarly, whether it is derived from direct experience or from having heard about the importance of having social capital, individuals are likely to hold *implicit theories* on how to acquire social capital at the workplace. For example, an individual throughout his or her life is likely to pass through various organizational experiences (e.g., school, work, activities) in which he or she has opportunities to build personal connections. As such instances accumulate, the focal individual will likely develop an implicit theory of how to acquire and manage their social networks effectively. Thus, implicit theories are potentially powerful forces and are particularly relevant to understand when it comes to social networks because all individuals carry vast experiences of social tie development prior to entering an organization.

Need for an Implicit Theory of Social Tie Formation

In consideration of recent scholarly work, individuals likely go through some loosely constructed thought process when considering how to form their social networks at the workplace. Although no one has directly studied an *a priori* process of informal tie formation, Kuwabara et al. (2018) examined lay theories of networking from a motivational standpoint. Borrowing from developmental psychology (e.g., Dweck, 1999), the authors argued that individuals either hold fixed versus growth mindsets of social relations. Those who hold a growth mindset of relations would be more likely to find networking to be a natural part of organizational life and find it easier to engage in networking. This recent work suggests that individuals do hold beliefs about whether they should or should not reach out to someone.

Nonetheless, the extant literature does not address what the general implicit theories of individuals are when it comes to building their social capital. Uncovering the implicit theories of social networks establishes how individuals think about social ties and connections ahead of time and *why* they form them, providing a more comprehensive understanding of network formation beyond what is currently known. Thus, the first research question this dissertation attempts to answer is: what constitutes the *implicit theories* that individuals hold about social tie formation? Secondly, are there differences across individuals in those implicit theories based on their racioethnic group?

The current state of organizational research suggests that social networks serve as important conduits of resources for individuals at the workplace, but that these benefits are not as accessible for racioethnic minorities (e.g., Ibarra, 1995). However, prior scholarly work has yet to describe how individuals in different racioethnic groups might *differ* in their mental processing of and response to their social structures. If racioethnic minorities perceive that they

will not receive the same advantages from their network positions as their majority group counterparts, it is reasonable to think that these individuals might hold unique mental models of how to develop effective social networks than their majority group counterparts.

Curiously, the networks literature has also remained largely silent on how much agency individuals have in forming their ties. Much of the network literature has discussed structure as an overall entity or how structure determines individual functioning in organizations (Kilduff & Lee, 2020). That is, once an individual is injected into a social network, the structure will dictate how an individual is able to perform or function regardless of the psychological motivations on the part of the individual (Tasselli et al., 2015). According to this approach, the network will naturally provide opportunities for people to end up in clusters of similar others because the structure will dominate subsequent interactions over time (Kilduff & Lee, 2020). Network research has emphasized how the overall structure provides opportunities for individuals to acquire or exchange interpersonal resources.

However, there is a missing step in this depiction of how social networks are formed. First, it fails to describe how individuals form specific ties to individuals rather than acquire overall structural positions. From an ego-centric perspective, the process of creating ties is not done by creating an entire network. Ties are formed one by one and individuals might have different motivations for why they are building specific ties (Brands, 2013). Ultimately as ties are formed one by one, an individual will start to form the building blocks for their portfolio of social capital. Indeed, studies have highlighted how people who have a better understanding of their surrounding social connections are better able to position themselves to build more effective networks (Janacik & Larrick, 2005).

Secondly, little is known about how individuals *psychologically* approach building their ties. To the extent that these implicit thoughts of social tie formation are nuanced across people and situations, multiple guiding rules are probably needed for reaching out to other actors to form a relationship. Understanding what implicit theories individuals hold could be the missing piece that unlocks the unaccounted-for variance in how individuals come to acquire the positions in their social networks and build their portfolio of social capital. Accordingly, I collected open-ended survey data from widely different sets of subpopulations that delved into individuals' beliefs and expectations about social tie formation in their organizations. This type of inductive approach is appropriate for generating new theory and for further defining the construct space (Miles & Huberman, 1994).

Study 1: Qualitative Exploration of Implicit Theories

Methodological approach. To induce what implicit theories individuals hold, I generated both closed and open-ended survey questions that directly asked individuals about how they came to form and maintain their social networks at the workplace. Although individuals are often not aware of the impact that implicit theories can have on their behavior, researchers have found that individuals are capable of articulating what they believe when prompted for explanations of behavior (Levy, Stroessner, & Dweck, 1998). The goal of this methodological approach was twofold. The first was to get participants to articulate—as well as elaborate on—the implicit rules they might use to form and maintain their social networks. Secondly, I wanted to identify clear themes on what the dimensions of potential implicit theories were so that I could measure these dimensions quantitatively in a subsequent study. I elaborate in detail on how I addressed these two goals below.

Data collection and samples. Data were collected in two different phases. In the first phase, a preliminary survey was distributed to students enrolled in a weekend MBA program in the southwestern region of the United States. Specifically, students were asked “What factors do you consider when thinking about starting new relationships at work?” and were prompted to provide up to 3 open-ended responses. In total, 89 students were surveyed on what factors they considered when forming or maintaining social ties with other students in their MBA cohort. Of the participants, 21% were female and 43% were racioethnic minorities (nonwhites). The purpose of this pilot questionnaire was to develop a sense of what considerations individuals had when thinking about who they wanted to reach out to as part of their informal network. Multiple passes and iterative coding (Miles & Huberman, 1994) on the responses provided in this survey laid the groundwork for all subsequent surveys.

In the second phase, a more refined survey developed from the responses given in the first phase was distributed to 68 employees at a local school board association. In addition to the open-ended questions that the MBA students received, the school board association employees received close-ended questions on whether they considered certain factors prior to reaching out to a colleague at the workplace. Participants were asked to rate (1: none at all, 7: all the time) factors that emerged from the initial data collection that they considered when it came to tie formation (e.g., the target’s personality, career benefits the target could offer, the target’s work experience, sharing similar backgrounds, sharing similar social circles, sharing similar goals). In addition, I asked questions that were aimed at individuals’ general beliefs about how large, or widespread their social networks at the workplace should be. Finally, I asked about specific instances in which individuals were cued to think about their social networks at work. The goal of adding close-ended questions was to see if there was initial evidence of systematic differences

in how individuals of different identity groups approached building their social networks. The survey was given a week before a workshop on social networks and power. This allowed participants to think of their current relationships well ahead of time prior to any priming that might have been caused by the session. Participants' ages ranged from 25 to 76 years old, with an average age of 46. The average tenure of the employees was 9 years. Of the 68 participants, 54% were female, and 32% were racioethnic minorities. The employees worked in different areas of the school board association including business services, communications and marketing, facility services, and planning and research.

Accompanying this second phase of the data collection, additional surveys were distributed to four other samples across the southwestern region of the United States (see Table 1). Questionnaires were distributed to executives at an international bank, senior executive service members of a U.S. government department, auditors of a developmental program in the U.S. defense industry, and emerging leaders of a semiconductor company. Responses for all surveys were collected through an online survey program. The accompanying surveys were gathered in an effort to collect additional open-ended responses to help identify and further validate what factors individuals consider when trying to establish informal ties at the workplace. Sampling from a wide range of industries is recommended for theory building because multiple cases enable comparisons that clarify whether an emergent finding is idiosyncratic to a single context (Eisenhardt & Graebner, 2007; Yin, 1994). Almost all of the participants across all six samples reported having *some* thought process prior to reaching out to someone at the workplace. I describe the specifics of how I analyzed the open-ended responses below.

Data analysis. To analyze the responses, I used an iterative and multi-step inductive theory building technique (Charmaz, 2006; Miles & Huberman, 1994). I began by reading

through all of the open-ended responses, identifying specific statements or anecdotes in each response that could constitute an implicit theory of social tie formation. Simultaneously, I outlined potential themes of dimensions that the responses could fit into. On my next pass through the responses, I applied abstract codes to those units and sorted them according to their code. I read through units under each code again to gain a deeper understanding of common themes and meaningful discrepancies. In addition, I began to compare and contrast themes across members in different racioethnic groups to understand which implicit theories were similar, and where there might be variance. From the coded data, a few key patterns were discernible about how individuals within and across different identity groups considered their social tie formation.

Theoretical Development of Minority Group Membership and Implicit Theories

Analysis of the open-ended survey items as well as the close-ended, quantitative ratings revealed a number of implicit theories of social networks. Through repeated review and multiple iterations between the open-ended data and theoretical categorization, a few common themes emerged. Overall, I identified an *overall depth of social network awareness* along with four dimensions of social networking implicit theories. The four sub-theories or dimensions can be categorized as *task potency*, *target trustworthiness*, *interpersonal communion*, and *anticipated inclusion*. I describe each of these sub-dimensions along with the overall awareness and depth measure below.

Overall depth of social network awareness. Surveyed individuals across all six samples were asked to indicate whether they think -- if at all -- about how to form their social networks. These open-ended items were asked to uncover whether individuals actually hold mental models of social tie formation, or whether workplace connections tend to occur more organically or by propinquity. Indeed, over 98% of all participants across all six organizations provided at least

one open-ended response on whether they had considered an identifiable factor prior to reaching out to a work colleague. Over 95% of all participants reported three factors (the maximum number they could report) they considered prior to forming a workplace relationship. A few participants did acknowledge that they had not given much thought about how they decide to establish workplace ties. For instance, one participant noted that he had not really thought about the process until seeing the very question on the survey. On the other end of the spectrum, one participant responded: “I always think about it. It’s one of the most important things.” Another participant responded with: “I always think about my social network. I am responsible for connecting members.” Another participant chimed: “It’s hard not to think about with everything that’s going on in the world.” Whether it was due to a previously held belief, job-related function, or current events that might cause individuals to evaluate who they associate with (Leigh & Melwani, 2019), responses revealed that almost all individuals had given some *a priori* thought on how to form their informal networks.

Although initial data analysis reveals that most individuals across all identity groups have at least given some attention on how to build their social capital, the *depth* or magnitude of how much time or effort an individual has put into these thoughts differed. I draw from both the open-ended data and the extant literature to suggest why some individuals are likely to have markedly deeper ideas about how to form their informal networks. Previous literature acknowledges that when it comes to group membership, racioethnic minorities are more likely to be on heightened alert during transitions to a new workplace because the surrounding actors are likely to be demographically different (Mehra et al., 1998). Distinctiveness theory (McGuire, 1984) suggests that racioethnic minorities are likely to have their ethnicity made more salient due to their relatively rare standing compared to their majority counterparts. Furthermore, having one’s

demographic uniqueness accentuated has been shown to be intimidating and/or uncomfortable. For instance, racioethnic minorities might begin to wonder whether the majority group members will invoke negative stereotypes (e.g., Cox & Nkomo, 1991; Siy & Cheryan, 2016) or be skeptical of their organizational membership (e.g., Albrecht, 1983). One consequence is that minority group members are likely to be aware that not every individual in the organization may be accepting of their membership. Thus, there is reason to believe that minority group members are not likely to unconsciously wade into “unfriendly territory” and attempt to forge relationships without some type of deliberate thought that could protect them from incurring negative social attributions or stereotypes.

Additionally, racioethnic minorities and majority group members likely have different experiences of how they have navigated their social networks in the past. Unlike racioethnic minorities, majority group members do not have to be as concerned with establishing cues of similarity or legitimizing their standing in terms of fitting in with the overall group (Albrecht, 1983). In essence, majority group members start in organizations with a level of “built-in” social capital simply due to the similarity-attraction phenomenon (Byrne, 1971) and principles of homophily (McPherson et al., 2001). Similarity in terms of demographics (age, gender, and race) is typically accompanied by a level of trust. Due to the baseline level of trust that majority group members start out with, they consequently do not have to be as concerned about social brushbacks or potentially upsetting existing members.

On the flip side, prior scholarly work has shown that members of a majority group are reluctant to extend ties to minority group members if they are not able to exhibit cues of similarity (Mollica et al., 2003). Furthermore, heterophilous ties are often characterized by lower levels of reciprocity and positive affect (Dumas, Phillips, & Rothbard, 2013). Racioethnic

minorities who have endured this type of exclusion in the past would likely want to subsequently avoid this type of marginalization. Thus, minority group members are more likely to have developed some pre-determining thoughts about how to best form their social networks without experiencing social sanctions.

Finally, minority group members are more likely to have additional points of consideration in trying to decide how to form an effective informal network. Research unsurprisingly finds that same-race or homophilous ties for racioethnic minorities (in a predominantly white setting) provide more psychosocial support than cross-race ties (Thomas, 1993). Nonetheless, homophilous ties are less likely to provide the necessary resources and information for minority group members because other minority group members are likely to be part of lower status groups within the organization (Brass, 1985). Thus, developing relationships with those who do have the necessary power and control resources is an important career strategy. Thus, minority group members have to take a much more nuanced approach than their majority group counterparts in forming their social networks because they have to try and balance their affiliative needs with their achievement needs (Mathieu, 1990).

Further complicating matters, minority group members who try to become central in their workplace network run the risk of being ostracized by their own in-group minority group members. For instance, black men who are considered to be overly affiliated with white men are often dubbed “Uncle Toms” by other black males (McCarthy & Yancey, 1971). Thus, minority group members simply have more criteria they have to consider in forming their workplace relationships. Whereas majority group members do not have to establish cues of similarity or worry about affiliative needs, minority group members are more likely to go through a delicate balancing act in which they feel that they have to both diversify their network but also maintain

their same-race ties. This becomes even more challenging because these two goals are often in direct competition with one another (Brewer, 1991). Overall, the extant literature shows that minority group members face several challenges that majority group members do not have to face. As a result of having more points of consideration, racioethnic minorities are likely to have spent greater time and effort on thinking about how to build their informal networks. Thus, I hypothesize:

Hypothesis 1a: Racioethnic minorities are more likely to have a greater overall depth of social network awareness of tie formation than majority group members.

Task potency. I labeled the first sub-dimension of implicit theories of social tie formation as “task potency.” Preliminary analyses of the open-ended data revealed that one dimension of the implicit theories of social tie formation revolved around the idea of how an individual can leverage their social capital to get work done. That is, when thinking about who to form relationships with, individuals go through a rational calculation and consider which potential alters can offer a level of instrumental support that would help them accomplish their tasks. This particular approach to tie formation suggests that individuals weigh whether it is worth investing in an informal relationship based upon whether the target is capable of providing a level of task support.

Examples of this implicit theory dimension could be seen by responses that clearly hinted at a desire to fulfill information-based needs. For instance, one individual indicated she would look for “people who are able to provide the information/resources I need.” Another individual conveyed a similar sentiment and said she would think about who it is that “can help [me] accomplish tasks.” Another respondent mentioned thinking about whether a target had the “ability to provide product/service/organizational knowledge” or what “value they bring.”

Overall, around 32% of all participants mentioned they had thought about some type of instrumental benefit that a potential target could offer *prior* to reaching out to someone in their organization.

These qualitative findings illustrate that people seem to care about establishing relationships beyond what homophily would predict (McPherson et al., 2001) and that people are also looking to acquire resources to potentially get ahead in their organizations (e.g., Sparrowe et al., 2001). Almost all organizational contexts necessitate critical social resources that help individuals fulfill their task responsibilities (Brass, 1985). Along those lines, individuals also reported caring about how long employees had been at an organization, what their position or job title in the organization was, and what their level of expertise was. For example, one participant specifically mentioned: “I consider if their area of knowledge and expertise matches the information I need.” These quotes are consistent with the idea that individuals actively seek out ties that contain the necessary work-related resources that help individuals accomplish their tasks (Ibarra, 1992; Shah, 2000).

Thus, an emergent finding from the preliminary data suggests that individuals do try beforehand to estimate how much instrumental value they can extract in terms of knowledge, skills, or expertise from another colleague. This recurring theme suggests that individuals do hold an implicit theory that workplace relationships need to be productive and provide some type of task-related support. One potential theory that would support this finding is the conservation of resources theory (Hobfoll, 1989). According to this framework, individuals hold a fixed set of cognitive resources at the workplace. Thus, it would not make sense for individuals to have a multitude of relationships in which they were not able to receive any task-related benefits. Because an individual can only maintain a certain number of relationships (David-Barrett &

Dunbar, 2013), they will likely want to be assured that the relationships they do choose to invest in will result in some type of task-related benefit or payoff.

Would racioethnic majority or minority group members be more likely to consider task potency when it comes to informal tie formation? In one study, Bensaou, Galunic, and Jonczyk-Sedes (2013) identified different networking configurations of individuals and found that individuals differed in how devoted or selective they were in terms of networking. Somewhat surprisingly, the authors did not find any differences in networking configurations across race. This is a puzzling finding given what prior literature has established in terms of how difficult it is for racioethnic minorities to form performance-enhancing social networks (e.g., Ibarra, 1995). For instance, racioethnic minorities are more likely to have faced negative stereotypes about their competence or belonging (Hall, Hall, Galinsky, & Phillips, 2019), be more likely to be penalized for not fitting into a prototype (Rosette, Koval, Ma, & Livingston, 2016), or experience more difficulties in accessing mentors (Thomas, 1993). As a result, one might expect that a natural consequence might be that racioethnic minorities are less likely to consider *instrumental* benefits and be more *affiliative*-focused early in their organizational tenure.

As such, I argue that racioethnic minorities are less likely to be concerned with task potency, or how much benefit they can extract from a social tie than their majority group counterparts. Task potency inherently represents an instrumental form of relationship building. Although individuals are likely to vary on the spectrum of being instrumentally or prosocially oriented (Grant, 2008) or on how comfortable they feel with instrumental networking (Casciaro, Gino, & Kouchaki, 2014), I argue that identity group membership in itself is likely to either boost or inhibit how much instrumental benefit individuals seek from their informal networks. Based on theories of identity salience (e.g., Stryker & Serpe, 1994), I argue that instrumental

goals will lag behind a more salient goal for racioethnic minorities: the goal of being accepted. Due to stark differences in their demographic appearances (Mehra et al., 1998), minority group members are more likely to be concerned with fitting in first, versus who would be able to offer the most advantageous resources than their majority counterparts. In addition to identity salience, theories of impression management (Schlenker, 1980) also suggest that individuals who are surrounded by mostly dissimilar individuals should be more concerned with finding sources of social acceptance.

Impression management is not as salient for majority group members who come into organizations with a well-established base level of homophily. Rather than having to spend efforts on finding people that might be accepting, majority group members can in essence “skip ahead” to the next step of building their portfolios of social capital and seek instrumental sources without the constraints of having to worry about fitting in with the rest of the group because their social identity is not threatened by the group at-large (Brewer, 1991; Mehra et al., 1998). Thus, the qualitative findings and existing literature combine to suggest that while most individuals are likely to consider the task potency of a social tie, racioethnic minorities likely have other pressing social needs that will make task potency less of a priority. Overall, I argue that minority group members are less likely to be concerned with instrumentality when thinking about forming their social networks.

Hypothesis 1b: Racioethnic minorities are less likely to consider task potency when it comes to social tie formation than majority group members.

Target trustworthiness. The second sub-dimension of implicit theories of social tie formation that emerged centered around the idea of “trustworthiness.” If task potency represented a cognitive, instrumental approach to relationship building, target trustworthiness

represents an emotional, affiliative approach. Although scholars have long discussed why individuals hold an internal preference for certain actors (e.g., demographic homophily), what other factors might people consider prior to forming a social tie? The initial data analysis suggests that aside from task potency, individuals also consider features of the target that signal openness and willingness to provide help. Among the most frequently mentioned factors of tie formation were whether someone appeared to be “trustworthy,” “approachable,” or have “empathy and compassion.” One respondent specifically mentioned: “I only talk to people that I can trust.” Another respondent simply stated: “Trust. All relationships are rooted in trust.”

These responses once again suggested that individuals go through an a priori thought process to deem whether someone seemed like a well-meaning or friendly person. One participant specifically mentioned a thought process they have is: “Do they seem like a friendly person at first sight?” These types of responses suggest that individuals form judgments about who appears to be trustworthy relatively quickly. The findings I gathered were also consistent with findings from other scholarly work. Klein and colleagues (2004) found that one of the strongest predictors of tie formation was emotional stability, a feature that also signals a level of an individual’s (benevolence-based) trustworthiness.

Which group of individuals would be more likely to consider a target’s trustworthiness? I argue that minority group members will be more concerned with target trustworthiness because they face greater threats to their social identity relative to their majority counterparts. For example, Niemann and Dovidio (1998) found that racioethnic minorities perceived greater levels of stereotype threat in academic settings than their majority group counterparts. Similarly, Greenhaus and Parasuraman (1993) found that black employees were more likely to have their performance attributed to external factors (luck, fortune) than their internal characteristics

(knowledge, skills, abilities) whereas the opposite was true for white employees. The diversity literature has also confirmed that racioethnic minorities are subject to negative racial stereotypes such as minority group members are lazy, ignorant, or incompetent (Aberson & Ettlín, 2004; Rosette, Leonardelli, & Phillips, 2008). Given the constant struggle minority group members face in trying to disprove negative stereotypes, minority group members will likely be more inclined to seek out individuals they feel they can trust. In particular, building relationships with trustworthy individuals who are not as likely to make external attributions about their performance is likely to be an important piece of the puzzle.

This is not to dismiss the fact that majority group members should not be concerned with finding trustworthy targets for social exchange. However, prior literature has mostly shown that white majority group members do not face the level of stereotype or status threats that racioethnic minorities endure. Kang, DeCelles, Tilcsik, and Jun (2016) found that employers were much more likely to discriminate against minority job applicants when they did not conceal their resumes to conceal their racioethnicity. Furthermore, other studies have found that managers mostly attribute the success of white managers to their ability (e.g., Yarkin, Town, & Wallston, 1982) but do not make the same attributions about black managers.

Because majority group members are less likely to have had experiences in which they felt that they were not being treated or assessed fairly, they are less likely to prioritize how trustworthy a target is. When it comes to building workplace relationships, minority group members are more likely to be sensitive to how trustworthy someone appears to be. Combining the qualitative findings with extant literature, both theory and empirical evidence seem to indicate that minority group members ought to have more at stake and are more likely to hone in on target cues that suggest a level of friendliness and genuine caring. This is likely to be more

salient for minority group members because the vast majority of organizational contexts represent situations that can feel threatening. Overall, I argue that minority group members are more likely to be concerned with a target's trustworthiness.

Hypothesis 1c: Racioethnic minorities are more likely to consider target trustworthiness when it comes to social tie formation than majority group members.

Interpersonal communion. By far the most frequently reported factor across all six samples I surveyed was whether the focal individual shared similar interests, backgrounds, or experiences with the potential target. I labeled this third dimension of implicit theories as "interpersonal communion." Nearly half (47%) of all respondents reported thinking about whether they shared "similar interests" or "similar backgrounds" with a target prior to forming an informal tie. Following similar interests and backgrounds, other commonly listed factors included whether a focal individual shared "life experiences," "similar goals," or "similar values" with the potential target. One respondent mentioned: "If we don't share anything in common, it's going to be hard to build any sort of meaningful relationship."

Somewhat curiously, there was no explicit mention of demographic similarity as a factor that individuals considered prior to tie formation. This certainly does not rule out the possibility that this factor exists. The more likely explanation is that demographic similarity might operate at a more subconscious level and individuals do not feel like that is a particular dimension they have to outwardly express. Nonetheless, the initial data analysis does suggest that people try and anticipate what non-demographic commonalities they might share with someone before forming an informal tie.

Most of the homophily arguments in the organizational literature have been grounded in terms of demographic similarities (e.g., gender, race, occupation). However, the literature is

largely silent or agnostic on what features beyond demographic similarity drive tie formation. One exception was a paper by Klein et al. (2004). The authors found that similarity in terms of interests and hobbies (shared vices) were robust drivers of informal tie formation. The question is, would we expect racioethnic majority group members or minority group members to be more likely to think about non-demographic similarities?

When it comes to interpersonal communion, I argue that minority group members are more likely to consider how much they share in common with a potential target than their majority group member counterparts. For members of the demographic minority, principles of homophily often do not apply in organizations because it is simply not a possible alternative or pathway for forming ties in organizations because they are largely surrounded by dissimilar others. Thus, for minority group members, interpersonal communion can serve as a proxy for homophily. One of the reasons that has been given for why individuals prefer homophilous partners is because homophilous ties convey a level of trust and security (McPherson et al., 2001). Without the option of homophily, minority group members can look to interpersonal communion as a substitutable way to establish a requisite level of safety and security they are looking for in their workplace relationships.

Because majority group members are able to exchange a level of comfort through homophily in ways that minority group members cannot, minority group members are more likely to focus on an implicit theory dimension that can serve as a comfort mechanism. By focusing on targets who they believe might share similar functional backgrounds, life experiences, values, goals, or interests, minority group members can cut their risks of being met with individuals who might struggle to understand them. Therefore, I argue that racioethnic

minorities are more likely to consider how much they share in common with a target prior to informal tie formation.

Hypothesis 1d: Racioethnic minorities are more likely to consider interpersonal communion when it comes to social tie formation than majority group members.

Anticipated inclusion. The fourth and final sub-dimension of implicit theories revealed that individuals thought about how they themselves would be perceived or accepted. I identified this final implicit theory as “anticipated inclusion.” Responses under this theme included: “How will I be perceived?”, “How will this influence how I get my work done?”, as well as “Can I be my authentic self?” Analysis of the responses revealed that individuals are likely to *anticipate* how they would be viewed prior to establishing an informal tie at the workplace. Another interpretation of this implicit theory is simply that individuals are not likely to reach out to others if they feel that the target might “shut them down” and not be accepting of an individual for who he or she is.

Anticipated inclusion, therefore, captures the extent to which individuals expect they can be open and expressive before establishing a relationship. It is distinct from the other sub-dimensions of implicit theories of relationships that focus on features of the target or what a focal individual might share in common with the target. Instead, anticipated inclusion suggests individuals care about the features they possess and whether the people around them would be willing to accept them for who they truly are, and whether they feel that they can be their true authentic selves and not be perceived negatively.

Although one would expect most individuals to be concerned with how they will be perceived prior to tie formation, would this thought process be more salient for certain individuals? Similar to all of the sub-dimensions of implicit theories other than task potency, I

expect that anticipated inclusion will be a much more salient sub-dimension for racioethnic minorities. Individuals in minority groups often report feeling that they have to exercise caution about how they navigate workplace relationships because they fear that their managers and colleagues will form broad generalizations about a minority group member's race based on the actions and behaviors of one minority group member (Thomas, 1990). Furthermore, studies have shown that minority group members are penalized when they do not conform to the prototypical behaviors of the rest of the organization (e.g., Hekman, Johnson, Foo, & Yang, 2016). Because minority group members are more subject to biases in categorization and are consequentially met with negative repercussions (Cook & Glass, 2014), individuals will likely want to form relationships in which they feel that they are truly being accepted for who they are and not being viewed through the lens of a negative stereotype.

Furthermore, individuals have a natural preference to be their full authentic selves at the workplace (Grandey et al., 2005). For racioethnic minorities, finding people with whom they feel they can be their authentic, unfiltered selves could be an important priority so they feel that they at least have some relationships at the workplace in which they are in a judgment-free zone. Minority group members repeatedly face decisions on whether they should adhere to organizational norms and mainstream expectations or display their personal identity at the workplace (Phillips, Rothbard, & Dumas, 2009; Rosette & Dumas, 2007). Therefore, I argue that racioethnic minorities are more likely to consider whether they would be truly accepted or perceived by the group at large prior to tie formation.

Hypothesis 1e: Racioethnic minorities are more likely to consider anticipated inclusion when it comes to social tie formation than majority group members.

Implicit Theories and Tie Formation

Drawn from my own qualitative findings and extant literature, Hypotheses 1a-1e outline which identity group is more likely to hold specific network implicit theory sub-dimensions. In the development of Hypotheses 1a-1e, I argued that certain implicit theory dimensions are more likely to be at the forefront in certain individuals' minds. I now move to the next set of hypotheses which will examine the impact of how these implicit theories might influence how individuals form their workplace relationships. Would some implicit theory sub-dimensions change the impetus or likelihood of reaching out to other actors in the informal network? In the following, I discuss how holding certain implicit theories are likely to lead to either an increased or decreased likelihood of tie development both in the advice (instrumental) and friendship (expressive) networks.

Overall depth of social network awareness. Individuals who have invested more time and effort into thinking about how they should build their social networks are more likely to understand the importance of acquiring performance-enhancing networks. If individuals did not feel that their building the right workplace relationships could serve as an important career strategy, there would be far less of a need to strategize or dedicate one's mental energy to how he or she should go about developing his or her portfolios of social capital. As found during my qualitative exploration, individuals are likely to vary in how consciously they build their social networks. Some individuals might choose their relationships very deliberately while others might form their informal relationships without much conscious thought and more organically (Back, Schmukle, & Egloff, 2008).

Building on this logic, I argue that the more time and effort an individual has put into thinking about how to build their social network, the more likely it is that an individual will put

forth effort in forming social ties in the informal network for several reasons. First, individuals who recognize the importance of having a social network are more likely to have a clearer direction on who it is they should reach out to and can begin the tie-building process. People who have not thought about their overall social network might struggle with developing their workplace ties because it is not always clear in organizations who it is one should reach out to. Specifically, developing ties in the informal network can be a difficult and daunting process because there is no shared understanding of how big, diverse, or sparse one's social network should be (Reagans & Zuckerman, 2001). People who have not thought about their overall social network -- or those who lack mental models -- may struggle to identify who to connect with. That is, individuals who have higher levels of overall depth of social network awareness might be less likely to experience indecisiveness which has been found to be more prevalent in ambiguous situations (Rassin & Murriss, 2005).

Second, individuals who have thought about their overall networks are more likely to be comfortable in making workplace connections. In a study of networking behaviors, Casciaro et al. (2014) found that many individuals reported instrumental networking to feel "dirty" because they often struggled with the self-justification of having to push their own career interests. These feelings of dirtiness might be less problematic for individuals who have thought about their overall social network because they are more likely to recognize that this is a means to an end and acquiring social capital is critical. On the other hand, individuals who have not thought about their overall social networks may struggle to overcome the thought of having to push their self-interests. Thus, I argue that individuals who have put in the time and effort to think about how they should construct their social networks are more likely to form informal ties in both the advice and friendship network.

Hypothesis 2a: Overall depth of social network awareness is positively related to tie formation in the advice network.

Hypothesis 2b: Overall depth of social network awareness is positively related to tie formation in the friendship network.

Task potency. Evidence from network studies has shown that what is at the forefront in an individual's mind can shape the network that one activates. For example, Shea and Fitzsimons (2016) found that individuals who held individual advancement goals were more likely to obtain sparser networks and occupy more central positions in the informal network. When individuals are more concerned with instrumental pursuits than affiliative pursuits, they align their networking behaviors in ways that allow them to seek relationships with those who possessed the requisite task-based resources. In a separate study, Smith et al. (2012) found that individuals under different status conditions were likely to activate different types of networks. Specifically, the study showed that individuals are likely to recall different types of networks depending on which goals and needs were most salient.

Thus, evidence from these studies shows that individuals have personal agency in pursuing the benefits they believe exist in their informal networks. Building on these empirical findings, I argue that the mental activation of task potency should lead to a more proactive search in acquiring instrumental ties. Thus, evidence supports the notion that individuals can activate different parts of the network depending on what their goals are. If task potency matters in how one constructs his or her network, I expect it would lead to a more central position in the informal network. Because advice networks and friendship networks share strong overlaps in organizations, I argue that increased activity in the advice network is also likely to lead to increased activity in the friendship network (Kilduff & Lee, 2020).

Hypothesis 2c: Task potency is positively related to tie formation in the advice network.

Hypothesis 2d: Task potency is positively related to tie formation in the friendship network.

Target trustworthiness, anticipated inclusion, and interpersonal communion. I discuss the sub-dimensions of target trustworthiness, interpersonal communion, and anticipated inclusion together because these sub-dimensions are all implicit theories that deal with establishing trust, belongingness, and security. When examining implicit theories of employee voice, Detert and Edmonson (2011) found that many implicit theories of voice were more prevention-focused or rules about why voice should not be expressed. That is, many individuals held implicit theories that suggested that speaking up about organizational issues is a potentially risky behavior and should only be done if certain conditions are met. For example, implicit beliefs such as one should not speak up without solid data or solutions or one should not speak up if he or she is not an expert work serve as protective mechanisms for employees. The more prevention-focused implicit theories an individual holds, the less likely they are to engage in voice due to the negative consequences that are associated with voice (i.e., lack of promotion opportunities).

Similarly, I expect that the more weight an individual gives to the sub-dimensions of implicit theories that serve to protect an individual from incurring social costs, the fewer ties an individual will form at the workplace. From a target trustworthiness perspective, individuals are likely to be choosy about the number of people they connect with. Individuals favor targets who have a reputation for being warm and genuine (Hinds et al., 2000). Thus, an individual who cares strongly about a target's trustworthiness is likely to be looking at a smaller pool of alters he or she can reach out to as certain colleagues become eliminated if they do not reach or surpass the threshold for trustworthiness.

Interpersonal communion also works as a way for individuals to minimize their risks or running into unwanted social interactions. Individuals who prefer reaching out to individuals with who they share commonalities will also have a smaller pool of individuals to draw from in forming their ties. Similarly, I also expect individuals who care more about anticipated inclusion to form fewer ties. If an individual feels strongly about only reaching out to people that they feel will be able to accept them for who the focal individual is, this implicit theory dimension also limits the general number of alters that are available to form relationships with.

A common theme in studies of racioethnic minorities is that many members feel that they lack sufficient psychosocial support (James, 2000) or are misunderstood by their workplace colleagues (Turner, 2002). Thus, I argue that these three sub-dimensions of implicit theories combine to serve as selectivity filters of tie formation that will protect tie seekers from social backlash. If a focal individual feels that a potential alter is not trustworthy, there is no shared common ground, or that the alter will not be accepting of one's individual differences, there will be fewer ties formed in the informal network.

Hypothesis 2e: Target trustworthiness is negatively related to tie formation in the advice network.

Hypothesis 2f: Target trustworthiness is negatively related to tie formation in the friendship network.

Hypothesis 2g: Interpersonal communion is negatively related to tie formation in the advice network.

Hypothesis 2h: Interpersonal communion is negatively related to tie formation in the friendship network.

Hypothesis 2i: Anticipated inclusion is negatively related to tie formation in the advice network.

Hypothesis 2j: Anticipated inclusion is negatively related to tie formation in the friendship network.

Consideration of Potential Moderators

Prior experience of being a minority group member. Previous theorizing has identified other psychological variables that might impact the relationship between minority group membership and subsequent tie formation. Even amongst minority group members, there is likely to be variance in how threatening individuals perceive the social environment to be. One source of variation could stem from how much experience an individual has in being a minority group member. Whereas some racioethnic minorities might be used to settings in which they stand out from the crowd from having spent time with those who are demographically dissimilar in prior organizational experiences, other minority group members might come from backgrounds in which they have mostly been part of the dominant group. This would be the case for immigrant employees or international students (Harrison et al., 2018) who are not originally from the host country they currently reside in.

Thus, a possible intervening characteristic in terms of how racioethnic minority group members form ties at the workplace might be having prior experience of being a minority group member. Several reasons suggest individuals who have prior experience of being in a minority group and those who do not would have different thoughts and reactions to a social environment that is mostly comprised of demographically different individuals. First, for demographic minorities, a crucial step in establishing workplace routines is signaling cues of similarity. For instance, Westphal and Milton (2000) found that one way minority group board members

reduced out-group biases was to have a direct tie to a majority group member director. A social tie with a majority group member director signals to the rest of the majority group that the minority group member can be trusted. Nonetheless, minority group members are likely to differ in their approaches to building relationships depending on their previous experiences. For instance, Westphal and Milton (2000) found that minority directors on corporate boards who possessed prior experience of being in a minority role on different boards were more effective in communicating the strengths of their position. Rather than feeling limited by their minority status, directors with prior experience were better able to communicate and highlight commonalities and reduce out-group biases (Westphal & Milton, 2000). Although demographic differences can provide a basis for initial self-categorization (Turner, 2010), prior experience can teach individuals to recognize other higher-order, relationally relevant categories (Miller & Brewer, 1996).

Second, direct experience is also a powerful tool for individuals to learn about what is considered to be appropriate behavior (Bandura, 1976). Conversely, individuals who have not navigated an environment in which they are not the majority might struggle to learn what interpersonal influence tactics (e.g., Cialdini, 1993) to use to connect with demographically dissimilar individuals. Whereas individuals who have prior experience of being in the minority group are likely to have had opportunities to implement different influence tactics and hone their communication skills, individuals who do not possess this experience might find it more difficult to connect with individuals from different backgrounds.

Thus, I argue that racioethnic minorities who have had prior experience of being a minority group member from previous organizational settings will be better equipped to navigate and build their ties in the informal network. That is, prior experience of being in a minority

group will amplify or attenuate how strongly minority group members are able to create informal ties. Even if an individual's prior experiences were not positive, the experiences nonetheless provide firsthand opportunities (Bandura, 1976) to gain tacit knowledge and an understanding of how social dynamics work. Thus, individuals who have prior experience are better positioned to manage the negatively associated stereotypes and unlock more potential commonalities to create social ties. Conversely, individuals who do not have such prior experience and are placed into a minority group for the first time might feel overwhelmed by feelings of alienation and be more likely to perceive the social environment to be unwelcoming. Lack of prior experience could affect how willing an individual is to create informal ties in a foreign environment.

Hypothesis 3a: Prior experience of being in a minority group will moderate the relationship between racioethnic minority group membership and tie formation in the advice network, such that prior experience of being in a minority group will mitigate the impact of minority group membership on advice tie formation.

Hypothesis 3b: Prior experience of being in a minority group will moderate the relationship between racioethnic minority group membership and tie formation in the friendship network, such that prior experience of being in a minority group will mitigate the impact of minority group membership on friendship tie formation.

Salience of Racioethnic identification. Social categorization theory suggests that individuals use their group membership -- rather than their personal identity -- to respond to social situations in which their demographic categories are made salient (Tajfel, 1981; Turner & Tajfel, 1986). However, not all members of racioethnic minority groups identify with their demographic categorization in the same way (Hogg & Terry, 2000). Social class, family influences, and personal experiences often contribute to how individuals see themselves

(Thompson, 1995). Being externally categorized as an African-American does not necessarily mean that an individual will see herself as an African-American (Ramarajan, 2014). Thus, the relationship between minority group membership and subsequent network position might also depend on how *strongly* one identifies with his or her race or ethnicity.

When individuals categorize themselves in terms of their racioethnic identity, they are likely to develop in-group favoritism and out-group biases (Brewer & Brown, 1998). For individuals in minority groups, strong racioethnic identification could potentially impede one's willingness to forge informal relationships at the workplace. In particular, taking on brokerage positions provides an element of risk in that an individual could risk being seen as an "outsider" by both the in-group and out-group. Thus, one potential consequence is that a racioethnic minority group member who does not consider her race to be a strong component of her overall personal identity might be less prone to accept the negative stereotypes associated with her racioethnic minority status. That is, individuals who do not identify as strongly with their own race might be the individuals who are willing to overlook such social exclusionary threats and form informal ties with the majority group.

Prior scholarly work suggests there is variance in how individuals define themselves even when those demographic categories are made salient (Hogg & Terry, 2000). Ibarra (1995) specifically encouraged network researchers to explicitly measure racioethnic identity because the salience of one's identity can have a strong influence on the selection of informal relationships. Thus, racioethnic identification might be a key component that moderates the relationship between minority group membership and subsequent tie formation. Racioethnic minorities who consider their race or ethnicity to be a highly salient component of their own identities might struggle to connect with their white counterparts because they might feel that the

stereotypes of being nonwhite are too difficult to overcome. However, other individuals who define themselves more in terms of their occupation or job level and less in terms of their racioethnicity might see more opportunities to emphasize similarities rather than focus on the differences. Thus, high levels racioethnic identification could attenuate how willing minority group members are in terms of creating informal ties in organizations.

Hypothesis 4a: The salience of racioethnic identity will moderate the relationship between racioethnic minority group membership and tie formation in the advice network, such that racioethnic identification will exacerbate the impact of minority group membership on advice tie formation.

Hypothesis 4b: The salience of racioethnic identity will moderate the relationship between racioethnic minority group membership and tie formation in the friendship network, such that racioethnic identification will exacerbate the impact of minority group membership on friendship tie formation.

Social risk-taking. As reviewed in Chapter 2, homophilous relationships tend to be better reciprocated and work as better conduits of emotional support because demographically similar people are more accepting of each other (Ibarra, 1995) and tend to express greater empathy and concern for one another (McPherson et al., 2001). The opposite can be said of heterophilous relationships which are not marked with the level of intimacy that is found in homophilous ties and are often fraught with negative social repercussions. Because heterophilous relationships do not possess the interpersonal similarity that increases ease of communication or predictability of behavior (Ibarra 1993), there is a level of risk that an individual exposes him- or herself to when seeking out heterophilous relationships.

For these reasons, social risk-taking could moderate the relationship between minority group membership and social tie formation. Individuals who are more tolerant of risk and the potential brushback they could experience for having heterophilous ties might be more likely to attempt and form these ties in the first place. On the other hand, individuals who are afraid of potential negative consequences of forming mostly heterophilous might steer away from forming these relationships. Thus, social risk-taking could be a key moderator that unlocks how willing individuals in minority groups are in overcoming the associated risks of reaching out to majority group members and be willing to form social ties.

Hypothesis 5a: Social risk-taking will moderate the relationship between racioethnic minority group membership and tie formation in the advice network, such that social risk-taking will mitigate the impact of minority group membership on advice tie formation.

Hypothesis 5b: Social risk-taking moderates the relationship between racioethnic minority group membership and tie formation in the friendship network, such that social risk-taking will mitigate the impact of minority group membership on friendship tie formation.

Minority Group Membership and Overall Social Network Positions

Degree Centrality. The most widely studied position in the social networks literature is *degree centrality* (See Chapter 2 for a full review). I choose to focus on degree centrality because it captures how much access an individual has to resources such as task-related advice or expertise (Sparrowe et al., 2001). Individuals who occupy such positions not only receive the benefits of being well-connected but are also in a better position to be evaluated positively (Podolny & Baron, 1997). Thus, degree centrality is a potentially meaningful position for

racioethnic minority group members who are often viewed through the lens of negative stereotypes (Ibarra, 1995) to counter such views.

There are two simultaneous mechanisms posited for why racioethnic minorities tend to be marginalized in their informal networks. The first comprises the exclusionary forces that minority group members face from the majority group counterparts in the *external* social environment. Members of the majority tend to avoid forming relationships with the minority because they often view feel members of the minority lack proper work-related competencies (Kanter, 1977). A similar view also suggests that whites as the typically dominant group in organizational settings intentionally exclude racioethnic from their informal networks in an effort to maintain dominance (Ibarra, 1995). Given that most people inherently exhibit a preference for homophily, minority group members are “squeezed out” in terms of sheer numbers if majority group members are not willing to associate with them (McPherson et al., 2001).

The second mechanism points to an *internal* preference of minority group members. Distinctiveness theory suggests that people in a given social context tend to identify with others with whom they share observable characteristics. The theory further posits that these characteristics are heightened when they are relatively rare within a particular context (McGuire, 1984). That is, the surrounding social structure itself can highlight and accentuate their position as an individual in an out-group (Mehra et al., 1998). On average, racioethnic minorities are more likely to notice and identify one another amongst a larger group of whites because of how salient their distinctive characteristics are compared to the rest of the people in their environment (Brewer, 1991; Thomas, 1993). Being in a setting in which most of the people do not resemble a focal individual’s demographic features can loom as threatening (von Hippel, Sekaquaptewa, &

McFarlane, 2015). Thus, minority members gravitate toward others whom they feel to be similar in attributes (McPherson & Smith-Lovin, 1987; Mollica et al., 2003).

Overall, racioethnic minorities are more likely to encounter situations in which they feel they are being stereotyped against, intentionally excluded, or not properly understood (Ibarra, 1995). Prior findings have supported the idea that the exclusionary pressures of the majority group in most organizational settings lead racioethnic minorities to be marginalized in their informal social networks. As such, I expect minority group members to turn toward others who feel like they can connect with and as a result, have fewer connections they can establish at the workplace.

Brokerage. Another position within the social networks literature that has been of keen interest is brokerage (e.g., Burt, 1992). Brokerage positions provide individuals with a breadth of nonredundant information and power to leverage the flow of information between disconnected groups. Thus, brokers are often rewarded with early promotions and high-performance evaluations (Burt et al., 2013). Racioethnic minorities potentially have more opportunities to occupy these positions because their ties are more likely to be dispersed throughout an organization (See Chapter 2 for review).

There are two arguments that scholars have made about how minority group membership and brokerage are related. Burt (1992) argued that brokerage opportunities are not as available for people who belong to groups that lack legitimacy. Because racioethnic minorities tend to hold lower status in organizations (Ridgeway, 2001), it is likely to be inherently more challenging for racioethnic minorities to occupy brokerage positions. However, racioethnic minorities have a head start compared to their majority group counterparts when it comes to positions of brokerage. Because minority group members are more likely to span more social

circles (Ibarra, 1993), minority group members have an increased number of opportunities to connect individuals from different social groups to one another (Ancona & Caldwell, 1992). Individuals who are situated on the outskirts of the social network have more chances to span structural holes between cliques (Burt, 2004).

Yet, scholars have found that minority group members often resist brokerage positions. Brands and Mehra (2019) found that women are more likely to construe brokerage positions as threatening due to the masculine stereotypes associated with brokerage. Although this study is an example of gender, Ridgeway (1991) argued for why racioethnic minorities might similarly feel they lack legitimacy because they also lack the observable characteristics that convey competence. Thus, even when presented with opportunities to pursue positions of brokerage, minority group members might reject these positions because playing the role of a “bridge” further accentuates that they are not truly part of either the minority in-group or the majority out-group. That is, brokerage positions can feel threatening for racioethnic minorities because these positions can further accentuate an individual’s “outsiderness” as opposed to highlighting the potential for informational advantages (Brands et al., 2017).

Prior scholarly work has found that women tend to occupy brokerage positions at a lower rate than their male colleagues (e.g., Brands & Kilduff, 2013; Brands & Mehra, 2019). Although there are no studies that I am aware of that directly test race and brokerage opportunities, I argue that a similar effect would hold for racioethnic minorities. Whereas brokerage positions provide opportunities for individuals to gain unique information that would aid them in their instrumental goals, they also require interfacing with individuals from different cliques. Racioethnic minorities deal with the threat that they are not truly a part of any particular group that limits their desire to pursue brokerage positions and interacting with strangers.

Hypothesis 6a: Racioethnic minorities will tend to occupy less central positions in the advice network than majority group members.

Hypothesis 6b: Racioethnic minorities will tend to occupy less central positions in the friendship network than majority group members.

Hypothesis 6c: Racioethnic minorities will tend to occupy brokerage positions in the advice network at a lower rate than majority group members.

Hypothesis 6d: Racioethnic minorities will tend to occupy brokerage positions in the friendship network at a lower rate than majority group members.

Chapter 4: Construct and Instrument Development

In Chapter 3, I used a qualitative approach to uncover individuals' implicit theories on how to build their informal social networks. Specific patterns emerged, in which individuals referred to thinking about criteria related to themselves (e.g., anticipated inclusion), about the target (e.g., target trustworthiness), or about the relationship (e.g., interpersonal communion) prior to forming an informal tie. In this chapter, I blended my qualitative theory-building with logic and arguments from prior literature. Following this theory-building, I developed a series of studies to further develop and refine the sub-dimensions of implicit theories and develop psychometrically sound measures for the overall depth of social network awareness and the four sub-dimensions. I describe in detail the specific steps I took to refine the measures of my implicit theories below and establish both discriminant and convergent validity.

Initial Item Generation and Reduction

Implicit theories are commonly measured through self-report (Chiu, Dweck, Tong, & Fu, 1997; Grant & Dweck, 2005; Levy et al., 2006). Following Detert and Edmonson's (2011) methodology to develop a measure for implicit theories of voice, I used the open-ended responses I gathered in Chapter 3 to serve as the foundation for item generation. Participants across the six different organizations that I sampled were allowed to provide up to three factors that they said they considered before tie formation at the workplace. Through iterative rounds of coding, I was able to come up with 12 items (6 reverse-coded items) for the *overall depth of social network awareness* and at least 6 items for each of the sub-dimensions (*task potency*, *target trustworthiness*, *interpersonal communion*, and *anticipated inclusion*) based on the themes

and patterns that emerged in the open-ended data. The initial list of items can be found in Appendix A.

Identification of Nearby Constructs

In the next phase, the goal was to establish psychometric differentiation for the proposed implicit theory measures from other constructs in the literature. In addition to generating a list of items for my implicit theory measures, it was important to identify nearby constructs to ensure that my implicit theory dimensions emerged distinctly to establish discriminant validity. Thus, I identified a nearby construct for each of the four sub-dimensions of my implicit theory dimensions.

Task potency. For task potency, I identified *target competence* as a potentially nearby construct. Target competence stems from the stereotype content model (SCM) which argued that human beings form interpersonal impressions of others along two distinct dimensions: warmth and competence (Fiske, Cuddy, Glick, & Xu, 2002). According to Fiske, Cuddy, & Glick (2007), perceptions of warmth signal an individual's intentions, and competence signals an individual's ability to carry out those intentions. Although warmth tends to trump competence in the judgment of strangers in social situations, organizational contexts can dictate whether competence becomes the primary dimension of evaluation for individuals (Rudman & Glick, 1999). Target competence has been linked with many outcomes in organizations such as personnel selection, role assignments, task assignments, job evaluations, and promotions (Cuddy, Glick, & Beninger, 2011). Target competence is conceptually similar to the sub-dimension of task potency in that both constructs are inherently based on how individuals form judgments of others based on how the other can contribute to in-role tasks (Yang, Mossholder, & Peng, 2009).

Although an association might be expected, a key distinction in my theorizing of task potency is that perceptions of target competence are generally formed through repeated interactions. Unlike judgments about warmth which tend to be made more quickly, scholars have found that judgments about competence take a longer time to materialize (Wojciszke & Abele, 2008). Hite (2005) argued that repeated interactions allow parties to know, understand, and predict the processes of the interaction that provides the basis for a cognitive understanding to be built. Because my interest is in establishing *a priori* dimensions of social tie formation, I believe that task potency represents a thought process that individuals go through when they have not had a chance to interact with their workplace colleagues before. What are the specific cues of individuals that are searching for when they have not had an opportunity to observe the behaviors of highly competent individuals?

Another conceptual difference between task potency and target competence is in the direction of the interpersonal resources. Task potency implies that a focal individual believes that a target will be able to offer something that the focal individual can use toward his or her own in-role job requirements. Target competence on the other hand has often been linked with the interests of the target (Scholer & Higgins, 2008). Thus, target competence does not necessarily translate into a focal individual being able to capitalize on a target's knowledge, skills, and abilities to unlock benefits for him- or herself.

Target trustworthiness. For target trustworthiness, I correspondingly identified *target warmth* as a nearby construct. Target warmth is considered to be conceptually orthogonal to target competence. Warmth can be thought of as a categorical dimension that represents the confidence one places in another individual based on their feelings of caring and concern illustrated (McAllister, 1995). Unlike target competence, target warmth represents an emotional

judgment rather than a rational judgment. Recent empirical evidence finds that conceptualizations of warmth are more stable and consistent across cultures than competence (Ybarra et al., 2008). Target warmth is commonly associated with feelings of security and perceived relationship strength (Johnson & Grayson, 2005). Similar to target trustworthiness, individuals will choose to associate with individuals because they believe that the selected targets will display a level of emotional openness that goes beyond competence-related benefits.

The theoretical distinctions between target trustworthiness and target warmth are not as clear as the conceptual distinctions between task potency and target competence. Similar to target trustworthiness, impressions and judgments of target warmth tend to be made up fairly quickly (Cuddy et al., 2011). Whereas thoughts about a target's competence eventually lead to downstream effects of an individual's performance, thoughts about a target's warmth are directly linked to the initial salient dimensions of whether a focal individual will be accepted by the target. Thus, there is a strong possibility that these two dimensions will not emerge as empirically distinct

Interpersonal communion. For interpersonal communion, a nearby construct could be *team cohesion*. Evans and Jarvis (1980) concluded that member attraction to the group is the most common definition of cohesion. Interpersonal communion represents an approach to relationship building with the idea that individuals are motivated to find members who they are attracted to because they believe they will have something in common -- or break bread over (hence the word communion) -- with the target. Finding other individuals who share similar life experiences or backgrounds can convey a level of security for people when they are thinking of which ties to form at the workplace. Correspondingly, group cohesion can also represent the

same sense of security and safety that individuals who seek out interpersonal communion might be looking for.

However, cohesion is different from interpersonal communion in a few key ways. First, cohesion tends to be a construct that is almost always accompanied by performance (Gross & Martin, 1952). Meta-analytically, Mullen and Copper (1994) identified different types of cohesion (i.e., interpersonal vs task) and found that only task cohesion was related to team performance. Interpersonal communion does not require a group to be working on a collective task, nor does a task need to be present for individuals to build their relationships on.

Another distinction with cohesiveness stems from the fact that cohesiveness generally refers to how individuals view themselves as part of a group. Highly cohesive groups generally consist of individuals who are attracted to being part of a group due because group membership can offer prestige or reinforcement of a positive identity (Baumeister & Leary, 1995). Thus, the level of abstraction for cohesion generally refers to a group and not specific individuals within a group (Mudrack, 1989). Interpersonal communion at its core is a dyadic level construct and does not require the individual to think about relationships outside of a specific target.

Anticipated inclusion. Finally, for anticipated inclusion, a nearby construct I identified was psychological safety. Psychological safety is defined as an individual's belief that an environment is safe for interpersonal risk-taking (Edmondson, 1999). Psychological safety has often been examined in the voice literature to gauge whether employees feel safe enough to voice their concerns about issues in organizational settings. Similarly, anticipated inclusion represents an approach to tie formation that looks to minimize risks and negative repercussions for the focal individual.

However, there are some key theoretical distinctions between psychological safety and interpersonal communion. First, psychological safety is typically evoked in the literature when team processes or outcomes deal with tasks (Bradley et al., 2012). Thus, a key conceptual difference between psychological safety and anticipated inclusion is that the latter is about authenticity, and not about task-related competence. Anticipated inclusion measures how much weight individuals give into forming ties with whom they feel they can be their full authentic selves.

Secondly, the timing of anticipated inclusion also makes a difference. Anticipated inclusion captures the extent to which individuals expect they can be open and expressive *prior* to establishing a relationship. This is entirely distinct from psychological safety, which refers to whether *existing* relationships are safe for interpersonal risk-taking, often with regard to voice or speaking up (Edmondson, 1999; Edmondson & Lei, 2014; Kahn, 1990). In contrast, anticipated inclusion reflects an *a priori* belief that desired friendships, in general, are connections that offer safety, security, and emotional support.

In sum, I expect all four of my implicit theory sub-dimensions of social tie formation to emerge empirically as distinct constructs. In addition, these components are expected to demonstrate empirical distinctions from nearby constructs such as target competence, target warmth, group cohesiveness, or psychological safety. Despite these theoretical distinctions, some of these constructs may share some empirical overlap. Thus, I have followed the steps recommended by Brown, Trevino, & Harrison (2005) to empirically affirm these predictions of discriminant and convergent construct validity and I describe these steps below.

Studies 2a and 2b: Exploratory Factor Analysis

In study 2a, I conducted an initial exploratory factor analysis (EFA) to identify and select the best fitting items for each of my proposed implicit theory dimensions. I recruited a sample of first-year MBA students ($N = 199$) to figure out whether the items would properly load onto my theorized factors and whether the factors would emerge as empirically distinct. I conducted the EFA using the ‘psych’ package in R. Based on the results of a principal axis factor analysis with oblique Promax rotation, I eliminated items if there was a significant cross-loading onto other factors. For instance, the items, “shared goals,” “their personality,” “their status,” and “the respect they command” had cross-loadings of 0.30 or higher onto other factors and were dropped. I retained the three highest-loading items for each factor (or each of the sub-dimensions of my implicit theories). Each item reported at least a factor loading of .70 or higher. None of these items had any significant cross-loadings (.30 or higher) onto other factors. This resulted in the elimination of some of the other items.

Following this initial reduction of items, I moved onto Study 2b. I conducted a second EFA on a different sample following the recommendations of Fabrigar et al. (1999), this time using an online sample recruited through Amazon’s Mechanical Turk ($N = 124$). Participants had to be full-time employees (working at least 35 hours a week) to participate in the survey. For this EFA, I included the nearby constructs of target competence, target warmth, team cohesion, and psychological safety. Four-item scales for target competence and warmth from Fiske et al. (2002) were used. To measure target competence, individuals were asked to rate how strongly they believed a target to be “capable,” “efficient,” “organized,” and “skillful.” For target warmth, individuals were asked to rate how strongly they believed a target to be “good-natured,” “sincere,” “warm,” and “trustworthy.”

To measure team cohesion, four items were adapted from Seashore (1954). The four items included “I feel that I’m really part of our team,” “our team gets along together well,” “our team really sticks together,” and “team members are willing to help each other on the job.” Finally, three items were adapted from Edmondson (1999) and used to measure psychological safety. The items included “if you make a mistake on this team, it is often held against you,” “people on this team sometimes reject others for being different,” and “it is difficult to ask other members of this team for help.”

This EFA was also conducted in R using the same ‘psych’ package. Using parallel analysis with oblique Promax rotation, the best fitting structure was a seven-factor solution. Three of the implicit theory sub-dimensions emerged distinctly (task potency, interpersonal communion, and anticipated inclusion) from the other implicit theory sub-dimensions and other nearby constructs that also emerged on their own as well. The factor loadings can be found in Table 2. Somewhat expectedly, target trustworthiness had items that loaded onto target warmth (one other item loaded onto task potency). Thus, in subsequent analyses, I will use the items for target warmth to gauge implicit theories for target trustworthiness.

Study 2c: Confirmatory Factor Analysis

Finally, I conducted a final confirmatory factor analysis (CFA) to establish the convergent and discriminant validity for the full construct space including all of my implicit theory sub-dimensions as well as the nearby constructs (target competence, target warmth, team cohesion, and psychological safety). Because target trustworthiness did not emerge as its own factor in the EFA, I expected to see the seven-factor solution as the best fitting model. For study 2c, I recruited a final sample of different online participants (N = 249) through Amazon’s Mechanical Turk. Similar to Study 2b, participants were only eligible to complete the

questionnaire if they were considered full-time employees at the time of the survey. I dropped one participant's responses after verifying that he or she did not correctly answer the manipulation check questions.

I examined a series of models in the CFA. I began with a model that examined all of the implicit theory dimensions of tie formation and nearby constructs as one factor. I next examined a two-factor model in which the implicit theory dimensions were grouped as one factor, and the nearby constructs were grouped as another factor. Following this process, I continued progressing in the number of factors until I arrived at the projected seven-factor solution.

Table 3 reports the model fit indices of the CFA from the four-factor solution on. Note that Table 3 reports the model fit indices of the best fitting six-factor solution. The six-factor solution showed a significantly improved fit over the five-factor solution. However, none of the under-factored models had model fit statistics that reached the recommended thresholds until I arrived at the desired seven-factor solution (Hu & Bentler, 1999). In the seven-factor solution, the model fit indices met or exceeded all of the recommended thresholds (RMSEA = .06, TLI = .94, CFI = .95, SRMR = .05). This solution also demonstrated a statistically significant improvement in fit to the best fitting six-factor solution.

Collectively, I was able to take the results of Studies 2a-c as evidence that my measures of implicit theories were valid indicators of the constructs. All of the sub-dimensions (except target trustworthiness) exhibited satisfactory levels of discriminant and convergent validity. Because target trustworthiness did not emerge as psychometrically distinct, I will use target warmth in Study 3 to measure my proposed implicit theory dimension. I describe in the next chapter the steps I took to take these newly developed measures and empirically test my hypotheses.

Chapter 5: Method

In Chapter 4, I developed my measures for the implicit theory dimensions of social tie formation. The overall goal of Chapter 5 was to answer the final research question posed in Chapter 1: What are the structural consequences of implicit theories of social tie formation? In this chapter, I outline how I carried out my empirical tests of the theoretical model developed in Chapter 3. Building on both my own qualitative findings and previous literature, I theorized that minority group members would be more likely to consider overall depth of social network awareness, target trustworthiness, interpersonal communion, and anticipated inclusion. Additionally, I hypothesized that target trustworthiness, interpersonal communion, and anticipated inclusion would work as selectivity filters that would reduce the likelihood of ties that would be formed. Figure 1 displays a model of the theorized constructs.

Study 3: Sample and Procedure

Our sample consisted of co-located, full-time MBA students in their first year at a large public university in the U.S. Although full-time MBA students are qualitatively different from paid employees, there are advantages to studying those in the current context. First, students were assigned to cohorts and teams in a stratified (by race and gender) random process, allowing incoming individuals to develop social connections with little hierarchical constraint (Kleinbaum et al., 2015; Mehra et al., 1998). Second, because a notable reason for students to join MBA programs is to build their portfolio of social connections, processes of social influence and selection are particularly transparent (Lomi, Snijders, Steglich, & Torlo, 2011). Third, teamwork is an important component of students' MBA experience (e.g., Shah, Dirks, & Chervany, 2006). Students attend classes together as a cohort, and almost all classes contained a team component.

Fourth, these full-time students spent most of their days in a newly constructed building dedicated exclusively to the program, which was designed deliberately to enhance social capital development there (e.g., dozens of team breakout rooms, personal lockers, fitness center). Fifth, an explicit, repeated message of the program was to “build community:” to foster a collaborative culture with other students on interdependent tasks, and to build social connections with those from different backgrounds. When they were recruited for participating in this investigation, students were taking a required leadership course and were informed that the purpose of the study was to examine how their social networks developed and evolved.

All first-year MBA students are required to take a year-long leadership capstone course. I administered both Time 1 and Time 2 questionnaires online through Qualtrics as part of the course. The initial (Time 1) survey measured students’ demographics, implicit theories of social tie formation, moderator variables, control variables (program satisfaction, “big five” personality traits), and students’ social ties at the end of a few weeks of orientation and before the start of official program coursework. The follow-up (Time 2) survey was distributed approximately five months after the first survey and two weeks into the beginning of the second semester. It also measured students’ psychological variables (all implicit theories of social tie formation and control variables) and did not contain any new questions. These particular time periods were chosen because they represented similar time lags and mirrored the adopted approach of prior research conducted in business school settings with MBA students (e.g., Kleinbaum, 2018; Mollica et al., 2003).

Students’ average age was 29 and mean years worked was 4. Work backgrounds varied widely across industries (i.e., finance, consulting, technology). Fifty-nine percent of those in the final sample were white, 10% were Hispanic, 10% were South Asian, 9% were East Asian, 6%

were two or more races, and 5% were African-American. Females comprised of 33% of the sample. Of the 243 students enrolled in the full-time MBA program, 228 (94% response rate) completed the Time 1 survey. At Time 2, a subsequent 203 students (89% response rate) completed the follow-up survey. After accounting for missing data and responses, the final sample size was reduced to 195. Table 4 displays all of the means, standard deviations, and intercorrelations of all variables that were used in this empirical investigation.

Dependent Variables

Social network ties. All participants were given a complete list of their cohort members as part of the online survey. To measure advice ties, we asked students to indicate which of their peers they had received task-related advice from or discussed matters important to the program (i.e., instrumental support; Mehra et al., 1998; Ren, Gray, & Harrison, 2015) at each of the three time periods. For friendship ties, we asked students to indicate with whom they spent time with outside MBA program assignments, or discussed personal matters that were not related to the program (i.e., emotional support; Ibarra, 1995; Kilduff, 1992). Degree centrality and brokerage measures were calculated through UCINET 6 as within-cohort, and not within-program (Borgatti, Everett, & Freeman, 2002).

Independent Variables

All of the items for the implicit theory sub-dimensions were developed in this dissertation through studies 1 and 2 of this dissertation. All of the implicit theory sub-dimensions asked students to gauge how much *a priori* thought they had given to each of the items prior to forming relationships in organizations.

Overall depth of social network awareness. All students were asked to indicate (1: not at all, 7: all the time) at each time period how much thought they had put into who they wanted to

form connections with prior to tie formation. The three items ($\alpha = 0.72$) were “I frequently think about my overall social network,” “I am very deliberate about who I try to associate with,” and “I have put some serious thought into who it is I should try to get to know.”

Task potency. Students were also asked to indicate how much thought they had given (1: not at all, 7: all the time) to how much of an instrumental assist they believed they could receive from potential alters. The best-fitting items from the exploratory factor analyses were used to come up with the final measure for task potency. The three items ($\alpha = .77$) included “how competent they are,” “their previous industry experience,” and “what they have to offer (support, help, benefits).”

Target warmth (trustworthiness). As discussed in Chapter 4, items for target trustworthiness did not emerge as empirically distinct from target warmth in the development of the construct. Thus, for this implicit theory dimension, established items for target warmth from Cuddy, Fiske, and Glick (2004) were used instead. The four items ($\alpha = .88$) included how much individuals considered the target to be “good-natured,” “sincere,” “warm,” and “trustworthy” rated on a response format of 1 (none at all) to 7 (all the time).

Interpersonal communion. For interpersonal communion, students were asked to indicate how much they believed they shared factors in common with a potential alter prior to reaching out to him or her to form an informal tie. Similar to task potency, the three best-fitting items from the factor analyses were retained for this measure. The three items ($\alpha = .80$) included “shared life experiences,” “shared interests,” and “shared social circles” rated on a response format of 1: none at all to 7: all the time.

Anticipated inclusion. Finally, students were asked to indicate how much they considered how they would be received and how much they would be accepted for who they are

by the target. The three items ($\alpha = .82$) included “how authentic you can be,” “whether you will be accepted for who you are,” and “whether you will be viewed favorably.” Like all of the other implicit theory sub-dimensions, responses were scored on a scale ranging from 1: not at all to 7: all the time.

Moderating Variables

Prior experience of being a minority group member. Because this survey was used as part of a capstone leadership course, the survey also asked for students to indicate how much they were used to being in settings in which they were part of the minority group. These three items ($\alpha = 0.84$) included “I am used to settings in which I stand out from the rest of my peers in terms of race,” “in the past, I have typically been in the racial minority,” and “culturally speaking, I am accustomed to being different from most of my peers.”

Salience of racioethnic identification. The salience of a social identity refers to the frequency with which individuals think about their group membership (Cameron, 2004). Thus, individuals who are high on racial centrality -- or individuals who strongly identify with their race -- use their racioethnicity as a key component in terms of constructing their own self-identity. To ensure that the questionnaires would not be overwhelming for students, a single-item measure was used to measure racioethnic salience. The question was adopted from Hurtado, Ruiz, and Guillermo-Wann (2015) and asked students “how often do you think about your race/ethnicity?” Item responses were on a 7-point scale ranging from 1: not at all to 7: all the time.

Social risk-taking. Individuals also differ in the way they resolve personal decisions that involve uncertainty (Weber, Blais, & Betz, 2002). Students were also asked a set of items intended to gauge how comfortable they felt with taking risks in the social dimension. Four items

were adapted from the Domain-Specific Risk-Taking (DOSPERT) scale (Blais & Weber, 2006). The items included “admitting that your tastes are different from those of a friend,” “choosing a career that you truly enjoy over a more secure one,” “speaking your mind about an unpopular issue in a meeting at work,” and “starting a new career in your mid-thirties.” Responses were scored on a scale ranging from 1: extremely unlikely to 7: extremely likely.

Control Variables

Program satisfaction. One reason individuals might create more informal ties is due to satisfaction with the MBA program. More satisfied individuals might be more inclined to create and maintain their social connections (Porter et al., 2019) thus program satisfaction was measured to rule out this explanation. I controlled for MBA program satisfaction with a three-item measure ($\alpha = 0.78$) adapted from Hackman and Oldham (1975) to align with the context of the MBA program.

Personality. Individuals might also differ in terms of how thoughtful or gregarious they are. Because personality traits could also potentially relate to networking behavior (Fang et al., 2015), I also controlled for the “big five” personality traits by using the 10-item personality inventory (TIPI) from Gosling et al. (2003). The TIPI was used to save respondents time and mental energy from having to take a full “big five” questionnaire.

Structural Controls. In addition to the individual level variables, I also controlled for students’ cohorts as some cohorts could be more conducive than others to form ties. Finally, by their nature, ties are non-independent, which can create biased standard error estimates (Kilduff & Krackhardt, 1994). In the n by n matrix of reported social connections at each time point, person i could be part of many dyads with potential j ’s, and j can serve as a partner to many possible i ’s. My models account for the fact that each tie is nested with person i and person j . I

also included several network-related control variables following the recommendations offered by Ripley et al. (2021).

At the individual level, I control for outdegree activity (i.e., the number of outgoing ties at the previous time point) and indegree popularity (i.e., the number of incoming ties at the previous time point) to account for preferential attachment associated with individuals who occupy central positions in the network. At the dyadic level, I controlled for reciprocity, which is the tendency for ties to be maintained when both person i and person j nominate each other. Finally, I also accounted for transitivity (i.e., the number of mutual contacts) and three-cycles (i.e., reciprocity rate among three connected actors) to control for the fact that ties embedded in mutual contacts are more likely to be maintained.

Analytical Approach

To test my hypotheses, I used stochastic actor-oriented modeling (SAOM) via the “RSiena” package or Simulation Investigation for Empirical Network Analysis (SIENA; Ripley et al., 2021; Snijders, 2001, 2005) program in R. This method provides a powerful statistical architecture for predicting either (a) changes in social ties from prior network structure or actor attributes, or (b) changes in actor attributes from prior attributes or network structure. My interest is in the first kind of prediction, which assumes an underlying random (Markov) walk process for social tie transitions (such as dissolution versus maintenance or formation versus maintenance), wherein an actor has infinitesimally small segments of time to make decisions that maximize a personal, attribute-dependent utility function to add, drop, or keep ties. The observed panels of tie data mark discrete-time snapshots of this continuous-time process (Ripley et al., 2021). Unlike some social network models that only control for stable structural parameters (e.g., Dahlander & McFarland, 2013), SAOM assumes that individual actor attributes also play a role

(Tasseli & Kilduff, 2021), which makes it particularly useful for investigating psychological mechanisms (e.g., Schulte, Cohen, & Klein, 2012).

Using SAOM to predict tie changes is similar in some ways to hazard rate models for dichotomous dependent variables (e.g., Harrison & Hulin, 1989). The difference in SAOM is that the underlying process is simulated thousands of times and compared to the observed data. The simulation depends on the investigator's specification of network evolution rules governing the stability or movement of network parameters over time, and social selection rules that govern how ties develop in response to actors' (possibly changing) attributes (see Kalish, 2020, for a more thorough introduction to this technique). To predict network outcomes at T2, SIENA uses psychometric variables from the previous time period (T1). Simultaneously, SAOM can also separate the effects of endogenous features of the entire network from the effects of an actor's psychological variables. It essentially models the likelihood of an outgoing tie between a focal actor i and a target j (x_{ij}) changing from one point in time to the next ($x_{ij[t]}$). Estimated parameters are given in log-probability ratios, which are similar to log-odds ratios from logistic regression, except they reflect the fact that an actor's choice is multinomial rather than binary (Ripley et al., 2021).

Results

Hypotheses 1a-1e predicted that individuals would be more likely to consider certain sub-dimensions of implicit theories of social tie formation based on their identity group membership. Specifically, I hypothesized that individuals in racioethnic minority groups were more likely to possess deeper processing of thoughts about their overall social network or have higher levels of overall depth of social network awareness than their majority group member counterparts. I also hypothesized that members of the racioethnic minority would be more likely to consider target

trustworthiness/warmth, interpersonal communion, and anticipated inclusion at higher rates whereas majority group members would be more likely to be higher on task potency. This set of hypotheses was partially supported. Minority group members were indeed more likely to consider target trustworthiness/warmth ($M = 6.01$, $SD = .96$) and anticipated inclusion ($M = 4.96$, $SD = 1.38$) than their majority group counterparts ($M = 5.57$, $SD = 1.04$ and $M = 4.50$, $SD = 1.33$ respectively) as predicted by Hypotheses H1b and H1e. T-tests for target trustworthiness ($t(225) = -3.22$, $p < .01$) and anticipated inclusion ($t(225) = -2.47$, $p < .05$) revealed that these differences were significant.

Minority group members were also more likely to consider interpersonal communion ($M = 4.09$, $SD = 1.34$) than majority group members ($M = 3.83$, $SD = 1.15$) as hypothesized in H1c. However, this difference was only marginally significant, $t(225) = -1.72$, $p < .10$. Statistical tests did not show any differences across groups on their levels of overall depth of social network awareness (H1a) or target competence (H1b). That is, minority group members were not more or less likely to give weight to these mental criteria than their majority group counterparts. In the discussion section, I discuss potential explanations for why this might have been the case.

Hypotheses 2a-2j predicted that the sub-dimensions of implicit theories would lead to either a greater or reduced likelihood of tie formation in both the advice and friendship networks. Specifically, I predicted that higher levels of overall depth of social network awareness and task potency would lead individuals to form more ties. On the other hand, I predicted that higher levels of target trustworthiness/warmth, interpersonal communion, and anticipated inclusion would likely lead to fewer ties because these sub-dimensions would operate as selectivity filters. Model 1 in Tables 5 and 6 displays the SIENA estimates for my tests of Hypothesis 2.

Hypothesis 2 was partially supported. Only one of the five sub-dimensions of implicit

theories was a significant predictor of tie formation in the advice network. As seen in Model 1 of Table 5, overall depth of social network awareness (H2a) was more likely to lead to advice ties at T2 as hypothesized ($\theta = 0.06, p < .01$). However, task potency (H2c) was not more likely to lead to advice tie formation at T2. Coefficients for target trustworthiness/warmth (H2e), interpersonal communion (H2g), and anticipated inclusion (H2i) were also all negative as directionally predicted, but the effects were not significant.

Moving to the friendship network, Model 1 in Table 6 shows the SIENA estimates for friendship tie formation. As predicted in Hypothesis 2d, task potency had a positive effect (even though it did not have an effect in the advice network) and was indeed found to have a positive impact on friendship ties at T2 ($\theta = 0.08, p < .05$). Also as hypothesized by Hypothesis 2h, consideration of interpersonal communion was likely to lead to fewer ties at T2 ($\theta = -0.23, p < .01$). On the other hand, neither overall depth of social network awareness (H2b) nor anticipated inclusion (H2j) had a statistical effect on tie formation at T2 in the friendship network. Somewhat curiously and contrary to my hypothesizing, consideration of target trustworthiness/warmth (H2f) actually led to an increase in friendship ties at T2 ($\theta = 0.08, p < .05$). I discuss in Chapter 6 why this might be the case.

Model 2 in Tables 5 and 6 shows the interaction terms for my statistical tests of my proposed moderators (Hypotheses 3-5) in the advice and friendship networks. Hypothesis 3 predicted that prior experience of being a minority group member would moderate the relationship between minority group membership and tie formation, such that individuals who have such experience will be more likely to form ties in both the advice and friendship networks. Hypothesis 3 was partially supported as the interaction term was only significant in the friendship network ($\theta = 0.08, p < .05$) but not in the advice network ($\theta = 0.04, p = n.s.$).

Hypothesis 4 predicted that racioethnic identification would moderate the relationship between minority group membership and social tie formation, but this hypothesis was not supported. Racioethnic identification did not moderate the relationship between minority group relationship and social tie formation in either the advice network ($\theta = -0.01, p = \text{n.s.}$) or the friendship network ($\theta = -0.05, p = \text{n.s.}$). One initial interpretation might suggest that racioethnic salience is not as important as an individual's racioethnicity in itself in terms of predicting informal ties in new organizational settings (Hogg & Terry, 2000).

Hypothesis 5 predicted that social risk-taking would moderate the relationship between minority group membership and social tie formation such that individuals who are more comfortable with risks would be more likely to form informal ties in both networks. I found partial support for Hypothesis 5. Social risk-taking did indeed moderate the relationship between minority group membership and tie formation in the advice network ($\theta = 0.13, p < .01$) but not in the friendship network ($\theta = 0.04, p = \text{n.s.}$).

Finally, Hypothesis 6 was not supported. Although prior literature has found that minority group members are often marginalized and occupy less central positions and are less likely to occupy brokerage positions than majority group members (e.g., Mollica et al., 2003), these findings did not replicate in this particular MBA sample. I also discuss potential reasons for why these findings might not have replicated in this particular investigation.

Overview of Findings

Overall, I found partial support for my hypotheses in Study 3. Individuals did systematically differ on which sub-dimensions of implicit theories they gave more weight to (target trustworthiness and anticipated inclusion), but there were other sub-dimensions in which there were not any significant differences. Also as predicted, holding implicit theory sub-

dimensions did indeed lead to a greater likelihood of tie formation five months later (i.e., task potency in the friendship network) while other sub-dimensions led to a decreased probability of tie formation (i.e., interpersonal communion in the friendship network). However, most of the hypothesized effects were not significant.

In terms of moderators, I found partial support for both prior experience of being a minority group member and social risk-taking in one of the two types of informal networks I examined. I did not find support for racioethnic identification to be a significant moderator in this context. Finally, I did not find support that minority group members were more likely to be structurally marginalized than majority group members in general. I discuss these findings, the theoretical and practical implications, and offer my thoughts on limitations and future directions in Chapter 6.

Chapter 6: General Discussion

During the past decade, a strong research interest in psychological agency has emerged within the social network literature (Tasselli & Kilduff, 2021). Although scholars have examined social networks concurrently with many other psychological variables (See Chapter 2 for a review), the current literature has not offered an overarching theoretical framework on *how* individuals think about approaching their overall portfolios of social ties *a priori*. Although some studies have offered key insights into what types of networks individuals are likely to attract depending on certain psychological features, their perspectives have been limited to specific mindsets (Kuwabara et al., 2018), goal orientations (Shea & Fitzsimons, 2016), or personality features (Brands & Mehra, 2019).

Curiously, the literature has remained largely silent on how individuals might differ in their approach to forming social networks depending on their identity group. Although many network investigations have found time and time again why minority group members face hurdles in constructing effective informal networks (Ibarra, 1993; Ibarra, 1995; Mehra et al., 1998; Mollica et al., 2003), no empirical investigation has examined whether these individuals would take a systematically different approach in building their portfolios of social capital. By combining a grounded exploratory approach with an empirical investigation, I found initial support for the idea that minority group members initially seek different types of social capital from their informal networks.

This dissertation aimed to unpack three research questions. The first goal of this dissertation was to find out whether individuals held implicit theories of tie formation, and how consciously individuals went through a thought process in determining how they should build

their social networks at the workplace. The second goal of this dissertation was to compare and contrast the implicit theory dimensions of individuals across identity groups. I found that individuals in minority groups were significantly more likely to consider implicit theory dimensions that centered around establishing trust and affiliation. The third and final goal of this dissertation was to identify whether these implicit theories operated as predictors of social tie formation. By combining a grounded qualitative and quantitative approach, I was able to offer insights into all three of these research questions.

Defining Implicit Theories of Social Tie Formation

In Study 1, I sampled organizations from a wide range of industries and found that individuals in these organizations did indeed hold several sub-dimensions of implicit theories of social tie formation. In my initial qualitative approach, I aimed to capture as many themes as possible to see how extensive the thought process might be for individuals when they think about forming workplace relationships. As I read over the responses, I began to gain a deeper understanding of what individuals were looking for in their portfolios of social capital. Eventually, a consistent set of implicit theory sub-dimensions of social tie formation emerged, particularly around themes of instrumentality vis-à-vis affiliation.

Overall depth of social network awareness. One of the key findings from Study 1 was that people do indeed go through a rational calculation when they consider who it is they are reaching out to at the workplace. Establishing that there was an overall depth -- or a magnitude -- in terms of how much thought people had given to their social tie formation established a base for other sub-dimensions to stem from. Individuals' responses differed on whether they had thought about who they should be connecting to, or whether relationship formation was more serendipitous. Although I had hypothesized minority group members were more likely to have

had deeper thoughts about how to form their workplace ties than their majority group counterparts, I did not find support for this hypothesis.

One potential reason this hypothesis was not supported could be due to the fact that in its current conceptualization, overall depth of social network awareness taps into both instrumental and affiliative dimensions. The items that were used to measure overall depth do not distinguish the reason for why individuals might be reaching out to potential alters. A person could have put a lot of time into thinking about who to reach out to receive task-related support (Sparrowe et al., 2001), socio-emotional support (Methot et al., 2016), or just to be seen as a more influential figure within the informal social network (Podolny, 2001). Thus, overall depth of social network awareness does not specify *why* someone is interested in building their portfolios of social capital, but rather that someone does do it more deliberately. Moving forward, it seems that the overall depth dimension needs theoretical sharpening. Individuals can have varying thoughts on who they would like to associate with for both instrumental or expressive reasons.

Task potency. A second key finding from Study 1 was that individuals were indeed looking to extract specific forms of social capital from their informal workplace relationships. Prior to establishing a tie, individuals wanted to look for signals of competence from a potential alter that would allow a focal individual to receive and benefit from proper work-related resources, information, and expertise. Many individuals cited subjects such as tenure, expertise, and industry background when asked what factors they considered prior to establishing a tie at work. These types of open-ended responses suggested that for some individuals, the main criteria for building a workplace relationship came down to whether a focal individual believed that an alter could offer an assist that could unlock higher levels of job performance.

Compared to the other sub-dimensions of implicit theories, task potency represented a longer-term implicit theory dimension in which individuals were engaged in a backward calculation and thinking about how their work performance could be improved if they were to reach out to a particular alter. I hypothesized that racioethnic minority group members would be less likely to consider task potency than their majority group counterparts because goals of fitting in and being accepted were likely to precede goals of getting things done. However, I did not find support for this Hypothesis.

Target trustworthiness, interpersonal communion, and anticipated inclusion. Finally, a third key finding from Study 1 was that individuals also heavily considered factors of approachability in their workplace relationships. Although this finding in itself is not necessarily surprising, there was a question of whether workplace relationships would shift individuals into thinking more about cognitive forms of trust rather than affective forms of trust (McAllister, 1995). However, open-ended responses revealed that many individuals were cautious about forming workplace relationships haphazardly or without thinking about features of the target that signaled a level of warmth, sharing commonalities with a target, or how one would be received by a target.

Overall, the results from Study 3 supported the conclusion that minority group members are likely to have different mental models of social tie formation. Racioethnic minorities were more likely to consider implicit theory sub-dimensions that were more affiliation-focused such as interpersonal communion and anticipated inclusion. These sub-dimensions give minority group members a thought process to gauge how much safety and security they could access in their workplace relationships. group members do not have to be as preoccupied with a sense of

belonging but can seek to build their portfolio of social capital in a way that maximizes their instrumental benefits.

The rest of Study 3 provided mixed support for my Hypotheses. I found that some of the implicit theory sub-dimensions led to an increased likelihood of ties in a subsequent time period, but that other sub-dimensions of implicit theories did not have an effect. One of the curious findings was that target trustworthiness/warmth led to a greater likelihood of ties in the friendship network even though I had hypothesized that this sub-dimension would work as a selectivity filter and lead a focal individual to form fewer ties. One possibility for this finding could be due to the theoretical distinctions between advice and friendship ties. Because friendship ties represent an emotion-laden tie (Shah, 2000), an individual who values target warmth or trust might also possess the necessary emotional resources to pursue friendship ties. Individuals who do not give much weight to target trustworthiness might be less likely to form these affective types of ties.

This dissertation does raise questions about whether the four sub-dimensions of task potency, target trustworthiness, interpersonal communion, and anticipated inclusion are exhaustive. It is possible that due to the nature of the organizations I sampled from, there are other contexts in which individuals have different mental models for how to form their set of workplace relationships. For instance, a growing trend that is impossible for scholars to ignore is that the vast majority of organizations today have adopted some form of virtual work. Due to the COVID-19 pandemic, most organizations worldwide had to shift away from face-to-face interactions to virtual or online communications (Brodsky, 2021). If individuals are not able to interact in person, new implicit theory sub-dimensions might emerge as becomes more difficult for incoming employees to pick up on signals of acceptance or trust. Without the physical space

or opportunities to interact in person (Bonaccio, O'Reilly, O'Sullivan, & Chiochio, 2016), individuals might rely on other mental rules to base their informal relationships on.

This latter point is also related to why I did not find that minority group members were more likely to occupy structurally disadvantageous positions. Although most of the first-year MBA students who were sampled in Study 3 mostly lived in the city that was home to the MBA program, their activities and meetings were severely limited due to COVID-19 restrictions that were put in place by both the local government and the university. Statistical tests did not reveal any differences in the overall network positions (centrality or brokerage) of the sampled first-year MBA students from the previous year's first-year students (Goodman & Blum, 1996). However, the sampled first-year students unquestionably went through a different student experience than what most MBA students have traditionally been accustomed to. Thus, the pandemic might have acted as a great equalizer and prevented most students from being able to reach out to as many individuals as they could to build effective portfolios of social capital. Had students been provided more opportunities to interact with one another, homophily effects could have been more prevalent (McPherson et al., 2001). That is, with more opportunities for the dominant group to come together, minority group members might have experienced more marginalization and found themselves to be on the periphery of the informal networks.

Another reason that many of the hypotheses were unsupported could be due to the fact that racioethnic minorities should not be considered as monolithic (Hall et al., 2019). Different racioethnic groups face different questions about their competence or belonging. For instance, whereas Blacks are more likely to face stereotypes about their competence, Asians are more likely to face questions and stereotypes about their ability to be effective leaders (Rosette et al.,

2016). Thus, different sub-dimensions of implicit theories may have different effects depending on which minority group is being highlighted.

One possibility is that particular sub-dimensions of implicit theories might lend themselves to more nuanced findings across situations for different racioethnic groups. For instance, task potency is an implicit theory that is inherently instrumentally focused, thus could trigger qualitatively different stereotype threats for different minority groups. Out of the different racioethnic groups, Blacks are most likely to face questions about their competence. Thus, task potency might specifically be a sub-dimension that Blacks avoid using, and not minority group members as a monolithic block. This could explain why minority group members were not less likely to consider task potency as a sub-dimension compared to their majority group counterparts as a whole.

More fine-grained distinctions among racioethnic groups could also change the initial theorizing of certain implicit theory sub-dimensions. For instance, although I have argued that task potency is likely to lead to the formation of more ties as individuals recognize the value of receiving task-related inputs, task potency could also function as a selectivity filter for individuals in certain demographic groups who face questions about their competence. This leads to a question of which of the implicit theory sub-dimensions might be more likely to generalize across racioethnic groups. Based on previous work, it appears that interpersonal communion and anticipated inclusion might be more likely to generalize across different racioethnic groups.

Regardless of one's background, individuals have a fundamental preference to define themselves in terms of their relationships and social groups (Baumeister & Leary, 1995). Whether an individual is Black, Hispanic, or Asian, they are likely to want to connect with others with who they share similarities. If forming ties is not a viable option in terms of sheer numerical

constraints, interpersonal communion can serve as a proxy for individuals to establish a sense of shared belongingness with others. Furthermore, regardless of the associated stereotypes or threats that individuals in different minority groups face organizationally, all minority group members nonetheless carry a set of doubts and worries into organizations when they are not part of the demographic majority. Anticipated inclusion serves as a mental criterion or threshold that can help alleviate those concerns as individuals try to seek alters who will be understanding of their specific set of circumstances. That is, anticipated inclusion is not limited to one particular type of negative stereotype and can likely help alleviate different types of concerns individuals might have. Nonetheless, interesting questions remain about how the theorizing of these sub-dimensions might change if minority groups were examined separately rather than collectively.

Theoretical Contributions

This dissertation makes several contributions to management theory. First, it adds to the emerging body of literature on psychological antecedents and social networks (Tasselli & Kilduff, 2015). A long-standing debate in the social network literature has centered around the question of how much agency individuals have in shaping their social networks. Through a panel design in Study 3, I was able to find that individuals' thoughts and mental models do causally predict networking behavior in later time periods. I found these effects while simultaneously controlling for endogenous network features (Ripley et al., 2021). That is, I was able to rule out the explanation that once an individual is placed within an informal structure, the structure is what solely determines eventual movement and activity in the informal network. I identified an overall depth of processing, along with four sub-dimensions of implicit theories of social tie formation.

Second, this dissertation contributes to the area of diversity. Through both my qualitative and quantitative findings, I was able to identify some important differences and nuances of what people were more likely to seek in terms of their social networks depending on their identity group membership. Prior literature has largely focused on the role of the “dominants” (Kanter, 1977) on why minority group members are marginalized in their social networks. This dissertation shows that individuals in minority group members explore different mental strategies to form their social connections. Although Kuwabara et al. (2018) examined implicit theories of social tie formation from a goal orientation perspective, the authors did not distinguish whether different members were more likely to hold certain implicit theories depending on their overall group membership.

I found that minority group members are more likely to hold sub-dimensions of implicit theories that focused on affiliative needs because entering into organizations in which there a focal individual stands out demographically can loom as threatening (James, 2000). Thus, one way that minority group members can mitigate that risk is to seek out individuals with who they believe they share commonalities -- as well as approach people who they believe -- will be accepting of them. These accounts provide yet another explanation for why minority group members are likely to lag behind their majority group counterparts in terms of hiring, promotions, and performance.

Finally, this dissertation also contributes to our current understanding of homophily and what happens when organizational members cannot choose homophilous partners. When minority group members are placed in situations in which homophily is not a viable alternative, I find that members still seek out other alters that can convey other forms of similarity (interpersonal communion) or individuals who will be accepting of their uniqueness (anticipated

inclusion). Thus, the findings from this dissertation suggest that individuals have a psychological preference for individuals who will allow them to be themselves. This preference in turn leads individuals to avoid potential targets whom they feel might not be accepting or reject with negative social repercussions.

Practical Implications

This dissertation has several practical implications for managers and organizations. First, managers need to recognize that the relationship formation process is likely to be different based on an individuals' racioethnic group membership (Shore et al., 2011). This dissertation reveals that minority group members are much more likely to hold implicit theories that steer them toward affiliation. Thus, messaging that encourages individuals in racioethnic minority groups to build their networks for instrumental benefits should be balanced with messages about how to incorporate expressive benefits. For instance, managers might also make more of a conscious effort to ensure that their minority employees are given ample opportunities to connect to other organizational members with the understanding of how challenging of a process this is when minority group members have different criteria for how to form their workplace relationships.

Secondly, organizations might benefit from understanding which employees are likely to pursue advice ties or friendship ties. If organizations can successfully identify what drives an individual in terms of how they construct their portfolios of social capital, they could build teams with higher levels of cohesion and cooperativeness. The more aligned individuals are in terms of what they are seeking in their workplace networks, the better chances they will have to succeed as a unit.

Limitations and Future Directions

As with all empirical investigations, this dissertation also had some limitations. The first limitation stems from the fact that the primary investigation took place in the context of an MBA program. Obviously, no organization is representative of all others. Although all students previously held full-time jobs, the fact participants were not paid employees could potentially limit the generalizability of the findings. However, these students were all adults with previous working backgrounds. As with employees, this was the primary organization to which they belonged, and to which they devoted time and energy. The program was designed to train these students to be future leaders and managers. This study is not unique in the organizational social networks literature in terms of its use of full-time MBA students. Articles by Baldwin et al. (1997), Mehra et al. (1998), Mollica et al. (2003), and Burt (2001) laid the groundwork for using this kind of student sample. A large number of recent papers have also done the same (Brands & Mehra, 2019; Kleinbaum et al., 2015; Kleinbaum, 2018).

In this particular MBA program, students were assigned via stratified (by race and gender) random sampling to cohorts and study groups. Although some of the classes were online-only, the MBA program creates deliberate opportunities for social capital development. Additionally, a strong emphasis of the program from which we sampled was "community building" to create a "culture of cooperation" of being connected with diverse others and providing support and goodwill to classmates. Nearly all MBA classes had team assignments. Students were heavily involved in the co-creation of value for themselves, their classmates, the institution, and outside clients (on contracted projects), thus the roles of a full-time student were not too different from that of a full-time employee.

Secondly, issues of common method variance are a concern. A notable limitation of this

investigation is that all measures came from the same source, raising the potential for common method variance (CMV) to inflate effect sizes (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, many of the effects were driven by demographic categories, which are less affected by CMV biases. Additionally, because I used a panel design, I was able to mitigate any cognitive carryover of individuals' implicit theories (measurable only via self-report) and their social network ties over time (Harrison et al., 1993). Because my research relies heavily on individuals' self-reports of their implicit theories, it is important to place safeguards against conventional threats to construct validity. In addition to the five-month separation between the two survey distributions, I also simultaneously measured in-degree as a measure of social network centrality and brokerage (a function of peer reports). Peer-reports represent more accurate reflections of the enacted social network as individuals often tend to overestimate the number of connections they truly have (Casciaro, Carley, & Krackhardt, 1999). However, utilizing out-degree or in-degree did not change the pattern of findings in any substantive way when checking to see whether minority group members were more likely to be marginalized.

Third, I cannot fully rule out concerns of causality. An alternative explanation for our findings is that individuals with more advice or friendship ties are more likely to give more weight to certain implicit theory sub-dimensions in subsequent time periods. However, SIENA does offer the advantages of time-modeling by using the previous time period's psychometric data to predict network data in subsequent time periods. An experimental approach was also not possible in this investigation, and thus, participants served as their own controls in the earlier Time 1 to Time 2 period (Withers et al., 2018). Future investigations might fully take advantage of SIENA's powerful simulation tool by testing over three waves of data. Adding a third wave of data would bring more confidence as long as there were not time discontinuities (Lospinoso et al.,

2011). Alternatively, three measurements of implicit theories and network ties can also better isolate causal effects (Bliese et al., 2017).

The primary sample was also unique in other ways. Notably, the age range of students was highly restricted ($M = 28.68$, $SD = 3.03$). Future investigations might examine contexts in which there is a wider gap of age in organizations. Organizational members who have other work-life responsibilities might also utilize a different set of mental rules to form their workplace relationships. Another unique feature of the MBA program is that all students came in together at the same time. Few organizations exist in which an entire cohort of employees come in together and spend most of their time together. Future investigations might examine how newcomers interact with existing organizational members and how the influence of existing members can impact how individuals think about social tie formation.

Additionally, another limitation of this empirical investigation was that analyses only examined tie formation. Because my sample consisted only of first-year MBA students who had just met one another, tie maintenance did not make as much sense as another outcome to examine. Future investigations might use a longer time lag or collect an additional wave of data that might be able to offer unique insights into whether implicit theories lead to a greater likelihood of retaining or dropping ties. A longer lag between data collection points or an additional wave of data can also provide insight into how malleable these implicit theories are over time. Are certain implicit theory dimensions likely to be more salient initially and fade later? If so, are certain individuals likely to adopt other criteria as time passes? These are questions that could be explored with more time or with additional waves of data.

Future investigations might also examine other types of minority groups such as gender (e.g., Kanter, 1977). The MBA sample is unique in that the vast majority of its organizational

members are single and similar in age. Thus, attraction dynamics could play a substantial role in this particular setting (McPherson et al., 2001). A different organizational context in which its members are less similar in age might offer researchers a better opportunity to explore gender effects. Another possibility would be to simultaneously examine gender along with racioethnicity to look at intersectionality (Rosette et al., 2008). How would gender and racioethnicity combine to predict tie formation? It remains an open question on whether the two demographic categories would lead to additive or multiplicative effects on how much an individual considers an implicit theory sub-dimension or how a minority member in two or more categories thinks about subsequent tie formation. Furthermore, as noted earlier in the discussion, future investigations might also examine each specific racioethnic minority group separately. Because different racioethnic groups face different stereotypes and challenges in organizations, separating minority group members into different sub-groups could help provide theoretical clarity on which sub-dimensions of implicit theories best connect with different racioethnic groups depending on what they are looking for out of their social capital.

Finally, although I have added to the social networks literature by highlighting the impact of social tie implicit theory sub-dimensions, I recognize that other psychological variables could be worth examining. Subsequent studies might shed light on how dispositional antecedents combine with structural factors to affect performance. Similarly, brokerage (absence of constraint) might be considered as the structural parameter that jibes with beliefs, evaluations, or personality dimensions (Burt et al., 2013).

Conclusion

In this dissertation, I attempted to identify and outline several sub-dimensions of implicit theories of social tie formation. Through a qualitative approach, I found five overall dimensions:

overall depth of social network processing, task potency, target trustworthiness, interpersonal communion, and anticipated inclusion. Following a series of studies to develop my measures for each of the dimensions, I tested my hypotheses in a field study of full-time MBA students. I find that minority group members are more likely to hold implicit theories of interpersonal communion and anticipated inclusion. Simulations revealed that certain implicit theory dimensions were likely to lead to an increased likelihood of tie formation in the informal network. Overall, this dissertation offers insight into the *a priori* thought process individuals have in terms of constructing their advice and friendship ties and offers an initial glimpse into how individuals go about constructing their portfolios of social capital.

Table 1: Description and Demographic Breakdown of Sampled Organizations from Study 1

Organization, Industry	Participants	Gender	Race/Ethnicity
Weekend MBA Program	Working adult students (<i>n</i> = 89)	Male = 68 Female = 21	White = 51 Hispanic = 7 Black = 6 Asian = 18 Two or more = 6 ¹
School Board Association	Employees (Various positions) (<i>n</i> = 68)	Male = 31 Female = 37	White = 46 Hispanic = 13 Black = 4 Asian = 2 Two or more = 2 ²
International Bank	Department head, Unit supervisors (<i>n</i> = 37)	Male = 21 Female = 16	White = 25 Hispanic = 5 Black = 6 Asian = 1
US Government Department	Senior executive service members (<i>n</i> = 22)	Male = 10 Female = 12	White = 17 Black = 1 Asian = 1 Two or more = 3
Auditing Agency	Accountants (<i>n</i> = 27)	Male = 16 Female = 11	White = 16 Hispanic = 1 Black = 7 Asian = 2 Two or more = 1
Semiconductor Manufacturer	Emerging leaders in different business units (<i>n</i> = 24)	Male = 19 Female = 5	White = 9 Hispanic = 2 Asian = 11 Two or more = 2

^{1,2}One participant did not identify their race/ethnicity

Table 2: Observed Factor Structures from Study 2b

Items	PA1	PA2	PA3	PA4	PA5	PA6	PA7
TGT.WARM2	0.88	-0.01	-0.21	0.20	-0.01	-0.01	0.01
TGT.WARM4	0.86	-0.03	-0.17	0.29	-0.02	-0.06	-0.08
TGT.WARM1	0.80	0.00	-0.11	0.12	0.01	0.00	0.02
TGT.WARM3	0.76	0.02	-0.15	0.11	0.08	0.10	0.06
TGT.TRST2*	0.62	-0.02	0.23	-0.21	-0.03	-0.10	0.01
TGT.TRST3*	0.56	-0.01	0.32	-0.16	-0.03	0.00	0.06
TEAM.COHI	0.06	0.91	-0.16	0.11	0.05	0.11	0.04
TEAM.COHI2	-0.04	0.83	0.07	0.01	-0.02	0.00	0.00
TEAM.COHI3	-0.14	0.78	0.05	-0.05	0.02	-0.11	0.14
TEAM.COHI4	0.09	0.74	0.10	-0.11	-0.07	-0.05	-0.17
TGT.POT2	-0.17	-0.06	0.82	0.22	0.05	0.06	-0.01
TGT.POT3	-0.06	-0.03	0.82	0.12	-0.01	0.02	-0.09
TGT.POT1	-0.16	0.10	0.78	0.20	0.05	0.01	0.04
TGT.TRST1*	0.39	-0.02	0.43	-0.11	0.01	-0.12	0.11
TGT.COMP2	0.17	0.07	0.22	0.74	-0.03	0.06	-0.06
TGT.COMP1	0.20	-0.05	0.07	0.72	0.00	-0.08	0.03
TGT.COMP3	-0.05	-0.02	0.12	0.66	0.07	0.00	0.25
TGT.COMP4	0.18	0.00	0.32	0.62	-0.07	0.02	-0.13
INT.COM1	-0.16	-0.03	0.04	0.09	0.86	-0.13	0.11
INT.COM2	0.07	0.07	0.05	0.00	0.83	0.05	-0.16
INT.COM3	0.13	-0.05	0.01	-0.16	0.77	0.06	-0.05
PSYC.SFT1	0.08	0.14	-0.06	0.04	0.10	0.84	-0.02
PSYC.SFT2	-0.08	-0.06	0.12	-0.03	-0.10	0.82	-0.02
PSYC.SFT3	-0.09	-0.11	0.01	-0.02	-0.03	0.73	0.04
ANT.INCL3	-0.06	0.06	-0.13	0.15	-0.06	-0.14	0.88
ANT.INCL2	0.12	-0.11	0.07	-0.07	-0.03	0.10	0.72
ANT.INCL1	0.25	0.12	0.05	-0.10	0.00	0.16	0.63

Table 3: Model Fit Indices for Confirmatory Factor Analysis from Study 2c

Model	χ^2	<i>df</i>	$\Delta\chi^2$ (Δdf)	RMSEA	CFI	TLI	SRMR
4-factors: Team cohesion; psychological safety; target competence and target warmth on same factor; task potency, interpersonal communion, and anticipated inclusion on same factor	1484.49	246	-	0.14	0.76	0.73	0.11
5-factors: Team cohesion; psychological safety; target competence; target warmth; task potency, interpersonal communion, and anticipated inclusion on same factor	1121.52	242	362.97** (4)	0.12	0.83	0.80	0.10
6-factors: Team cohesion; psychological safety; target competence; target warmth; task potency; interpersonal communion and anticipated inclusion on same factor	924.44	237	340.01** (5)	0.11	0.87	0.84	0.09
7-factors: Team cohesion; psychological safety; target competence; target warmth; task potency; interpersonal communion; anticipated inclusion	470.30	231	454.14** (6)	0.07	0.95	0.94	0.05

Note. N = 249. *df* = degrees of freedom; RMSEA = root-mean-square error of approximation; CFI = comparative fit index; TLI = Tucker-Lewis index; SRMR = standardized root mean square residual.

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

Table 4: Means, Standard Deviations, and Correlations from Study 3

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	28.68	3.03												
2. Gender (female)	0.33	0.47	-.15*											
3. Race (nonwhite)	0.41	0.49	.14	.03										
4. Extraversion	4.41	1.46	-.17*	.18*	.00									
5. Agreeableness	5.17	1.09	-.08	.20**	.03	.22**								
6. Conscientiousness	5.68	1.00	-.18*	.08	.01	.05	.25**							
7. Need for stability	2.89	1.26	.05	.15*	.02	-.15*	-.30**	-.32**						
8. Openness	5.41	0.99	-.10	.18*	-.03	.24**	.14	-.01	-.10					
9. Program satisfaction T1	5.19	1.03	-.10	.05	-.01	.01	.17	.04	-.04	-.12				
10. Overall depth of social network awareness T1	4.39	1.28	-.03	.08	-.02	.05	-.04	.02	.15*	-.04	-.14			
11. Overall depth of social network awareness T2	4.57	1.23	-.04	.07	-.04	.14	.03	.03	.17*	.00	-.12	.62**		
12. Task potency T1	3.48	1.11	.04	-.17*	.00	-.20**	-.10	.02	.01	-.12	.09	.29**	.22**	
13. Task potency T2	3.58	1.13	-.06	.02	.04	-.06	.04	.04	.08	-.12	.05	.21**	.35**	.53**
14. Target warmth T1	5.75	1.04	.07	.12	.22**	.07	.17*	.00	.07	.08	.08	.18*	.19**	.25**
15. Target warmth T2	5.83	0.90	-.07	.20**	.12	.11	.28**	.11	.00	.11	.25**	.11	.21**	.11
16. Interpersonal communion T1	3.87	1.14	-.09	-.05	.11	-.06	-.01	.05	.03	-.23**	.07	.22**	.19**	.46**
17. Interpersonal communion T2	3.85	1.08	-.21**	-.06	.10	-.10	-.01	.13	.06	-.14	.08	.06	.23**	.19**
18. Anticipated inclusion T1	4.69	1.37	-.03	.18*	.16*	-.11	.07	.03	.25**	.03	.09	.27**	.23**	.26**
19. Anticipated inclusion T2	4.73	1.39	-.05	.16*	.05	-.03	.08	.03	.20**	.00	.19**	.23**	.35**	.26**
20. Previous minority group experience	3.59	1.90	-.08	.28**	.59**	.08	.00	.14	-.02	.13	-.07	.05	.02	-.10
21. Racioethnic identification	4.05	1.81	-.01	.12	.42**	.02	.00	-.04	.20**	.00	.01	.24**	.17*	.07
22. Social risk-taking	5.14	1.05	.06	.03	-.21**	.12	-.11	-.08	-.13	.31**	.10	-.09	-.05	.00
23. Advice in-degree T1	0.10	0.05	-.12	.14*	-.01	.29**	.18*	.07	.01	.13	.06	.13	.20**	-.05
24. Advice in-degree T2	0.15	0.08	-.20**	.03	-.03	.26**	.14*	.15*	-.08	.16*	.08	.16*	.22**	-.07
25. Advice out-degree T1	0.11	0.10	-.14	.08	-.02	.15*	.12	.15*	.04	.00	.09	.07	.14	-.07
26. Advice out-degree T2	0.16	0.12	-.11	.04	-.06	.10	.08	.13	.03	.00	.03	.18*	.18*	-.10
27. Friendship in-degree T1	0.06	0.05	-.20**	.15*	.04	.27**	.07	.03	.05	.02	.13	.21**	.24**	-.01
28. Friendship in-degree T2	0.15	0.08	-.23**	.08	-.05	.30**	.15*	.09	-.04	.07	.05	.19**	.25**	-.02
29. Friendship out-degree T1	0.06	0.07	-.12	.03	-.01	.27**	.10	.06	.01	.07	.10	.18*	.24**	-.04
30. Friendship out-degree T2	0.17	0.13	-.04	-.04	.04	.31**	.13	.02	-.06	.03	.02	.18*	.30**	-.07
31. Advice brokerage T1	0.78	0.12	-.14*	.12	-.08	.21**	.19**	.08	.08	.10	.12	.13	.20**	-.15*
32. Advice brokerage T2	0.83	0.11	-.33**	-.01	-.11	.14	.07	.11	-.02	.09	.08	.08	.09	-.14*
33. Friendship brokerage T1	0.64	0.25	-.02	-.09	-.08	.11	.07	.02	.03	.11	.12	.04	.14	.10
34. Friendship brokerage T2	0.81	0.13	-.15*	.00	-.06	.14	.13	.12	-.06	.01	.02	.13	.15*	-.07

Note. N = 195. * $p < .05$. ** $p < .01$

Table 4 (Continued): Means, Standard Deviations, and Correlations from Study 3

Variables	<i>M</i>	<i>SD</i>	13	14	15	16	17	18	19	20	21	22	23	24
1. Age	28.68	3.03												
2. Gender (female)	0.33	0.47												
3. Race (nonwhite)	0.41	0.49												
4. Extraversion	4.41	1.46												
5. Agreeableness	5.17	1.09												
6. Conscientiousness	5.68	1.00												
7. Need for stability	2.89	1.26												
8. Openness	5.41	0.99												
9. Program satisfaction T1	5.19	1.03												
10. Overall depth of social network awareness T1	4.39	1.28												
11. Overall depth of social network awareness T2	4.57	1.23												
12. Task potency T1	3.48	1.11												
13. Task potency T2	3.58	1.13												
14. Target warmth T1	5.75	1.04	.15*											
15. Target warmth T2	5.83	0.90	.13	.47**										
16. Interpersonal communion T1	3.87	1.14	.28**	.29**	.14*									
17. Interpersonal communion T2	3.85	1.08	.45**	.06	.13	.40**								
18. Anticipated inclusion T1	4.69	1.37	.19**	.49**	.31**	.32**	.21**							
19. Anticipated inclusion T2	4.73	1.39	.28**	.33**	.45**	.27**	.39**	.58**						
20. Previous minority group experience	3.59	1.90	.05	.14	.09	-.04	-.01	.11	.05					
21. Racioethnic identification	4.05	1.81	.14	.18*	.08	.19**	.06	.24	.19**	.29**				
22. Social risk-taking	5.14	1.05	.00	.07	.06	-.10	-.14	-.07	-.05	-.08	-.16			
23. Advice in-degree T1	0.10	0.05	-.03	.03	.17*	.00	-.06	-.02	.07	.15*	-.04	.24**		
24. Advice in-degree T2	0.15	0.08	.01	.10	.20**	.00	.01	.02	.09	.16*	.03	.18*	.60**	
25. Advice out-degree T1	0.11	0.10	.07	-.02	.10	-.02	.03	.08	.08	.09	.12	-.05	.16*	.18*
26. Advice out-degree T2	0.16	0.12	-.02	-.06	.10	.00	.05	.03	.03	.04	-.03	-.02	.21**	.36**
27. Friendship in-degree T1	0.06	0.05	.08	.08	.11	.12	.07	.08	.11	.16*	.09	.12	.65**	.56**
28. Friendship in-degree T2	0.15	0.08	.04	.03	.16*	.04	.04	-.04	.08	.16*	.04	.15*	.56**	.81**
29. Friendship out-degree T1	0.06	0.07	.12	.08	.02	.15*	.10	.15*	.19**	.07	.13	.07	.30**	.28**
30. Friendship out-degree T2	0.17	0.13	.08	.09	.06	-.05	.05	.06	.07	.09	.05	.05	.31**	.43**
31. Advice brokerage T1	0.78	0.12	-.11	.04	.15*	-.02	-.12	.02	.03	.11	.07	.11	.47**	.32**
32. Advice brokerage T2	0.83	0.11	-.15*	.03	.17*	-.07	-.11	.03	.00	.06	.00	.13	.34**	.50**
33. Friendship brokerage T1	0.64	0.25	.07	.06	.06	.10	.12	.18*	.21**	.00	.05	.12	.22**	.17*
34. Friendship brokerage T2	0.81	0.13	-.02	.05	.16*	-.08	.00	.03	.06	.10	-.01	.01	.28**	.46**

Note. N = 195. * $p < .05$. ** $p < .01$

Table 4 (Continued): Means, Standard Deviations, and Correlations from Study 3

Variables	<i>M</i>	<i>SD</i>	25	26	27	28	29	30	31	32	33	34
1. Age	28.68	3.03										
2. Gender (female)	0.33	0.47										
3. Race (nonwhite)	0.41	0.49										
4. Extraversion	4.41	1.46										
5. Agreeableness	5.17	1.09										
6. Conscientiousness	5.68	1.00										
7. Need for stability	2.89	1.26										
8. Openness	5.41	0.99										
9. Program satisfaction T1	5.19	1.03										
10. Overall depth of social network awareness T1	4.39	1.28										
11. Overall depth of social network awareness T2	4.57	1.23										
12. Task potency T1	3.48	1.11										
13. Task potency T2	3.58	1.13										
14. Target warmth T1	5.75	1.04										
15. Target warmth T2	5.83	0.90										
16. Interpersonal communion T1	3.87	1.14										
17. Interpersonal communion T2	3.85	1.08										
18. Anticipated inclusion T1	4.69	1.37										
19. Anticipated inclusion T2	4.73	1.39										
20. Previous minority group experience	3.59	1.90										
21. Racioethnic identification	4.05	1.81										
22. Social risk-taking	5.14	1.05										
23. Advice in-degree T1	0.10	0.05										
24. Advice in-degree T2	0.15	0.08										
25. Advice out-degree T1	0.11	0.10										
26. Advice out-degree T2	0.16	0.12	.41**									
27. Friendship in-degree T1	0.06	0.05	.22**	.32**								
28. Friendship in-degree T2	0.15	0.08	.24**	.41**	.64**							
29. Friendship out-degree T1	0.06	0.07	.29**	.20**	.46**	.33**						
30. Friendship out-degree T2	0.17	0.13	.24**	.33**	.45**	.53**	.52**					
31. Advice brokerage T1	0.78	0.12	.46**	.26**	.27**	.29**	.21**	.20**				
32. Advice brokerage T2	0.83	0.11	.19**	.49**	.28**	.46**	.10	.32**	.36**			
33. Friendship brokerage T1	0.64	0.25	.10	.08	.29**	.19**	.42**	.32**	.19**	.13		
34. Friendship brokerage T2	0.81	0.13	.15*	.32**	.31**	.51**	.21**	.52**	.13	.53**	.26**	

Note. N = 195. * $p < .05$. ** $p < .01$

Table 5: SIENA Estimates of Advice Tie Formation

Variables	<u>Model 1</u> Implicit Theories	<u>Model 2</u> Implicit Theories + Moderators
Intercept		
Outdegree	-1.83 (.07)**	-1.84 (.08)**
Control variables: Network		
Reciprocity	1.52 (.06)**	1.53 (.07)**
Transitivity	0.28 (.02)**	0.28 (.02)**
Three-cycles	-0.32 (.02)**	-0.32 (.03)**
Indegree popularity	0.01 (.01)	0.01 (.01)
Outdegree activity	0.01 (.00)*	0.01 (.00)
Control variables		
Cohort (Dummy 1)	0.13 (.06)*	0.13 (.06)*
Cohort (Dummy 2)	0.16 (.06)**	0.16 (.06)**
Cohort (Dummy 3)	0.05 (.06)	0.03 (.06)
Female (ego)	0.07 (.04)	0.07 (.04)
Female (alter)	0.10 (.05)*	0.17 (.06)**
Female (similarity)	0.25 (.05)**	0.26 (.04)**
Nonwhite (ego)	-0.02 (.04)	-0.01 (.04)
Nonwhite (alter)	0.05 (.04)	0.20 (.06)**
Nonwhite (similarity)	0.12 (.04)**	0.13 (.04)**
Extraversion (ego)	-0.02 (.02)	-0.03 (.02)
Agreeableness (ego)	-0.02 (.02)	-0.02 (.02)
Conscientiousness (ego)	0.05 (.02)*	0.05 (.02)*
Need for stability (ego)	0.00 (.02)	0.01 (.02)
Openness (ego)	0.01 (.02)	0.02 (.02)
Program satisfaction (ego)	0.00 (.02)	0.01 (.02)
Independent Variables		
Overall depth of social network awareness (ego)	0.06 (.02)**	0.08 (.02)**
Task potency (ego)	0.01 (.02)	-0.01 (.02)
Target warmth (ego)	-0.01 (.03)	0.00 (.03)
Interpersonal communion (ego)	-0.02 (.02)	-0.03 (.02)
Anticipated inclusion (ego)	-0.03 (.02)	-0.02 (.02)
Moderating Variables		
Prior experience as minority (ego)		-0.04 (.02)*
Racioethnic identification (ego)		-0.05 (.01)**
Social risk-taking (ego)		-0.00 (.02)
Nonwhite × Prior experience as minority		0.04 (.03)
Nonwhite × Racioethnic identification		-0.01 (.03)
Nonwhite × Social risk-taking		0.13 (.04)**
Rate function		
Rate period 1 (T1-T2)	19.01 (.81)**	18.56 (.73)**

Note. Standard errors are reported in parentheses. Positive tie retention effect means that the likelihood of a presence of a tie is greater than it not existing.

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

Table 6: SIENA Estimates of Friendship Tie Formation

Variables	<u>Model 1</u> Implicit Theories	<u>Model 2</u> Implicit Theories + Moderators
Intercept		
Outdegree	-2.14 (.08)**	-2.17 (.10)**
Control variables: Network		
Reciprocity	1.80 (.07)**	1.82 (.07)**
Transitivity	0.32 (.02)**	0.32 (.02)**
Three-cycles	-0.39 (.03)**	-0.40 (.03)**
Indegree popularity	0.00 (.01)	0.00 (.01)
Outdegree activity	0.04 (.01)*	0.04 (.01)*
Control variables		
Cohort (Dummy 1)	0.15 (.07)*	0.15 (.09)
Cohort (Dummy 2)	0.13 (.07)	0.13 (.08)
Cohort (Dummy 3)	0.13 (.07)	0.11 (.08)
Female (ego)	0.14 (.05)**	0.14 (.05)**
Female (alter)	-0.01 (.07)	0.05 (.07)
Female (homophily)	0.25 (.05)**	0.25 (.05)**
Nonwhite (ego)	-0.03 (.05)	-0.03 (.05)
Nonwhite (alter)	0.14 (.05)**	0.22 (.08)**
Nonwhite (homophily)	0.13 (.04)**	0.13 (.05)*
Extraversion (ego)	0.03 (.02)	0.03 (.02)
Agreeableness (ego)	0.02 (.03)	0.01 (.03)
Conscientiousness (ego)	0.03 (.03)	0.03 (.03)
Need for stability (ego)	-0.01 (.02)	-0.01 (.03)
Openness (ego)	-0.07 (.03)*	-0.06 (.03)*
Program satisfaction (ego)	-0.03 (.02)	-0.03 (.03)
Independent Variables		
Overall depth of social network awareness (ego)	0.02 (.02)	0.03 (.02)
Task potency (ego)	0.08 (.03)*	0.09 (.03)**
Target warmth (ego)	0.09 (.03)**	0.09 (.03)**
Interpersonal communion (ego)	-0.19 (.03)**	-0.20 (.03)**
Anticipated inclusion (ego)	-0.02 (.03)	-0.02 (.02)
Moderating Variables		
Prior experience as minority		-0.03 (.02)
Racioethnic identification		-0.03 (.02)
Social risk-taking		-0.01 (.03)
Nonwhite ×		
Prior experience as minority		0.08 (.04)*
Nonwhite ×		
Racioethnic identification		-0.05 (.04)
Nonwhite ×		
Social risk-taking		0.04 (.05)
Rate function		
Rate period 1 (T1-T2)	17.72 (.63)**	17.51 (.63)**

Note. Standard errors are reported in parentheses. Positive tie retention effect means that the likelihood of a presence of a tie is greater than it not existing.

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

Figure 1: Relationships among Minority Group Membership, Implicit Theories, and Tie Formation

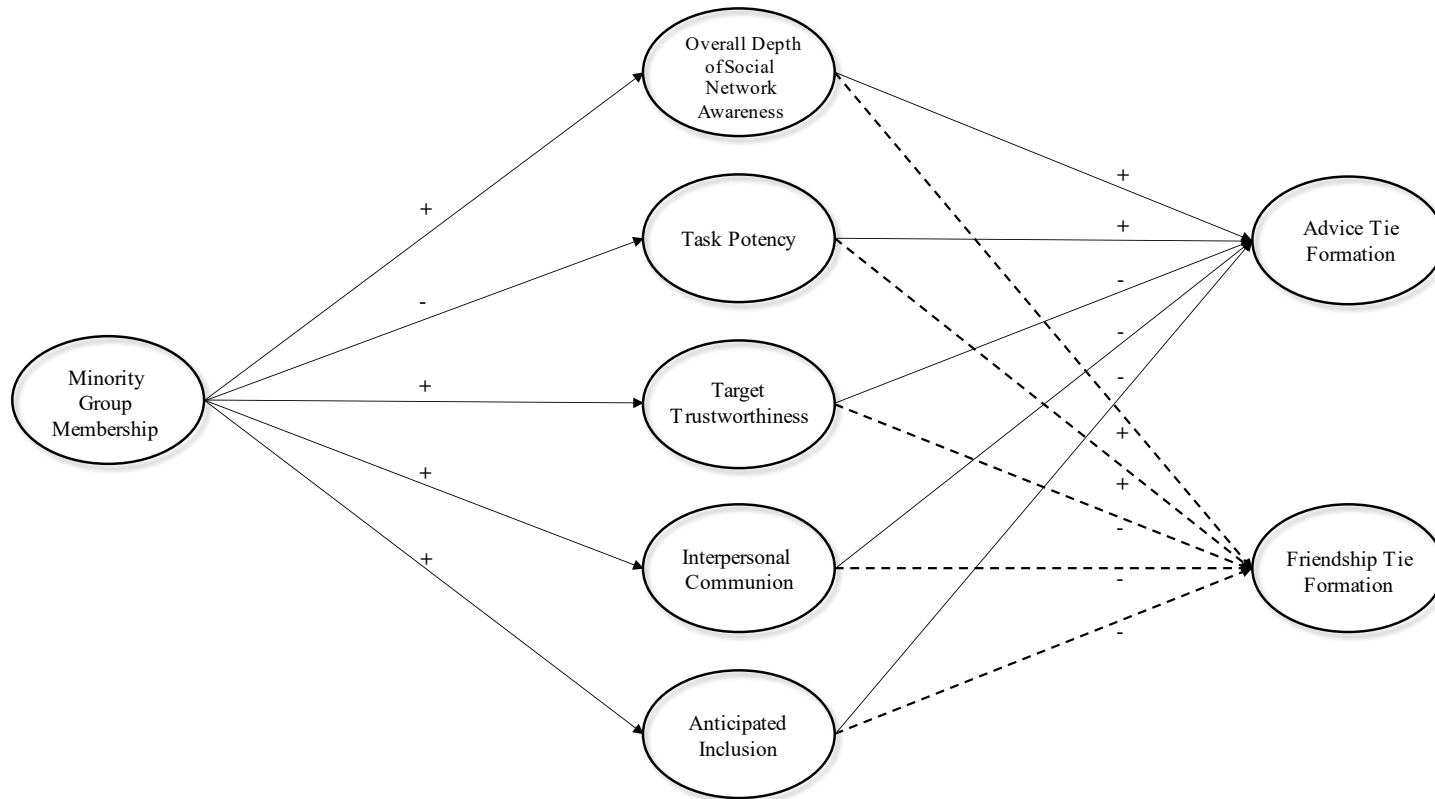
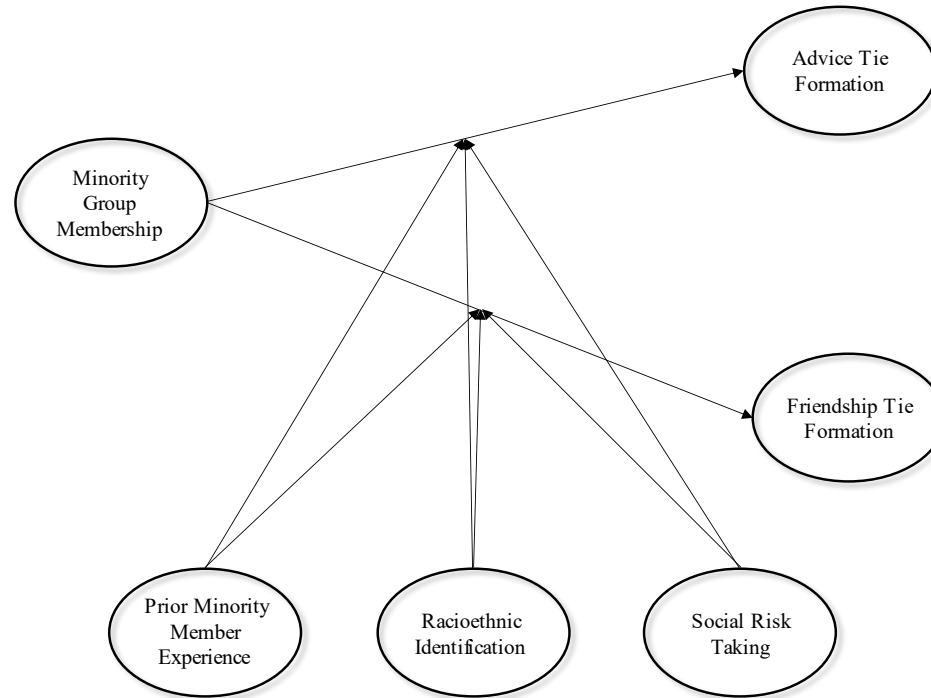


Figure 2: Relationships among Minority Group Membership, Moderators, and Tie Formation



Appendix A: List of Initial Items for Construct Validation

Depth of Social Network Awareness (For each of the statements below, please indicate the degree to which you agree = 7, or disagree = 1)

I frequently think about my overall social network
I have often thought about who the people are I should try and get to know
I spend a significant amount of time considering what makes for an effective set of social connections
I have a deep sense about who I should reach out to for interpersonal relationships
I put some serious forethought into who I should try to get to know
I pay close attention to the pattern of people should make connections with
When I am in a new situation, I mostly just form relationships incidentally
If I take on a new job or role, I strategize about the social circles I should belong to
I am very deliberate about who I try to associate with
I don't spend much effort worrying about who my friends or social ties should be
I don't have any real strategic orientation towards social networking
I don't really care whether or not I am connected to the right people

Task Potency (How much do you think about each of the following factors about someone prior to reaching out to them at the workplace? All the time = 7, None at all = 1)

Their competence
Their intelligence
Their work experience
What they have to offer (Advice, resources, etc.)
Their status
Who their peers are

Target Trustworthiness (How much do you think about each of the following factors about someone prior to reaching out to them at the workplace? All the time = 7, None at all = 1)

Their personality
Their demographic background
How nice (pleasant) they are in general
How accepting they are
The respect they command
Their loyalty

Interpersonal Communion (How much do you think about each of the following factors you share in common with someone prior to reaching out to them at the workplace? All the time = 7, None at all = 1)

Having similar demographic backgrounds
Having shared life experiences
Having similar goals
Having similar social circles
Having similar interests
Having shared hobbies

Anticipated Inclusion (How much do you think about each of the following personal factors when reaching out to someone at the workplace? All the time = 7, None at all = 1)

Your own demographic background (Gender, race, etc.)
Your personal identity (Values, beliefs, etc.)
Whether you will be accepted for who you are
How authentic you can be
How you will be perceived by the other person
How other peers might perceive you
How it will affect how you get work done

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